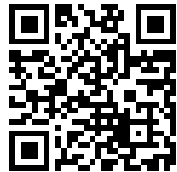


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*Final report of investigations among  
the Indians of the southwestern ...*

Adolph Francis Alphonse Bandelier, Historical  
Records Survey, New Mexico



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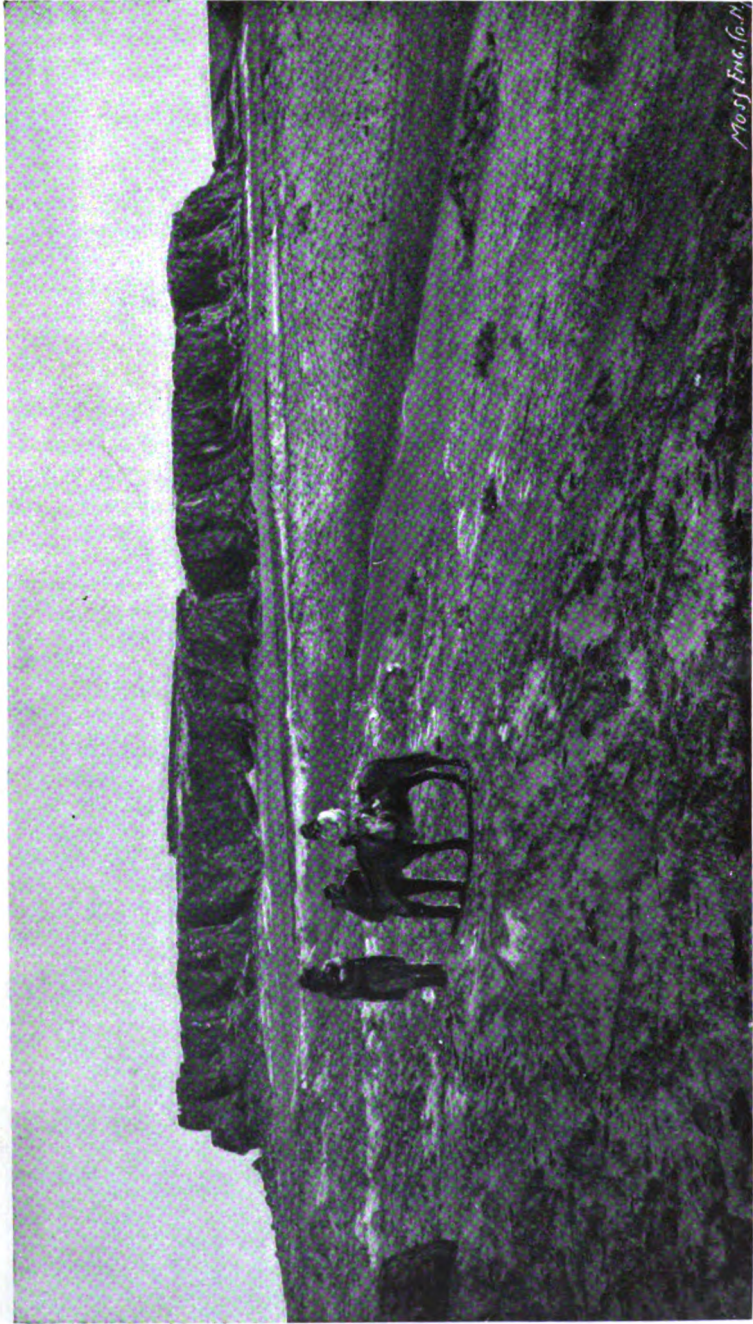




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THE ROCK AND PUEBLO OF ACOMA, SEEN FROM THE NORTH.

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AMERICAN SERIES.

III.

FINAL REPORT

OF

INVESTIGATIONS AMONG THE INDIANS OF THE  
SOUTHWESTERN UNITED STATES, CARRIED ON  
MAINLY IN THE YEARS FROM 1880 TO 1885.

PART I.

BY

A. F. BANDELIER.



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## PREFACE.

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IN submitting this First Part of my Report to the Archæological Institute of America, I have to apologize for the long delay in its completion. Although the material for it was ready long ago, circumstances beyond my control have prevented my putting it into shape for earlier publication.

I take this occasion to acknowledge the debt of gratitude which I owe to the population of the sections of country through which my investigations have led me, for the uniform kindness and hospitality shown to me, for the frequent disinterested assistance lent me in my labors, and for the valuable information imparted at almost every step. This acknowledgment is due to all classes and to all races with whom I have come in contact. I forbear offering the thanks specially due to personal friends, since, were I to enumerate them, the list would become far too long for a Preface. I offer my grateful acknowledgments to the civil and ecclesiastical, as well as to the military, authorities of both the American and Mexican portions of the Southwest, for having, by their protection, largely furthered my work.

The orthography of Indian names which I have adopted is not that adopted by the Bureau of Ethnology, at Wash-

ington. The latter might have been preferable for linguists ; but in order that the general reader, unacquainted with the complicated alphabet constructed for the Bureau, might be more easily enabled to form an idea of the approximate sound of Indian words, I have everywhere adopted the Continental pronunciation of the letters. The *j* wherever it appears in an Indian name or term is to be aspirated, like the Spanish " Jota."

The illustrations accompanying the text are from photographs, of which the majority are due to my friend Mr. Charles F. Lummis, who has allowed me to use the pictures taken by him which served the purpose of my Report. The Map of Sonora and Chihuahua is due to Mr. H. Hartmann, C. E., of Santa Fé.

In conclusion, I beg to state that the Second and more particularly Archæological portion may yet be delayed for some time, and that I would on that score pray for similar indulgence from the Council of the Institute to that for which I am already indebted in relation to this First Part.

SANTA FÉ,  
December, 1889.

AD. F. BANDELIER.

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FINAL REPORT  
ON  
INVESTIGATIONS IN THE SOUTHWEST.  
PART I.

I



# INVESTIGATIONS IN THE SOUTHWEST.

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## I.

### INTRODUCTION.

THE country explored, or at least visited, during the period of four years which the Archæological Institute devoted to American research, (exclusive of the year 1881, which was spent in Southern and Central Mexico,) lies between the 36th and 29th parallels of latitude North, and the 105th and 112th degrees of longitude West. Since the year 1884, when explorations were discontinued, I have, as often as it was feasible, made short tours of investigation into regions hitherto unknown to me. Although such excursions were wholly independent of my connection with the Institute, that connection terminating officially in January, 1885, I shall include here also whatever observations I may have been able to secure. They are not very important, still they contribute to render the general picture more accurate. The accompanying map will give an idea of the whole ground gone over, — mostly alone, on horseback or on foot. To one bent upon scientific observations, even journeys by rail become instructive and valuable. I have therefore laid down on the map mentioned the railroad trips also. In a country where the aboriginal population has been so completely dependent upon nature as the aborigines of the Southwest were prior to the sixteenth century, the topography and hydrography of the

land, its natural history and meteorology, form the basis of archæological researches. They furnish the key to the ethnological development of primitive man ; through them we secure the explanation of most of the changes which he has undergone ; they show to us, in a measure, how present ethnography has come to be. To attempt historical studies anywhere, without first knowing thoroughly the nature of the country, is as futile as to try astronomy without the aid of mathematics, or mineralogy without a previous course of analytical chemistry.

I have given to the Institute an account of all my trips, with the exception of the last one, which occupied the period from November, 1883, to July, 1884. Before entering upon the general Geographical Introduction to this Report, I may be permitted to sketch the route of these last travels.

Leaving Santa Fé, I went to El Paso del Norte, where I resided for nearly two weeks among the remnants of the Mansos, and among the Piro and Tiguas, who were transplanted to this vicinity about 1680. Being obliged to return to Santa Fé, owing to a serious attack of bronchitis, so soon as I was sufficiently recovered, I made a flying trip to the Pueblo of San Juan, on the Rio Grande, where I enjoyed full access to the fine collection of Indian objects and antiquities which my friend Samuel Eldodt has gathered in the course of nineteen years' residence among the Tehuas. The severe cold compelling me to go south, I accordingly removed to Rincon, on the Rio Grande, there to investigate ruins of "small-house villages," near San Diego. Thence I went to Fort Cummings, at the foot of Cook's Peak, and thence on to the Rio Mimbres, whose course I ascended on foot to the source. Crossing the divide to the Sapillo, I reached the wilderness about the head-waters of the Rio Gila, with its remains of cave habitations, cliff-houses, and open-air villages

of the small-house type. Returning to the Mimbres, I reached from there Silver City, Deming, and at last, by rail, Tucson, where my horse, the same animal that had carried me from Santa Fé to Tucson previously, had been most kindly taken care of by the military authorities at Fort Lowell. My intention was to visit Sonora, and although the advice of my military friends was against an attempt to penetrate the Sierra Madre, I nevertheless left the post on the 7th of February for the valley of the San Pedro, and travelled up the valley from Tres Alamos to Contencion, thence to Fort Huachuca, and entered Sonora on the 20th of the same month, near the head-waters of the stream between the Sierra Cananéa and the Sierra de San José. Once on Mexican soil, I followed the course of the Rio Sonora almost due south, stopping at every village and hamlet which the Apaches have failed to destroy, as far as Babiadora, quite one hundred and forty miles south of the frontier line of the United States. Here the dangerous part of the journey commenced; for though Gerónimo and his people were on the point of returning to the North, occasional bands of Apaches might still be expected to infest the mountains converging towards the Sierra Madre from Sonora. Nevertheless, I decided upon travelling to the eastward, with as little display as possible, relying upon night trips and general caution for safety. By way of Oposura the upper Rio Yaqui was reached on the 3d of April. Here I found an opportunity of joining two young men from Nacori, who had come in order to lay in a supply of provisions for their forsaken village, — the last one in Sonora towards the east, and often sorely crowded by the Apaches. My horse being exhausted, I accompanied the party on foot to their village, and thence, with an Indian guide, and with the greatest precaution, penetrated to the western slopes of the Que-hua-ue-ri-chi range, considered in the country to be the

highest and most central portion of the Great Sierra under that parallel of latitude. After my return to Granados on the Yaqui, and a few days spent at Huassavas, chiefly in examining remnants of church archives from the time of the Jesuits, and in measuring the abundant remains of ancient garden-beds and dwellings, I continued my journey, taking advantage of a convoy, to Huachinera. It would have been, to say the least, exceedingly imprudent to undertake the trip of fifty miles alone, and in a mountain wilderness, where the presumption was that Apaches might be encountered at any moment. Huachinera became another centre of operations, and the next one was Baserac, again on the Yaqui. From here I succeeded in penetrating the formidable Sierra de Teras, until then wholly untrodden, as, indeed, may be said of this region in general, so far as scientific research is concerned. Babispe was my last station in Sonora. From there I passed over into Chihuahua, crossing the desert plateau to Janos. Turning south again, I reached Casas Grandes on the 8th of May. At this important locality I was delayed nearly a month, inclusive of another tour on foot into the Sierra Madre as far as the Arroyo del Nombre de Dios, where I found some very well preserved cave-houses. On the 14th of June I came at last to Deming, within reach of regular mail facilities and railroads. After my return to Santa Fé, I spent a few days in the Pecos valley, to see once more the sights which had made such a profound impression upon me when I first engaged in the service of the Institute.

The journey into the Sierra Madre, although to a certain extent hazardous beyond the measure of duty, has left me no cause for regret. The numerous remains of man there have been noticed but lately by travellers, and they have become a source of undue wonder. As I hope to be able to show hereafter, they are far from being so marvellous as they have

been thought. On the other hand, they are interesting and instructive in the highest degree. They form a connecting link between the extreme North and much more southerly regions that does not appear at the first glance, and explain features the origin of which is certainly not to be looked for in North America even. These features will be sketched in their place further on. So much for my journey.

The portion of the North American Southwest of which we treat consists of the Territories of New Mexico and Arizona, within the limits of the United States, and of the States of Sonora and Chihuahua, on Mexican soil. It is a region remarkable for high average elevation above the sea level, and for aridity. The whole area forms, so to say, a pitched roof, whose northern gable-end is much higher than the southern, so that there are three slopes: one to the west, towards the Gulf of California; one to the east, towards the Mississippi valley; and a gradual decrease in height of mountain chains from Colorado down to the boundaries of Durango. This latter is not a drainage slope, although it also has its influence upon river courses, and especially upon the volume of water they carry. The farther south we go, on this side of the Isthmus, the less important do the watercourses become, not only in length, but also in power.

The highest point of the whole region, as far as known, lies in Northern New Mexico. The "Truchas," north of Santa Fé, ascend to 13,150 feet above sea level. None of the peaks of the Sierra Madre reach this altitude; they do not even attain the proportions of lesser mountains in New Mexico like the Sierra Blanca,<sup>1</sup> "Baldy,"<sup>2</sup> the Costilla,<sup>3</sup> or the Sierra de

<sup>1</sup> The *List of Elevations*, 1877, does not give the height, but the official maps place it at 11,392 feet. — Thos. Gannett.

<sup>2</sup> 12,661 feet.

<sup>3</sup> 12,634 feet. *List of Elevations*, p. 118.



San Matéo.<sup>1</sup> The same may be said of Arizona, where only the northern ranges, the Sierra de San Francisco and the Sierra Blanca, rise above 12,000 feet.<sup>2</sup> There is a gradual decline in size as the mountains approach the mouth of that funnel whose wide aperture forms the North of the Mexican Republic, and its small escape the Isthmus of Panama. It is doubtful whether any of the summits in the Sierra Madre, down to the Durango line, rise higher than 10,000 feet.<sup>3</sup> Another peculiarity is the narrowing of mountain regions from north to south. In those portions belonging to the United States, fully three fourths are strictly mountainous; in Sonora and Chihuahua, scarcely one half may be called mountain lands. The general drift of the chains is from north to south, although transverse ranges are numerous,<sup>4</sup> and towards the south one of the characteristic features of the landscape consists often in isolated mountain masses, rising directly and abruptly out of a level which frequently is of repulsive barrenness. Such is the case, for instance, in Southwestern New Mexico, where the Sierra Florida dominates the plain around Deming;<sup>5</sup> in Southwestern Arizona, with the peak of Baboquivari;<sup>6</sup> in Northwestern Chihuahua, with the Sierra de en el Medio; and even in a measure in Southeastern New Mexico, the huge Sierra Blanca rising to a height of 7,000 feet above the level of Fort Stanton.

<sup>1</sup> 11,200 feet. *List of Elevations*, p. 129.

<sup>2</sup> Humphrey's Peak in the San Francisco range, 12,561 feet.

<sup>3</sup> J. Ross Browne, *Report on the Mineral Resources of the States and Territories west of the Rocky Mountains*, p. 641: "few if any points exceeding 10,000 feet in elevation."

<sup>4</sup> For instance, the Sierra Diablo, and the Sierra Luera, near the head-waters of the Gila; the Sierra del Datil, and the Escudilla, in Western Central New Mexico; also the Sierra de Zufii. In Northern Chihuahua, the Sierra de las Espuelas, etc.

<sup>5</sup> This very abrupt and picturesque group is a conspicuous object. It rises out of the plain around Deming to a height of about 4,000 feet.

<sup>6</sup> Visible easily from Tucson. Its elevation is about 7,000 feet, and the plain around it scarcely reaches 2,000.

The landscape in the Southwest is striking at all times. The plains of Eastern New Mexico are impressive through their immensity and absolute rigidity. They are far from producing the feeling which is created by the ocean. A liquid level is never absolutely at rest; the mind, as well as the eye, is always kept on the alert for something to occur, even on the calmest day. The plains, on the contrary, are immovable; there is nothing on the stark and stiff surface to connect it with the sky. On the wanderer, they produce easily a feeling of utter hopelessness.<sup>1</sup> With a sigh of relief, he at last discovers the faint outline of distant mountain chains, and their profile, strikingly like motionless lightning, is to him a token of new life. The plains lie between the luxuriant vegetation of the central States and the arid mountains of the Southwest, like a forbidding barrier. Without the buffalo, primitive man could never have traversed them.

The higher ranges, especially those in the northern sections of New Mexico, are far from being dismally arid. In the latitude of Santa Fé, pine timber begins at an altitude of about seven thousand feet. It rises to varied and very irregular heights, at the upper timber-line. That line changes: in almost every chain it is different by a few hundred feet.<sup>2</sup> Still it may be said that its average level lies above eleven thousand feet in the Southwest. This height is reached only by *Coniferæ*; the scrub oak crowns lesser crests and tops, such as the mountains on the Mexican border,—the Sierra de la Hacha, the Sierra de la Boca Grande, and the Espuelas. Some ranges are strikingly destitute of arborescent

<sup>1</sup> This feeling is already noticed by the chroniclers of Coronado's march. Castañeda, *Relation du Voyage de Cibola*, p. 189.

<sup>2</sup> It is sometimes more elevated in northern ranges than in southern ones. Thus in Lat. 33° to 34° it is 11,100 feet, in Arizona. On Pike's Peak, in Lat. 38° to 39°, it is 11,720 feet; on Buffalo Peak, in Colorado also, 12,041; and in the Sawatch range of Colorado, from 11,500 to 12,117 feet.

vegetation. The Sierra de los Organos and its neighbors north and south along the eastern border of the Rio Grande valley, from the Sierra Oscura to El Paso, are completely without timber. Steepness of the slopes, incident upon geological structure, may be regarded as the principal cause of this bareness.

Although the basis of the plain abutting against the mountain regions on the east is mostly cretaceous and tertiary, volcanic flows have penetrated into it, and they form isolated videttes in the form of table-mountains or Mesas.<sup>1</sup> The Mesa is one of the distinctive traits of Southwestern mountain scenery. Frequently a thin crust or layer of metamorphic trap or of basalt covers a base of sedimentary rocks, and the difference in hardness between base and top has given a hold to erosion by water as well as by atmospheric currents,<sup>2</sup>—a hold that causes the sides to give way and leaves the surface as a projecting table, whence the Spanish popular term, now universally accepted, is derived. Erosion has been exceedingly powerful: not only the Mesa formation, the gigantic gorges, or cañons, are due to this agency. With their vertical walls encasing a narrow bottom, these deep ravines are a testimony of a slow corrosive and erosive force exerted through long periods of time.

Withal, volcanic action has left many traces. Extinct craters are frequent in New Mexico and in Arizona, and some of the most important mountain clusters owe their origin to eruptive action. The Sierra de San Francisco in Arizona, and the Sierra de San Matéo in New Mexico, are tall extinct volcanoes. Well delineated lava-flows fill the bottom of vales

<sup>1</sup> Wagon Mound, on the Atchison, Topeka, and Santa Fé Railroad, is a good specimen of this kind. So are some of the Mesas around Raton, where that road enters New Mexico.

<sup>2</sup> Remarkable erosions through wind are visible in the valleys of Pojuaque and Tezuque, which empty into the Rio Grande north of Santa Fé.

in Western New Mexico,<sup>1</sup> and they appear of relatively recent origin. Yet it is positive that in the past four centuries no eruption of any kind has occurred in the southwestern portions of the United States. On Mexican soil, the disturbances in the northeastern portions of Sonora and the northwestern of Chihuahua during this year (1887), are the only trace of events of this nature within historical times. Confused, and perhaps unauthentic, Indian tales hint at displays of volcanic forces in times previous to Spanish occupation, but it is impossible as yet to determine when and where they took place. The "Year of Light and Fire," (*Año de la Lumbre*,) spoken about by the Indians of Laguna, may have been a year of volcanic phenomena; but it may equally well have been one of brilliant auroral displays.

Thermal mineral springs are remarkably common in the Southwest. Hot springs, with a large proportion of soda only in their water, are also numerous. There are valuable medicinal sources in some places.<sup>2</sup> The importance of these localities has been, locally, exaggerated.

A similar exaggeration has prevailed, and even to a greater degree, in regard to the mines in the Southwest, and has a direct bearing upon the studies which I was called upon to pursue, since it is often stated that the Indians while in their original condition engaged in mining, and since it is commonly believed that the aboriginal population was diminished in numbers, or at least degraded, through compulsory mining for the benefit of the Spaniards. In the Southwest, the

<sup>1</sup> A fine lava-flow begins near the Agua Azul on the Atlantic and Pacific Railroad. It is very prominent near McCarthy's. In its passage it has scarcely ruffled the edge of the carboniferous red sandstone between whose walls it ran, at the bottom of a narrow valley. The bottom rocks are but slightly singed.

<sup>2</sup> Joseph's Springs, west of Taos, and Jemez Springs, north of the Pueblo, in the Cañon de San Diego. The former are arsenical; the latter contain, besides iodine, much lithion.



Indians were compelled to mine but very seldom, and then only with a stipulated compensation.<sup>1</sup> In New Mexico and in Arizona they never were compelled to work in the mines, not only on account of the stringent protective laws of Spain, but because the Spaniards, more experienced in the forma-

<sup>1</sup> It is evident that in Spanish America, as well as everywhere else, the strict decrees of the Crown in behalf of the Indian were sometimes evaded or disregarded, and the native occasionally treated with cruelty. But these instances were only exceptions, and not the rule. Las Casas, in his injudicious diatribes, has completely misrepresented the facts in many cases. He was an honest, but utterly unpractical enthusiast, who failed to understand both the Indian and the new issue placed before that Indian through the discovery of America, and who condemned everything and everybody from the moment that they did not agree with his own theories and plans. The royal decrees in favor of the Indian were numerous, and the labor bestowed by the kings of Spain and their councils on the "Indian question" was immense, so that it would require a special monograph of great extent in order to do justice to the subject. Compulsory labor in mines without compensation, was first abolished in 1551; but Philip II. regulated more explicitly the case by his *Real Cédula* of 10th January, 1589. See *Recopilación de las Leyes de los Reynos de las Indias*, ed. 1756, lib. vi. tit. xv., ley 1 a, vol. ii. fol. 254. "Declaramos, que á los Indios se les puede mandar, que vayan á las minas, como no sea mudando temple, de que resulte daño á su salud, teniendo Doctrina y Justicia, que los ampare, bastimentos, de que poderse sustentar, buena paga de sus jornales, y Hospital, donde sean curados, asistidos, y regalados los que enfermaren, y que el trabajo sea templado, y haya Veedor, que cuide de lo susodicho; y en quanto á los salarios de Doctrina y Justicia, sean á costa de los Mineros, pues resulta en su beneficio el repartimiento de Indios; y tambien paguen lo que pareciere necesario para la cura de los Enfermos." See also the *Reales Cédulas* of 24th January, 1594, and 26th August, 1595, etc. That the South-western mines were often a real benefit for the Indian who understood how to take hold of them in the right way, is thus told by P. Andrés Perez de Ribas, *Historia de los Triunfos de nuestra Santa Fee entre gentes las mas Barbaras y Fieras del Nueuo Orbe*, etc., 1645, lib. viii. cap. iii. p. 475. Speaking of the Indians around the celebrated mines of Topia in Durango, he says: "Y declararé aqui lo que significa esa palabra: porque se entienda la grande ganancia que tienen en la labor de minas los Indios trabajadores, principalmente los ladinos en ellas, y que conocen los metales, y son barreteros, que con barretas rompen la veta del metal. Porque estos, demas de la paga de su salario de cada dia, que es de quatro reales de plata por lo menos: pero fuera de ese, los principales trabajadores tienen facultad y licencia, de escoger para si vna de las espuestas que llaman Tenates, llena de metal, que cada dia rompe, y saca de la veta; metal que siempre es el mas rico y escogido: porque como ellos lo conocen, y registran primero que sus amos, apartan para si lo mas precioso; y esto no se les

tions of the country than the modern "prospector" and the young graduate of mining schools, very soon perceived that mines in New Mexico, as a general rule, "would not pay."<sup>1</sup> As for aboriginal mining, it is a myth. We have yet to find a trace of work similar to the breaking of native copper with huge mauls, performed on Lake Superior. Of reduction of

puede estoruar á los Indios: porque al punto que eso se les estoruase, desaparecerían las minas, y ellas y sus amos quedarán perdidos. La espuerta de metal que saca, al Indio le suele valer quatro, seis, y tal vez diez, y mas reales de á ocho. Y á esto llaman Pepenas, que son muy vsadas en todos los Reales de minas de la Nueva España, y lo mismo deue de pasar en los otros Reinos de las Indias; y así los Indios que son diestros en la labor de minas, andan lucidamete tratados y vestidos."

<sup>1</sup> The deceptive nature of New Mexican ores was discovered by the Spaniards at an early day. In 1626 complaints were already uttered against the settlers of New Mexico on the ground of their complete apathy in matters of mining. Fray Gerónimo de Zárate-Salmeron, *Relaciones de Todas las Cosas que en el Nuevo México se han visto y sabido*, etc., MS., Art. 34, says: "De todo esto se rien los Españoles que allá estan: Como tengan buena cosecha de Tabaco para chupar, estan mui contentos, y no quieren mas riquezas, que parece han hecho voto de pobreza, que es mucho para ser Españoles, pues por codicia de plata y oro entraran en el mismo Ynfierno á sacarlas." In Art. 35 he tells of three Flemings who came to New Mexico with some capital, and with the intention of working mines; but the Spaniards of Mexico burnt the machinery, which had been standing idle since the time of Don Pedro de Peralta, Oñate's successor as governor of the province. The viceroys themselves were not much taken with mining prospects in New Mexico. Already the Conde de Monterey wrote to the King in 1602, *Discurso y Proposicion que se hace a vuestra Magestad de lo Tocante a los Descubrimientos del Nuevo México* (*Documentas de Indias*, vol. xvi. p. 50): "Y cierto que no tengo perdido esperanza de que se haya de verificar lo que el Gobernador todavía afirma, de que hay plata en algunos cerros de aquella comarca en que está, . . . y aunque Joan de Oñate escribe que ahora saldria á hacer algunas catas hondas, y que hasta tanto no asegura riqueza, porque no sabe que haya metales de aventajada ley; esto no me desánima, porque no hay cuenta cierta en ello." In 1630, Fray Alonso de Benavides writes glowingly of mines in New Mexico, especially of those of Socorro (*Memorial*, pp. 17-19); but nobody felt constrained to attempt working them. The reason for it is stated afterwards officially by the Brigadier Pedro de Rivera, *Diario y Derrotero de lo Caminado, Visto, y Observado en el Discurso de la Visita General de Presidios, situados en las Provincias ynternas de Nueva España*, 1736, p. 32: "Hanse encontrado en dicho Reyno, algunos Minerales, sin dar su metal mas ley, que la de Alquimia, y Cobre; y como no se ha podido costear el beneficio que necesita, las han dejado abandonadas."

ores, even by the rude process invented by the ancient Peruvians, there is no sign. For the Southwestern Indian, copper ores had value only in proportion as they were *bright* blue and *bright* green; and the inferior kалаite, met with in New Mexico, was liked as well as the bluest turquoise from Asia Minor would have been. Mining, therefore, has had not the slightest influence on the fate of the native in the Southwest, under the Spanish sway; and no tale of ancient and now hidden treasures, which "only the Indian knew and made use of," should ever be taken as a basis for earnest enterprise. I am speaking here of those regions alone upon which I have to report to the Institute.

The geology of the Southwest has given to the Indians who inhabited the country resources more precious to them than metal. At a certain stage men do not attempt cutting and hewing. They have not advanced far enough to know how to prepare instruments for such purposes, and are therefore reduced to hammering and breaking. Metals are either too malleable for such purposes, or too brittle, unless a much greater advance has been made in treating them than that which the remains in these regions show. Thus it was that hard rock, flint, and obsidian were to the aborigines as important as iron and copper are to us to-day. These minerals are found in abundance in the Southwest, but they are strictly localized, and do not appear everywhere. The mountains converging toward the Sierra Madre from the side of Sonora, where they merge into that backbone of the Mexican isthmus, contain an abundance of obsidian in places.<sup>1</sup> Flint is scattered here and there. Basalt is common. To these we have

<sup>1</sup> I saw much obsidian in nodules on the elevated plateau called "Llanos de Huépari," near Huachinera, on the western spurs of the Sierra Madre. The Tahuaro also is full of it. There is obsidian in the mountains which divide the Rio Grande valley from the sources of the Rio Jemez.

to add, as a matter of secondary importance, however, mineral paints. Iron is plentiful, and often in the shape of iron ochre. The copper greens and blues are found almost everywhere. Kaolin, or rather a coarse kaolin clay, is met with occasionally. This exhausts the list of mineral products indispensable to the aborigines which the Southwest afforded.

The dryness of the Pacific coast is well known. From that side the regions of New Mexico and Arizona derive no humidity. Only what passes over the mountains from the northwest can occasionally irrigate the valleys and basins. In fact, it is the contact of northerly currents, cold and dry, with the slight moisture still contained in the air coming up from the Gulf of Mexico, that produces rain in summer, snow in winter. This moisture is in itself but a residue, for it has shed its main contents over the plains of Texas. It may be said that irrigation, both by precipitation and drainage, is furnished from the leavings of surrounding territories, north as well as south. In winter northerly winds prevail; in summer they blow from an intermediate direction between south and east. Both equinoxes are usually stormy, without much rain. The rainy season is defined, inasmuch as it is limited to the months of July, August, and September; but it is far from displaying the copiousness of tropical climates. Weeks may elapse without the discharge of a single shower; then again weeks may bring a series of thunder-storms accompanied by floods of rain. During the other nine months of the year there are occasional days of rain, which usually comes from the southeast, and lasts until the wind settles in the opposite quarter. The same happens with snow-storms; the southeasterly winds are their forerunners, while northwesterly currents bring them to a close. What, during winter months, causes a snowfall in northern sections, appears in Southern Arizona and Sonora as a succession of rainy days, akin to



“bad weather” in the Eastern States, and called “Quipata” by the natives of Sonora and Chihuahua. A “Quipata” resembles an equinoctial storm of rain, but with less violence of wind, and perhaps less copiousness of precipitation. The further south these disturbances occur, the more severe becomes their character. This may be said of aqueous phenomena in general. The banks of the Rio Yaqui and of the Mayo are very humid in comparison with those of northern rivers; and when it rains, even on the dry plateaux of Central Chihuahua, the fall is extraordinarily heavy.

In a country whose topography displays such variety of features, and which besides extends over so many degrees of latitude as well as of longitude, a great number of what might be termed “local climates” appear. According to altitude, temperature varies within short distances.<sup>1</sup> The direction of mountain chains deflects and diverts atmospheric currents; what is a northerly wind on the plains may enter a narrow gorge from an opposite direction; a circle of high ranges around a low basin may keep it absolutely dry for years, all the precipitation being shut off by the crests. Such is the case on the middle Rio Gila about Casa Grande, and near Maricopa, in Southern Arizona. Years elapse sometimes ere these sandy bottoms are blessed by a substantial shower. Santa Fé in New Mexico is much more arid than the valley of Tezuque, although the latter is only seven miles distant. Las Cruces and the Mesilla valley on the Rio Grande are moist, and to a slight extent malarial, compared

<sup>1</sup> There is already a marked difference between Santa Fé and Tezuque, although the distance is only seven miles. Peña Blanca, twenty-seven miles from the capital, and 1,700 feet lower, is both colder in winter and much warmer in summer than the former. At Albuquerque the thermometer rises occasionally to over 100°, whereas at Santa Fé it never reaches 90° in the shade. At Tucson, where the thermometer attains 120° frequently, and where it hardly ever snows, the climate is torrid, whereas the sources of the San Pedro on the Sonora frontier are bitterly cold in winter.

with Socorro on the same stream, while the difference in their altitude is only a few hundred feet. Still, the general characteristics prevail everywhere as soon as we compare the climate with that of other regions on the North American continent. Dryness, comparative richness in ozone, and in the higher portions a mild temperature, whose extremes fluctuate between  $90^{\circ}$  in the summer, and  $-12^{\circ}$  in cold winters. These extremes do not apply of course to the mountain zones proper, at an elevation of 8,000 feet and beyond, nor to the torrid lowlands of Arizona, of Chihuahua, and of the Sonoran sea-coast.

Where the water supply is wholly dependent upon what surrounding countries cannot absorb, the river systems suffer from the same scantiness as precipitation itself. Rainy seasons do not swell streams in the northern Southwest in any permanent manner; it is the melting of snow on the mountains of Colorado that causes the Rio Grande and the great Colorado to rise, and to inundate their banks. The same is true of the Gila, whose head-waters lie in the mountains of Southern New Mexico. These streams are therefore highest in May and in June, whereas during the months of rain their volume of water is steadily on the decrease. All these rivers have a rapid fall in the beginning, and are constantly washing down detritus, mostly of volcanic origin, towards their lower course. In proportion as they approach the ocean they have formed sandy bottoms, and this soil contributes to narrow the river bed, even to close it, where the stream is of small volume. The rivers of the Southwest, therefore, diminish more or less before reaching their mouths. South of the Rio Chama, the waters of not a single tributary of the Rio Grande reach the main artery throughout the whole year: the confluences of the Rio de Jemez, of the turbulent Puerco, of the Pecos, and of the Concho, are dry washes, except for a

few hours in the rainy season, when an extraordinarily heavy shower causes the torrent to disgorge floods of roaring waters, carrying huge boulders and masses of rubbish. This peculiarity of Southwestern rivers and streams, which causes them to resemble mountain torrents rather than regular watercourses, is of great importance to the historical student. In the dry season, early Spanish explorers could easily fail to notice a river which, on maps, astonishes us by the length of its course, and therefore leads us to expect a corresponding volume of water, whereas in reality it presents at a certain period of the year but the appearance of a dry gulch, or at best of a thin film lazily sinking through whitish sand. If, for instance, Alarcon does not mention the mouth of the Gila when he rowed up the great Colorado in September, 1540, it should be no matter of surprise, for the Gila at that season sometimes carries no more water than an ordinary brook, notwithstanding the length of its course.

Under such circumstances, it follows that even the moisture which the Southwest derives from surrounding districts by the channels of drainage is not abundant. That drainage itself is limited in area, and hence the habitable portions of the surface are small in comparison with the total expanse. The soil is largely fertile, that is, where there is any soil at all; it produces as soon as it can be moistened. Vegetation therefore bears the character that might be expected: it appears scant along the mountain bases, and often on the lower mountains themselves; and owing to the more southerly latitude, coupled with the elevation of the general level, it affords singular associations of vegetable types, and great contrasts in what lives and blossoms in the same neighborhood.

I have already alluded to the Coniferæ as forming the vegetable covering of the higher mountains. These stately plants are not limited to northern latitudes; they extend into Sonora

and Chihuahua, where large portions of the Sierra Madre display vast forests of splendid pine timber. *Pinus Chihuahuana* and *strobiformis* cover the central elevated basins, the "heart of the Sierra." On the whole, forests are not abundant in the Southwest. What is called "Monte" in Spanish embraces any description of country covered with plants, perennial, and higher than the low shrub. Mezquite (*Prosopis juliflora*), although only three and four feet high, but scattered thickly over a number of acres, is a "Monte" in the midst of an arid plain. Narrow cañons studded at intervals with tall pines, high Mesas on which the low and wide juniper bushes are scattered for miles like an irregular orchard, are called "Monte." Real timber regions are scarce. The cold and well-watered Tierra Amarilla in Northern New Mexico, the plateau of the Sierra de Zuñi, the surroundings of the Sierra de San Francisco in Arizona, are among the few typical timbered areas.<sup>1</sup> In the main, trees are farther apart than in better irrigated sections, and the majority of valleys present a series of groves, instead of a connected forest.<sup>2</sup>

The change in vegetation incident upon more southern latitude, as well as upon decrease in altitude, is very sudden and striking in Southern Arizona, on the banks of the Gila River. There the transition from the pine area, clustering around the base of the Sierra Blanca, to the thorny and threatening forms of gigantic Cacti, of *Fouquieria splendens*, *Larrea gigantea*, *Dasylirium*, *Parkinsonia*, and similar brilliantly flowering monstrosities of the vegetable kingdom, is not only interesting, it is fascinating to the eye. Another world opens before the

<sup>1</sup> A beautiful section of high and picturesque timber-land surrounds also Fort Apache in Eastern Arizona. There the forest is dense, the trees stately, and among the varieties represented is the *Pseudotsuga Douglassii*. The pines of Chihuahua reach as far north as Mount Graham, on the southern shores of the Gila.

<sup>2</sup> The valley of the upper Rio Pecos is a good specimen.

traveller; with the unexpected sight of strange plants he breathes, or seems to breathe, another equally strange air.

In other sections of the Southwest this transition is much more gradual, certain families of plants, like the Cacti, for instance, being everywhere represented,<sup>1</sup>—*Opuntia* blossoming in the shade of *Pinus Murrayana*, as well as on the plain alongside of Buffalo-grass and of *Yucca angustifolia*. The transformation from smaller into taller forms as we proceed farther south is not so striking. In Central Arizona the "Palo Verde" (*Parkinsonia Torreyana*) creeps up to near the Little Colorado River.<sup>2</sup> In Western Sonora the specifically Arizonian flora prevails generally in the centre, the "Pitahaya" takes the place of the colossal "Zahuaró" (*Cereus giganteus*), and cylindrical *Opuntia* or "Choyas" increase in number, as well as in size. Thickets are not common in the Southwest, on the whole. They are found in northern sections, in gorges and ravines like the Cañon of Santa Clara, where wild-cherry trees, and even elders, willows, and poplars, gather closely along the banks of a limpid brook. Farther south, however, the thicket is much more frequent, and what is there called "Monte" is but a thicket, often dangerous to penetrate on account of the thorny plants of which it is constituted. Such thickets cover the drift-hills encasing the Sonora and Upper Yaqui Rivers; they impede approach to the numerous and small aboriginal ruins with which these hills are covered, and render both difficult and tedious the surveys of rude fortification lines that sometimes furrow the slopes of more isolated eminences.

Sonora is a country of striking contrasts. From the road leading to Bacuachi, the eye embraces at once pine-clad crests,

<sup>1</sup> *Opuntia arborescens*, for instance, acquires a fine development on the plains, or rather basins, of Middle New Mexico. It flowers in four different shades.

<sup>2</sup> Through Tonto Basin. It is also found in the Mojave Desert.

slopes covered with oak, Palo Blanco, and "Dunes" thickly overgrown with Mezquite and formidable Choyas. In the narrow cleft through which the Yaqui runs past Huassavas and Granados, wild-fig trees associate with oak. The latter is also an almost steady companion of the Fan-palm.<sup>1</sup>

Farther south, on the banks of the Lower Yaqui and of the Rio Mayo, vegetation assumes more vigorous proportions. The sugar-cane grows well there, and orange trees thrive luxuriantly around Hermosillo and near Guaymas on the coast of the Gulf of California;<sup>2</sup> or rather near it, for the coast itself, on Sonoran territory at least, is a forbidding stretch, marshy below Guaymas, fearfully dry and arid between Guaymas and the mouth of the Colorado River. What are called the "Playas" is nothing else but a desert of sand and occasional rock,—a dreary waste, without water, unfit for permanent abode. Of similar character is Eastern Chihuahua. It is a dismal region, almost destitute of water in many places, terribly hot, and with a dwarfish and thorny vegetation.<sup>3</sup> As for the Bolson de Mapimi, it is Sahara on a limited scale.

Apparent poverty of the vegetable kingdom, while it seems to be one of the characteristic traits of nature in the Southwest, does not preclude the existence of a great number of useful plants,—useful through their nourishing qualities as well as through medicinal properties of no small value. Of nutritive indigenous species there are a great number, and many of them are, like the medicinal herbs and shrubs, far

<sup>1</sup> *Corypha*. I found it with oak in many places, on the desolate stretch extending between Babiácora on the Sonora River, and Oposura at the foot of the Sierra de Bâcachi. I also found it similarly associated in the State of Oaxaca, under the 18th degree of latitude.

<sup>2</sup> What is called in Sonora the Date-palm appears already on the banks of the Sonora River, at Arispe, in an isolated specimen. I met it again on the Upper Yaqui at Huassavas.

<sup>3</sup> The mountains skirting the Rio Grande are fearfully arid. Mezquite is the dominating plant.

too little known as yet.<sup>1</sup> Truly, the Indian feeds on many a natural resource which we should fail to appreciate, but it is not *our* taste which determines the value of a plant in matters of historical import. The great question of subsistence is one which has exercised a powerful influence on the ethnography of the American continent, for primitive man, man destitute of iron and of draft animals, was not nature's master; he lived with nature, and so to say by its pleasure and permission, — with him, life was indeed a struggle, and the degree of culture which he attained the result of necessity. Inorganic forces alternately fostered and threatened his existence, without leaving him any clue to their why and wherefore; vegetation appeared more congenial; still it lay before him like a vast field for doubtful experiments. The animal kingdom, however, was more tangible: its species placed their useful and the noxious qualities within easy reach of his judgment. The Fauna of the Southwest, therefore, is deserving of attention, — even of closer notice than the other features of nature's complete realm.

In the Fauna of the Southwest there appear, prominent to the general observer, a certain number of species of a high order like zoögeographic landmarks. It is not always the large animal which has played the most important part in man's history; still, it cannot be denied that the Indian associated and lived more intimately with larger species than with inferior ones. I purposely say with — for he was placed in a state of quasi equality towards beasts whose physical

<sup>1</sup> To enter into details here would be to undertake an almost endless task. For Sonora, the *Descripcion Geográfica de Sonora* (1764, MS.) contains a list which is very important in every respect. I shall have occasion to refer to it subsequently, as well as to the excellent treatise of Dr. Washington Mathews, *Names of Plants in the Navajo Language*. The latter is especially valuable from a medicinal point of view. The Pueblo Indians know and use, often with great secrecy, a large number of medicinal plants. Others play a famous part in magic performances and conjurations. I shall treat of some of these hereafter.

properties resembled closely his own. There is no clear division line susceptible of being drawn in the Fauna, except in as far as the topography has marked out the great plains, with their crushing uniformity, and the mountain regions, with ever-changing accidentations. The great plains only graze the Southwest; they lie at some distance east of the Rio Grande, and do not penetrate Mexico. Their Fauna has played a remarkable part in the past of the Indian, a part which deserves special investigation further on. As to the larger animals of the mountain districts, it is not easy to draw lines of geographical distribution.

Thus the mountain-sheep (*Ovis montana*) is found to-day in northern, and even in northeastern Chihuahua.<sup>1</sup> Among the objects exhumed from the ruins at Casas Grandes, I saw and copied a pestle, whose upper end was a perfect representation of the mountain sheep with its enormous spiral horns. The panther (*Felis concolor*), the coyote (*Canis latrans*), the wolf, the deer, the bear species with exception of the grizzly,<sup>2</sup> —are all found in Sonora, as well as on the southern border of the State of Colorado. Mountain goats were noticed in Southern Arizona as early as 1540.<sup>3</sup> Now they have almost completely disappeared from the Southwest. *Antilocapra Americana* is as common on levels in the 29th degree of latitude as on the Northern New Mexican plains.<sup>4</sup> *Lynx rufus*

<sup>1</sup> In the mountains west of El Paso del Norte, even, I presume, in the Corral de Piedras. The *Descripcion Geográfica de Sonora*, cap. iii. art. 5, 1764, says: "Carnero cimarron, en ópata Tetesso: hay muchos en la Pimeria alta, en lo demas de Sonora no tanto. Son mas grandes que los mansos y tienen los cuernos sin comparacion mas gruesos y largos que los domésticos."

<sup>2</sup> What is called Grizzly, "Oso platiado," or "Oso barroso," in New Mexico, is a cross-breed only. The real Grizzly seldom enters the Southwest.

<sup>3</sup> Castañeda, *Cibola*, p. 159: "On trouve beaucoup de moutons et de chèvres sauvages; ces animaux sont très-grands, ils ont de longues cornes."

<sup>4</sup> On the plain which extends along the eastern foot of the Sierra Madre, and southwest of Casas Grandes, beyond the abandoned hacienda of San Diego, I saw large flocks of antelopes.



and *L. Canadensis* — commonly designated as “wild-cats” — are found on nearly all the mountains. But the largest of American felines, the jaguar (*Felis onca*), but very rarely treads the soil of the United States. I know of well-authenticated instances when strayed specimens of this beautiful and powerful animal were discovered as far north as the 33d degree of latitude in Arizona.<sup>1</sup> But the home of the jaguar in the Southwest is Sonora, and some parts of Chihuahua. Among larger mammals the elk, *Cervus Canadensis*, has practically been exterminated in this century, whereas formerly it was found, abundantly even, in the mountains north and west of Santa Fé. Of smaller mammals, the badger, the hares and rabbits, etc., are scattered over the entire region, and varieties of the prairie marmot inhabit, or infest sometimes, all the larger level spaces, and especially the plains.<sup>2</sup>

It is a surprising fact, that, in a country so devoid of water as New Mexico, almost one fourth of the species of birds should be aquatic. Ducks, wild-geese, herons, cranes, even the swan and the gull, make at least sporadically their appearance on the Rio Grande. In the dry and high mountain regions, the crow and the raven rule supreme. No solitude is so complete that the wanderer will not meet one or more of these birds of ill omen.<sup>3</sup> They form almost an integral

<sup>1</sup> In the Sierra Blanca. The fact appears to me well authenticated.

<sup>2</sup> *Arctomys flaviventer*, for instance. The animal is not at all limited to the plains. At Santa Fé, it burrows to-day in fields on the outskirts of town, and even in town. On the Mesa between Santa Fé and Peña Blanca it is very common, and renders transit for horses often dangerous, by burrowing in the middle of the road. On the Rio Grande near Santo Domingo, prairie-dog holes are of frequent occurrence. As usual, owls and rattlesnakes associate with the harmless little rodent, and the great *Mygale* retire into their subterranean dwellings also.

<sup>3</sup> *Corvus Americanus*, the crow, is much more common than *C. corax*, the raven. The latter is but occasionally met on Mesas, where a solitary bird of the species may be seen to stand watching the neighborhood in search of food.

part of the Southwestern landscape. In elevated regions eagles (in New Mexico *Aquila chrysaëtus* and *leucocephalus*) are not unfrequent. Quails, grouse, pheasants, and the beautiful wild turkey, represent the Gallinacæ. Songsters haunt groves as well as thickets; the mocking-bird enlivens at night the banks of the Rio Grande as well as the solitudes of the Gila. In the immense pine forests of the heart of the Sierra Madre, the tall green parrot is a conspicuous feature. At sunrise, it flutters from tree-top to tree-top, filling the air with discordant, but ever-changing cries.

Still, animal life is far from being prominent on the whole. Nature in the Southwest is rather solemn than lively. Days may elapse ere the wanderer meets with anything else than a solitary crow, a coyote, or, if he chance to strike a grove of Piñon trees, flocks of handsome but ruthlessly pilfering *Picicorvus columbinus*, — a beautiful bird, though damaging to the edible fruit of this species of Coniferæ, and disagreeable on account of the unharmonious noise with which he accompanies his work of plunder. On smaller plains droves of antelopes are occasionally encountered; the other large mammals, even deer, although plentiful in certain localities, shun even the distant approach of man. There is a stillness prevailing which produces a feeling of quiet and solemnity well adapted to the frame of pine-clad mountains, with their naked clefts and rents, or huge, picturesque crags, from which one looks down on mesas and basins, beyond which the eye occasionally escapes towards an unbounded horizon, over arid valleys and barren plains, with the jagged outline of other ranges far away, where the dark-blue sky seems to rise or to rest.

This scarcity of animal life visible to the traveller prevails also in lower orders of the Fauna. Snakes, especially the venomous *Caudisona*, are but locally abundant. Months and months may elapse before we meet a single one of the much

feared "rattlers"; then, again, within a small compass, quite a number are seen. *Heloderma suspectum* (the "Gila Monster"),<sup>1</sup> *Mygale Heintzii* (the "Tarantula" of popular fame),<sup>2</sup> the scorpion and telyphonus,<sup>3</sup> the disgusting scolopenders and julus, are noxiously frequent in certain parts, but only at the periods of annual rains. They become then, in a fearfully torrid atmosphere, the fit companions of thorny Choyas, spectral *Cereus*, sharp-cutting *Yucca*, and of the Fouquiera, with its dangerous spines, emerald-green foliage, and flaming red blossoms.

Thus there is a certain harmony between all the kingdoms of Nature in the Southwest. They compose everywhere a picture, not lovely, but very striking; attractive through its originality rather than through beauty. It is so striking that over primitive man it has wielded power in every sense, and in every direction of his physical, as well as intellectual life. The Indian was, and still is, much more helpless in presence of nature than we are. In order not to succumb to that nature's encroachments, he must yield where we oppose successful and profitable resistance. The physical qualities of the Indian, for which we envy him, are the result of compulsory pliability, rather than of superior endowment.

The Indian, says Lewis H. Morgan, "migrates under the influence of physical causes."<sup>4</sup> This is absolutely true; for

<sup>1</sup> The Gila Monster is much dreaded, but I never heard of one authenticated case when his bite had fatal results. I know, on the other hand, that dogs were bitten by this ugly-looking but very slow animal (slow unless teased, when it becomes very lively), without the slightest noxious effects.

<sup>2</sup> The Mygale is not so common by far as reported by many. In the rainy season it appears sometimes quite often in certain places, but, on the whole, as it is not at all gregarious, and two mygale can hardly approach each other without fighting at once, it is very rare to meet any numbers of them. As to the bite, it is certainly very dangerous, unless attended to without delay.

<sup>3</sup> The so-called "Vinagron."

<sup>4</sup> In that very remarkable and too little known essay entitled *Indian Migrations*. I refer to it because it deserves greater attention than has hitherto been

even when superstition impels him to change his place of abode, that belief has been created by natural phenomena. Topography, hydrography, the flora and fauna, they induce him to stay or to move. Relations towards others of his race — hostilities, for instance — have similar effects, but their origin is mostly a desire to obtain what Nature has given to one locality and refused to another. The Indian, untouched by European culture, was nowhere absolutely sedentary; neither did he become a perfect nomad until he learned to own and to use the horse, with one single exception; and this was the Indian of the great plains. *He* was a true nomad, because the plains nowhere afforded him permanent subsistence, and he could secure it only by following the American bison or buffalo. As soon as a tribe came in contact with a great quadruped, and began to enjoy the manifold benefits which it offered as a source of food, of clothing, and of shelter, that tribe gave up sedentary life, unless the jealousy of others that had preceded drove it back into the mountains. The difference between sedentary and roving Indians is therefore not one of kind; it is the result of circumstances under which the sympathies and antipathies of man have only been involuntary agents of Nature. Still, the topographical division of the Southwest into mountain region and steppes reflects upon ethnography. There are mountain Indians and plain Indians; the former are more sedate, the latter more erratic. Groups of both speak the same language, and recognize each other as having a common origin. I allude here especially to the Apaches, and to their cousins the Navajos.

From whatever side the Indian may have come, the steppes or plains opposed to his movements a formidable barrier. In bestowed upon it. Much of what I say here is almost repetition of what Mr. Morgan wrote many years ago.

the North he might cross them by following streams like the Missouri, the Platte, the Arkansas, shifting from west to east, or *vice versa*, within constant reach of water. Therefore we notice remains of more permanent habitations — vestiges of household pottery — along the Canadian River in the steppes, far away from those sections where the “Pueblos” have dwelt and dwell to-day;<sup>1</sup> but where streams traverse the plains from north to south, as in Texas, or where there are no water-courses at all, it was impossible for primitive man to cross the plains in any direction, — that is, without the buffalo.

The greatest of all American mammals was never permanent in the Southwest. Its home is in the Northwest, and overcrowding there, it pushed its herds steadily and uninterruptedly to the South. Therefore the buffalo people, as we might term the enormous droves of the American wild steer, were constantly on the move, and the Indian followed them, lived from them, — in fact, with them.<sup>2</sup> Once accustomed to

<sup>1</sup> Ruins are found in the plains both west and east of Wagon Mound. I have not been able to visit them, and cannot therefore speak of their character. Those east lie on Canadian River, and twenty-five miles east from the railroad. The pottery, of which I have seen specimens, appears to be similar to that made by the Pueblos. One specimen had the bright glossy ornaments, apparently covered with a very coarse glaze, peculiar to some of the older Pueblo pottery.

<sup>2</sup> This “living with the buffalo” of the Plains Indians struck the earliest Spanish explorers. I begin with Coronado, *Carta al Emperador*, 20th October, 1541 (*Doc. de Indias*, vol. iii. p. 364): “Y á los 17 dias de camino, topé una ranchería de Indios, que andan con estas vacas, que los llaman querechos, los cuales no siembran, y comen la carne cruda y beben la sangre de las vacas que matan. Estos adoban los cueros de las vacas, de que en esta tierra viste toda la gente della; tienen pabellones de cueros de vacas adobados y enebados, muy bien hechos, donde se meten y andan trás las vacas, mudándose con ellas.” Juan Jaramillo, *Relacion hecha por el Capitan* —; *de la Jornada que habia hecho á la Tierra Nueva en Nueva España y al Descubrimiento de Cibola; yendo por General Francisco Vasquez Coronado* (*Doc. de Indias*, vol. xiv. p. 310): “En estos principios de las vacas hallamos indios que los llamaban á estos, los de las casas de azotea, querechos; . . . segun se entendió de estos indios, todo su menester humano es de las vacas, porque dellas comen, y visten y calzan; son

life in company with the buffalo, the Indian was no longer master of his destinies. He traversed the steppes hither and thither, as the animal led him. Fragments of these wandering tribes were sometimes cast ashore, so to say, on both banks of the plains. There they were forced to become more permanent, in a measure. On the other hand, the Indian from Western mountains, as well as the Indian from Arkansas and Missouri, was tempted to try his luck at times in the hunt of the great quadruped. Thus the steppes became, through the buffalo, traversable, useful to the aborigines, and almost a mart where the two sections of the continent, the East and the West, communicated. In hostile meetings of bands who spoke distinct tongues, — who had not the slightest idea of each other's existence even, — or in attempts at exchange of captives, they carried over to one section of the continent notions or objects from the opposite; geographical conceptions, however vague and distorted, passed from east to west, or from west to east, wandering over the plains after the buffalo.<sup>1</sup> Instead of being a barrier, the plains became a con-

hombres que se mudan aquí y allá, donde mejor les parece." *Relacion del Suceso de La Jornada que Francisco Vasquez hizo en el Descubrimiento de Cibola* (*Ibid.*, p. 327): "En estos llanos é con estas vacas andaban dos maneras de gente; los unos se llamaban Querechos é otros Teyas. . . . No tienen otra grangeria ni asiento mas de cuidarse con las vacas, de las cuales matan todas las que quieren, é adoban los cueros, de qué se visten é hacen tiendas, é comen la carne é aun algunas veces cruda, y aun tambien beben la sangre, quando en sed." *Relacion Postrera de Sivola: y de mas de Quatro-cientas Leguas Adelante* (MS., *Libro de Oro*, Fray Toribio Motolinia): "El mantenimiento o sutentamiento de estos indios es todo de las vacas, porque ni siembran ni cogen maiz." See also Castañeda, *Cibola* (pp. 116, 190, etc.).

<sup>1</sup> Evidence of this is furnished by the tales of the so-called Turk, the captive Indian, from a tribe living east of the plains, and who determined the expedition of Coronado in search of Quivira through his statements. It is not unlikely that the great river of which the Spaniards heard at Pecos, and from this same Indian, was either the Missouri or the Mississippi. Thus the Pueblos had some notions of the eastern half of North America. It was of necessity very defective; but still it was a notion, and it had reached them through that occasional intercourse, hostile or friendly, to which the plains gave rise. Compare Casta-

necting medium between the two divisions of North America, even in aboriginal times.

Entirely different was the fate of the Indian in the mountains. There it was, above all, linked to the distribution of water. Scarcity of permanent water is one of the dark sides of many regions in the Southwest; wherever water appeared to be in permanence, therefore, it created a tendency to remain and to settle. The approach of others to the same spot caused dispute, estrangement among people of the same stock, secessions, warfare, displacements. Water was the most powerful agent which propelled the settlement of these regions; at the same time, it was the most immediate cause for strife and disturbances.

An Indian tribe may have wandered for a long while without forgetting agricultural arts and their consequences for living. As soon as necessity or natural advantages impel to it, they settle again, adapting their customs to whatever change nature requires. Thus we find the southern Pimas, in Sonora, living at the time the Spaniards first came in contact with them in solid houses made of large adobes, each village having besides a central place of refuge in the shape of a house strongly constructed for defence.<sup>1</sup> The northern

ñeda, *Cihola*, pp. 72 and 77; Jaramillo, *Relacion Hecha*, p. 311; *Relacion de Suceso*, p. 325, etc.

<sup>1</sup> This fact is stated by P. Ribas, *Historia de los Triunphos* (p. 360): "Pobladostauan los Nebomes á orillas de arroyos de buenas aguas, y corrientes; sus casas eran mejores, y mas de asiêto que las de otras Naciones: porque eran de paredes de grandes adobes, que hazian de barro, y cubiertas de azoteas, y terrados. Algunas dellas edificauã mucho mayores, y con troneras a modo de fuertes, y propósito para si acometiesen enemigos, recogerse a ellas la gente del pueblo, y valerse de su flecheria." *Relacion de los Descubrimientos Conquistas y Poblaciones hechas por el Gobernador Francisco de Ybarra en las Provincias de Copala, Nueva Vizcaya y Chiamella* (*Doc. de Indias*, vol. xiv. p. 482): "Y que habia muchas tierras fertiles y cómodas para sementeras de trigo y maiz, . . . en partes donde buenamente se podian regar con los rios que por cerca dellas iban; y que ansimismo tenian muchas casas hechas de terrados."

Pimas and the Pápagos, although their near relatives, occupied huts well covered, but still only huts, and their villages were but hamlets compared with those of their southern brethren. The Navajos cultivated by irrigation, and lived in log cabins,<sup>1</sup> while their cousins the Apaches moved to and fro, subsisting on the chase and on murder and rapine. If the reports of Espejo are correctly interpreted, the Jumanos in Central Chihuahua were village Indians,<sup>2</sup> whereas those of New Mexico lived in a condition little better than the tribes of the plain. On the other hand, the Piros on the Rio Grande irrigated their lands, while the Piros on the so-called "Médano" — those who inhabited the village of Tabira and its neighboring settlements, who were strictly Pueblos also — depended upon the annual precipitation for their crops, and upon tanks for their drinking water. The Tehuas irrigated on the Rio Grande; the Tanos, who spoke the same language, and had the same beliefs and customs, raised on the arid plain of Galisteo corn and squashes by means of summer rains and winter snow alone, without attempting to extend their dominion by encroaching upon more amply watered valleys.

It is difficult to trace the migration lines of the Indians on a sweeping scale. In the Southwest there seems to be, as in the configuration of the country, a general trend from north to south; but transverse movements have been as common in the vicissitudes of the same tribes as trans-

<sup>1</sup> The first notice of the character of the culture of the Navajcs I find in Fr. Benavides, *Memorial* (pp. 57, 58): "Y estos de Nauajó son muy grandes labradores, y eso significa Nauajó, sementeras grandes. . . Tienen su modo de vivienda debaxo de tierra, y cierto modo de xacales para recoger sus sementeras, y siempre habitan en aquel puesto."

<sup>2</sup> Antonio de Espejo, *Relacion del Viage* (*Doc. de Indias*, vol. xv. p. 105): "En que vimos cinco pueblos, con mas de diez mil indios y casas de azotea, bajas y con buena traza de pueblos."



verse upheavals of the surface, and often barriers of that nature have changed the fate of a group, compelling it to retrace its steps,—even to “go back to the place of beginning.”

The topography of the country has thus, to a great degree, determined the sites of establishments. The Indian looks to a few leading features to decide his settlement, apart from the indications given by superstition. He wants, first of all, *water*. Then he requires a limited extent of fertile soil. If that soil cannot be irrigated, he relies upon rain and snow, for corn will always grow where it rains moderately. Furthermore, he seeks a location where he may feel reasonably *safe from an enemy*. In judging of defensible locations, we cannot apply to them the principles of modern warfare. A treeless level is often as good a protection to an Indian village, constructed of heavy adobes, against a foe armed with bows and arrows, as an extensive uncommandable slope is against the artillery of to-day. Retreats, concealed nooks, were as valuable to the Indian as high-perched rocks. Communities could afford to retire into caves, on rocky recesses, where access to water was difficult in the day-time, without thereby exposing themselves to more than usual danger,—for it is only of late that the Indian learned to attack at night. Lastly, the abundance of game, or its absence, and the prevalence of certain nutritive or medicinal plants, influenced the choice of location.

The abandonment of villages has been due to various causes. Thus the Tehuas, of Santa Clara, assert that their ancestors dwelt in the clusters of artificial grottos excavated in cliffs of pumice-stone west of the Rio Grande. The cave villages of the Pu-yé and Shu-fin-né are claimed by the Tehuas as those of their own people. A few years of drought compelled them to abandon these elevated and

sparsely watered places, and to descend upon the river banks, where they had to resort to irrigation for raising their crops, whereas at the caves they grew corn and squashes by means of the rains alone. The Queres of Cochiti positively state that similar artificial caves, which line the walls of the Rito de los Frijoles, or Tyuo-nyi, were formerly the habitations of their tribe, and that constant hostilities of the Tehuas and Navajos, as well as the gradual disintegration of the very friable rock, compelled their abandonment. The latter is very plainly visible. In proportion as the material is easy to work, it deteriorates easily, and crumbles. The majority of such caves have fallen in on the front, and against such accidents there was no remedy.

On the high "Potreros," fronting upon the Rio Grande, stand the ruins of a number of villages. These were successively occupied by the same tribe, and therefore successively abandoned also, owing to "physical causes." Drought especially has been a leading agent; a single year, without adequate rain, compelled the tribe to remove to a better watered locality. Comparative permanence of abode was possible in the Southwest only where irrigation could be resorted to, and even there the irregularity of water supply is such that the Rio Grande, for instance, has been known to disappear in the middle of its course, as at La Joya and Mesilla in New Mexico. There is no positive evidence that the climate of the Southwest has suffered any important changes since man has inhabited the country; every seeming anomaly in the location of ancient dwellings explains itself, after a close scrutiny, by phenomena which are of actual occurrence to-day. The existence of the long "mysterious" ruins on the Médano, south of the salt lagunes of the Manzano, the so-called Gran Quivira, the Pueblo Blanco, and others, in localities where there is no water far and near, where irrigation

was impossible, but the soil fertile and game abundant, is fully explained by the fact that the main Indian staples—corn and calabashes—grow with summer rain alone, while the discovery of water tanks near to every ruin proves that the inhabitants had artificially provided for the supply essential to life. The same is true in regard to the ruins scattered over arid plains of Southwestern Arizona; everywhere the artificial reservoir accompanies traces of former settlements.

But while deficiency in the water supply has occasionally determined changes of abode on the part of primitive man, excess of it has quite as often had the same consequences. In the mountainous parts of Sonora, the villages of the Opatas were constructed on dunes skirting the river banks. Torrential rains flood these regions in summer; they not only cause sudden freshets, but wash even the bluffs sometimes to a degree which rendered the small dwellings of the Indian very insecure, and occasioned displacements of whole villages. In New Mexico, and during historical times, the instances of pueblos being destroyed by a sudden rise of mountain torrents are not infrequent. Santo Domingo, for instance, has been washed away four times within the last two hundred years,<sup>1</sup> and every time it has been rebuilt on a new site. With the exception of Acoma, there is not a single pueblo standing where it was at the time of Coronado, or even sixty years later, when Juan de Oñate accomplished the peaceable reduction of the New Mexican village Indians. Such mutations have also been caused by hostilities, or merely by fear of them. The great insurrection of 1680 wrought an important change in the numbers and distribution of Indian villages.

<sup>1</sup> The original pueblo, called Gui-pu-y, stood on the banks of the Arroyo de Galisteo, more than a mile east of the station of Wallace. It was partly destroyed by a rise of this dangerous torrent in one night. The next one has completely disappeared, the Rio Grande having washed it away. It was called Uash-pa Tze-na. The present village has suffered three disasters

Although the Southwest is, on the whole, not subject to epidemic diseases,—the coast of Sonora excepted,—it is not unlikely that many ancient settlements owe their decay and abandonment to sickness among its inhabitants. Mountain fever induced the remnants of the Pecos to forsake their homes and retire to Jemez. The villages on the lower Rio Mimbres became deserted, in all likelihood, owing to the malarial qualities of the region. The Indian is much more helpless in such cases than we are; and when the “hand of nature” begins to weigh heavily upon any tribe, superstition comes in and hastens the destruction through practices which, while intended for relief, are actually more dangerous than the evil itself.<sup>1</sup>

The natural resources of the Southwest have been sufficient to induce man to settle, and to remain settled, in a great number of localities, for a certain length of time at least; but the influence of contact of different tribes has done a great deal also towards tying them to the soil, or loosening ties already extant. This contact has nowhere been constant; overcrowding has not occurred, although crowding in the shape of persistent harassing, as the wolf harasses and finally wears out a steer or a drove of cattle, has been the constant tactics of the roving Indian against the land-tilling natives.

Contact has been occasional only, whether it was friendly or hostile. Natural resources and wants have caused and upheld this. The existence of products which one possessed and the other coveted has alternately caused war and com-

<sup>1</sup> Any disaster of magnitude, like drought, epidemic diseases, or a flood, is quickly attributed by the Pueblos to witchcraft. In consequence of this, suspicion sets in, and many crimes are committed which are kept secret, but contribute slowly and surely to depopulate the village. Certain pueblos, like Nambe, Santa Clara, and Cia, owe their decline to the constant inter-killing going on for supposed evil practices of witchcraft.

merce. It may be said that no two tribes were ever so hostile as never to trade, or so intimately connected in friendship as never to fight each other. The possession of turquoise in the small range of mountains called Cerrillos gave the Tanos Indians of Galistéo Basin a prominent position among their neighbors. The Zuñis enjoyed similar privileges, which caused their modest relations of commerce to extend as far as the interior of Sonora and the Colorado of the West.<sup>1</sup> The proximity of the buffalo gave the Pecos Indians a valuable staple of commerce. Buffalo robes wandered as far as Zuñi, and from there into Arizona.<sup>2</sup> These robes also were, for the Pecos Indians, an acquisition largely by trade; they obtained them quite as often from the Apaches, who came down to the village in winter in order to get corn,<sup>3</sup> as by actual hunt on the plains. The salt marshes in front of the Manzano range gave the Tiguas, as well as the Piros of Abó and of Tabira, an influential position, through their control over the supply of salt. Possession of such natural treasures formed ties of friendship, or broke them, as circumstances might determine. They also extended the geographical knowledge of the native, by attracting to his home people from other regions. This geographical knowledge, very faint and still more confused, has played an important part in the creeds and beliefs of the aborigines. What the Indian fails to understand he assigns at once to the domain of the supernatural; distant lands, of which he hears fabu-

<sup>1</sup> This is stated by various authors of the sixteenth century, like Fray Marcos of Nizza, *Descubrimiento de las Siete Ciudades* (*Doc. de Indias*, vol. iii. pp. 333-342). About the veracity of Fray Marcos there cannot longer be any doubt. I hope to have established this point fully in two essays on the subject. Compare also, in regard to the Indians of the Colorado River, Hernando Alarcon, *Relation de la Navigation et de la Découverte faite par le Capitaine Fernando Alarcon* (in *Cibola*, Appendix, p. 324, et seq.).

<sup>2</sup> *Ibid.*

<sup>3</sup> Castañeda, *Cibola*, p. 179.

lous descriptions, become the scene of folk-lore; events which are striking, and yet inexplicable to him, pass over into the realm of mythology.

The rôle which plants have played in Southwestern ethnography has been varied, and yet not as evident on the surface as might be expected from its intrinsic importance. The same staples in the shape of domestic vegetables prevailed in the main over the Southwest. Corn, beans, calabashes, were cultivated almost everywhere, and only local and temporary scarcity could cause a pressure upon the native. But there were other plants also cultivated which could not grow everywhere, and thus became an element of trade. Such was cotton. Cotton demands irrigation, and a warm season of considerable duration. North of Cochiti it was not raised on the Rio Grande. Neither did it occur at the Zuñi villages. Commercial intercourse furnished it to such tribes as had it not, and with that intercourse came all the favorable and unfavorable results of contact. Tobacco was not known to the Pueblos until Spanish rule became established; but it was in constant use among the tribes of Southern Sonora,—the Yaquis, Mayos, and probably the Southern Pimas. Through cotton the art of weaving became an accomplishment among certain groups, whereas others, equally advanced in other respects, resorted to plaiting and tressing, using the yucca, turkey feathers, and rabbit skins for their vestments.<sup>1</sup> I have

<sup>1</sup> The Zuñis, for instance, raised no cotton. The Moquis, and the Rio Grande Pueblos, however, cultivated the plant. This is so positively stated by the majority of writers contemporary with the expedition of Coronado, that it is almost superfluous to quote from them. Still I must notice a few, as they refer more particularly to the mode of dress of the Pueblo Indians. Castañeda describes the costume of Zuñi as follows (*Cibola*, p. 163): "Les Indiens de ce pays sont très-intelligents; ils se couvrent les parties naturelles et tout le milieu du corps avec des pièces d'étoffes qui ressemblent à des serviettes; elles sont garnies de houppes et d'une broderie aux coins; ils les attachent autour des reins. Ces naturels ont aussi des espèces de pelisses en plumes ou en peaux de lièvres, et des étoffes de

already spoken of the part played by the buffalo in general; he has been a powerful agency in the formation of South-western ethnography. It is not unlikely even that he has largely contributed to facilitate the peopling of the whole North American continent, at least to direct the movements of the Indian. In regard to this quadruped, and to whatever he could afford to man, the roving Indian had the advantage over the villagers. He almost controlled the market. He might, if not exclude, at least very much hamper their endeavors to obtain hides and meat. The roving Indian was not much below the Pueblo in arts of life. He had even made one step beyond what the sedentary aborigine ever achieved without the aid of the European, in Peru excepted, — the Apache of the plains had a *beast of burden*! With the Pueblos the only domestic animal was the turkey.<sup>1</sup> The Apaches-Vaqueros had the Arctic dog to carry his tents, his wardrobe, his entire household goods.<sup>2</sup> This animal gave

coton." The *Relacion del Suceso* (p. 320): ". . . á causa que no tienen ningun algodón; é se visten de mantas de Henegrien é de cueros de venados, é algunos de vaca." Jaramillo, *Relacion* (p. 308): "Tienen mantas de algodón cuadradas; unas mayores que otras, como de vara y media de largo." *Relacion Postrera* (MS.): "Desta gente algunos traen mantas de algodón y de maguey y cueros de venados adobados, . . . tambien hacen mantas de pellejos de liebres y de conejos, con que se cubren: andan las mujeres vestidas de mantas de maguey hasta los pies." Fr. Gerónimo de Zárate-Salmeron, *Relaciones de Todas las Cosas* (1626, MS., art. 44): "Vistense de mantas de Yztli texidas de cardoncillo, no tienen estos Yndios algodón." The mantles of maguey were made of yucca leaves. Such textures are still found occasionally in cave houses and cliff dwellings. The mantles of rabbit hair are still worn at Moqui to-day. As to the mantles made of turkey plumes, they are out of use altogether at present.

<sup>1</sup> They kept the turkey for his plumage, rather than for meat or eggs. *Relacion del Suceso* (p. 320): "La comida que tienen es mucho maiz, é frisoles, é melones, é algunas gallinas de las de México; y estas las tienen mas para la pluma que para comer, porque hacen della pellones."

<sup>2</sup> This domestic dog is mentioned by all the authors who were eyewitnesses of Coronado's march. Subsequent authors, like Benavides and Villaseñor y Sanchez, mention it also. Not one of them, however, gives a detailed description. Still, it must have been the same dog which more northern Indians still

roving man a sway on the plains which the villager could not dispute. The main staple of the plains, therefore, the hides and meat of *Bison Americanus*, became of necessity an object of commercial intercourse, even between the most hostile groups of sedentary Indians and nomads.

On account of the demand for animal products, commerce extended in the Southwest over much greater expanses than might be supposed. Iridescent shells, common on the coast of the Gulf of California, wandered as far as the plains, changing hands through barter, gift, or violence. The inhabitants of the Colorado river shores, the Seris of Sonora, exchanged these bivalves for the turquoises of Zuñi, or the tanned hides and rabbit mantles of Moqui. The same took place with parrot feathers. The large green parrot is very common in the Sierra Madre, and Cabeza de Vaca tells us that the Jovas, who dwelt on the mountainous confines of Sonora and Chihuahua, exchanged its plumes for green stones farther north.<sup>1</sup> At Casas Grandes I saw turquoises, shell beads, and marine snails of various kinds, which had been exhumed from the ruins, and among the latter were species found only in the West Indies, or in the Gulf of California,<sup>2</sup> whereas Casas Grandes lies midway between the shores of both oceans, in the very heart of Northern Mexico. All these objects were not necessities of life in the strictest sense, they were luxu-

use as a beast of burden. In this case, it certainly is a variety of the Arctic. The *Relacion Fostrera* says of the dogs of the Querechos: "Esta gente tiene perros como los de esta tierra, salvo que son algo mayores." Mota-Padilla, *Historia de Nueva Galicia* (1742, p. 165): "Unos perillos no corpulentos."

<sup>1</sup> Alvar Nuñez Cabeza de Vaca, *Naufragios, y Relacion de la Jornada que hizo á la Florida* (in Vedia, *Historiadores primitivos de Indias*, vol. i. cap. xxxi. p. 543): "Y dijeron que las traian de unas sierras muy altas que estan hácia el Norte, y las compraban á trueco de penachos y plumas de papagayos." The Indians of whom Cabeza de Vaca received this information were Jovas.

<sup>2</sup> There were, among others, *Turritella Broderipiana*, from the Pacific; *Conus proteus*, from the West Indies; and *Conus regularis*, from the west coast of Mexico.



ries, and constitute to-day what the Southwestern Indian regards as his specific "treasure." Still, the possession of them was regarded as essential, because they formed an accessory to their religious rites, or to the magic processes with which their religion is so intimately linked.

The influence of natural scenes, of atmospheric phenomena, of the qualities, useful and baneful, of natural objects, on the religious beliefs and practices of the Indians of the Southwest is such, that one may feel tempted to think that that religion itself sprung up in the midst of a nature reflecting itself so strongly in the mental conceptions of man.

The scenes of man's first appearance upon this earth are laid among the Pueblos and Navajos, in that Southwest which they inhabit to-day. What occurred previously is said to have been enacted below, and not on the surface of the earth, in distant countries. Still, this may be a "myth of observation," arising from the sight of growth in plants, and from the forms of mountains. But the peculiarly vivid tints of the skies have given rise to the characterizing of cardinal points by colors, and these colors are again given in the most ancient myths to specific mountains, easily recognizable at this day. The regions beneath the surface of the earth mentioned in myths of the Pueblos and Navajos are naturally unrecognizable. These myths show, at least, that, if those Indians removed to their present homes from distant lands, it was so long ago that recollection has become exceedingly dim and ill-defined. The same may be said of their mythological animals. The earliest of these are shapes purely monstrous in part, but those which have become chief characters in the practices of to-day are well-known types of the present fauna. The creeds and beliefs of Southwestern tribes may have at one time possessed more elevated ideas; to-day these redeeming features are wellnigh obliterated, and it is the influence of a

nature which man was unable to master that has done it. In order to save himself from that nature in which he was compelled to live, the Indian strains all his faculties to soothe it by worship. If the Indian has ever had a clear conception of monotheism, it is long forgotten, and the most slavish cringing before natural phenomena, the cause of which is inconceivable to him, has taken its place.<sup>1</sup> Idolatry is not even an adequate term for it; it is a Fetichism<sup>2</sup> of the grossest kind, and so complicated, so systematized, that an appeal to one particular natural object, to one specific deified feature or phenomenon, can be resorted to, and is resorted to, in every circumstance of human life. Indian religion bows to the seasons for its rites, it borrows from them and from atmospheric phenomena its symbols. It places animals on a footing of equality with mankind, — often even they are recognized as his superiors, and placed before him as models of conduct. Indian religion assumes utter helplessness on the

<sup>1</sup> Dr. Mathews says of the Navajos, *Some Deities and Demons of the Navajos*: "It is a difficult task to determine which of their gods is the most potent. Religion with them, as with many other peoples, reflects their own social conditions. Their government is a strict democracy. Chiefs are at best but elders, men of temporary and ill-defined influence, whom the youngest men in the tribe can contradict and defy. There is no highest chief in the tribe. Hence their gods, as their men, stand much on a level of equality." What the Pueblo Indian mentions as a supreme God is the Christian God, but this supreme power is strictly apart from the real Pueblo creed. I have noticed this often, and very plainly, in my conversations with them, as well as in the rites which I witnessed.

<sup>2</sup> F. H. Cushing, *Zuñi Fetiches* (1883, from the Second Annual Report of the Bureau of Ethnology), says: "The A-shi-wi, or Zuñis, suppose the sun, moon, and stars, the sky, earth, and sea, in all their phenomena and elements, and all inanimate objects, as well as plants, animals, and men, to belong to one great system of all-conscious and inter-related life, in which the degrees of relationship seem to be determined largely, if not wholly, by the degrees of resemblance. In this system of life the starting point is man, the most finished, yet the lowest organism; at least the lowest, because most dependent, and most helpless. In just as far as an organism, actual or imaginary, resembles his, it is believed to be related to him, and correspondingly mortal; in just as far as it is mysterious is it considered removed from him, further advanced, powerful, and immortal."

part of man within the natural realm ; it excuses crimes on that account, and denies retribution beyond the grave. It teaches no fatalism, because for every evil there is a remedy within nature itself, which has a supernatural effect as soon as properly employed. There is something like a poetic hue cast over some elements of their religion, but this poesy is not derived from the creed, it is rather a last echo from a time when man knew better, and felt differently, — a complaint that such times are gone ! There is no greater slave than the Indian. Every motion of his is guided by superstition, every action of his neighbor suspiciously scrutinized. We wonder at many strange actions of the Indian, at what seems to us a lack of consistency, of truthfulness, an absence of moral consciousness. We punish him for crimes which he commits without any regret whatever about the consequences of his misdeed. In this we fail to understand the motives of the Indian. He is not his own master. Nature, deified by him to the extent of innumerable personalities and principles, exacts from him the conduct that we blame. His religion, notwithstanding the promise of coarse felicity which it holds out beyond the grave, reduces him to utter helplessness so long as he has not crossed the threshold of death, makes of him a timid, fettered being, anxiously listening to the voices of nature for advice. These voices stifle the silent throbs of conscience ; they are no guide to the heart, no support for the mind.

This is not the place to enter into details concerning the creeds of the Indian of the Southwest. What little I shall have to say about them will find its place farther on. Neither can I attempt here a discussion of the great importance that nature has had in shaping his household arts and architecture. Having described the nature of the country in general, and its relation to man before the coming of European colonists,

I proceed to consider that man as he presents himself now, as well as he presented himself when first encountered ; to explain the changes in his condition ; and, lastly, to examine his vestiges from a time of which we have few if any positive records.

## II.

## ETHNOGRAPHIC CONDITION OF THE SOUTHWEST IN THE SIXTEENTH CENTURY.

IT may be asserted, and without danger of exaggeration, that before the year 1600 the Spaniards had visited all the principal regions of the Southwest comprised between the Indian Territory on the east and the western Rio Colorado, and had gone as far north as the southern limits of the State of Colorado. They had even penetrated farther, for the tribe of Quivira, which Coronado visited in 1541, were living at that time in eastern Kansas.<sup>1</sup> But his adventurous expedition was a mere reconnoissance, and while it has left us excellent descriptions of the great plains, of their fauna, and of the general features of the existence of man in the American steppes, little that was definite was ascertained concerning the tribes which the Spaniards met, and with which they had a short period of peaceable intercourse.<sup>2</sup> In order to present a picture of primitive southwestern ethnography it is necessary

<sup>1</sup> I cannot give here all the proofs on hand of this fact. A careful examination of the various documents of Coronado's time, as well as of those which, while having been written by companions of Coronado, were composed from memory years afterwards, proves the location to be as I have stated it. One of the most important witnesses on that point is the Captain Juan Jaramillo, *Relacion hecha . . . de la Jornada que habia hecha en la Tierra Nueva en Nueva España y al Descubrimiento de Cibola; yendo por General Francisco Vazquez de Coronado* (*Documentos de Indias*, vol. xiv. p. 312). I also refer to the MS. *Relacion Postrera de Stuola y de mas de Quatro-Cientas Leguas adelante*, in Fray Motolinia's *Libro de Oro ó Tesoro Indico*.

<sup>2</sup> That Coronado never experienced any difficulty in his intercourse with the Indians of the plains is a fact well ascertained.

to extend the scope of study to sources more recent than the sixteenth century, and to embrace in it so far as possible everything on record concerning the earliest meetings between the white and the so-called "red" man. It is not likely that a century could have wrought important changes in the condition of tribes which were not in contact with Europeans, and, of such changes as there were, some even are traceable through Spanish sources themselves. The peremptory orders of the Crown to all explorers about preserving accurate records of what they experienced, saw, and heard,<sup>1</sup>

<sup>1</sup> Compare *Codice de Leyes y Ordenanzas nuevamente hechas por su Magestad para la Governacion de las Yndias y buen Tratamiento y Conservacion de los Yndios*, etc. (*Docum. de Indias*, vol. xvi. p. 458, art. 119), A. D. 1571. Also, and in the same volume, *Ordenanzas de su Magestad hechas para los nuevos Descubrimientos, Conquistas y Pacificaciones* (p. 149): "Los descubridores por mar ó por tierra hagan comentario é memoria por dias, de todo lo que vieren y hallaren y les aconteciere en las tierras que descubrieren; é todo lo vayan asentando en un libro, y despues de asentado se lea en publico cada dia, delante de los que fueren al dicho descubrimiento, porque se averigue mas lo que pasare y pueda constar de la verdad de todo ello, firmándolo de algunos de los principales, el cual libro se guardará á mucho recabdo para que cuando vuelvan le traigan y presenten ante la Audiencia con cuya licencia hobieren ido." Still more definite is one of the preceding paragraphs (p. 107): ". . . é por medio de las dichas lenguas ó como mejor podieren, hablen con los de la tierra y tengan platicas y conversacion con ellos, procurando entender las costumbres calidades y manera de vivir de la gente de la tierra y comarcas, informándose de la religion que tienen, ydolos que adoran, con que sacrificios y manera de culto, si hay entre ellos alguna doctrina ó genero de letras, como se rigen y gobiernan, si tienen reyes y si estos son por eleccion ó derecho de sangre, ó si se gobiernan como república ó por linages; que rentas y tributos dan y pagan, y de que manera y á que personas, y que cosas son los que ellos mas precian que son las que hay en la tierra, y cuales traen de otras partes aquellos tengan en estimacion; si en la tierra hay metales y de que calidad; si hay especería, alguna manera de drogas y cosas aromáticas, para lo qual lleven algunos géneros de especias así como pimienta, clavos, gengibre, nuez moscada y otras cosas por muestras para amostrárselo y preguntárles por ello; y así mismo sepan si hay algun género de piedras, cosas preciosas de las que en Nuestros Reynos se estan; y se informen de la calidad de los animales domésticos y salvajes, de la calidad de las plantas y árboles cultivados é incultos que hobiere en la tierra, y de los aprovechamientos que della se tiene," etc. Although this royal decree is dated 1573, similar instructions were imparted to discoverers by the viceroys at a much earlier

had to be obeyed. Out of this resulted an accumulation of ethnographic, historic, and geographic material, the critical sifting of which — in the spirit and from the standpoint of the times in which it was collected — gives a tolerably accurate idea of how man was in the Southwest when he first saw man coming from a world which, in nature as well as in ideas, was as new to him as America seemed to the European.

The Indian tribes of Sonora and of Chihuahua were known, and were to a limited extent described, by the Spaniards, in the first half of the sixteenth century. But an accurate description of them was secured only one hundred years later, when Jesuit missionaries established themselves among them. It is therefore essential to blend the reports of Fray Marcos of Nizza<sup>1</sup> with those of P. Andres Perez de Ribas,<sup>2</sup> of Castañeda<sup>3</sup> with those of anonymous writers of the "Company of Jesus." The same is the case in regard to the inhabitants of Chihuahua: Juan de Miranda<sup>4</sup> must be consulted, as well as Fray Francisco de Arlegui,<sup>5</sup> and Espejo<sup>6</sup> placed

date. Witness the *Instruccion de Don Antonio de Mendoza, Visorey de Nueva España*, to Fray Marcos de Nizza, from 1538 (*Documentos de Indias*, vol. iii. pp. 325-328). When Coronado went to New Mexico he took along a special chronicler, Pedro de Sotomayor. Castañeda, *Relation du Voyage de Cibola* (p. 65): "Garcilopez avait emmené avec lui un certain Pedro de Sotomayor, qui était chroniqueur de l'expédition."

<sup>1</sup> *Descubrimiento de las Siete Ciudades*. (*Doc. de Indias*, vol. iii.)

<sup>2</sup> *Historia de los Triunfos de nuestra Santa Fee entre Gentes las mas Barbaras y Fieras del Nuevo Orbe: conseguidos por los Soldados de la Milicia de la Compañía de Jesus en las Misiones de la Provincia de Nueva España*. Madrid, 1645.

<sup>3</sup> *Relation du Voyage de Cibola*.

<sup>4</sup> *Relacion hecha por Joan de Miranda, Clérigo, al Doctor Oronco, Presidente de la Audiencia de Guaaalajara; sobre la Tierra y Poblacion que hay desde las Minas de San Martin á las de Santa Bírbara, que esto último entonces estaba poblado*. 1575. (*Doc. de Indias*, vol. xvi. p. 563.)

<sup>5</sup> *Crónica de la Provincia de N. S. P. S. Francisco de Zacatéas*. 1737.

<sup>6</sup> *Relacion del Viaje*. 1583. (*Doc. de Indias*, xv.) The same volume contains two copies of this report. There are important discrepancies between Espejo's original report and the corrupted and distorted version given by Hakluyt. The latter is completely unreliable, and does not deserve to be consulted at all.

alongside of the *Litteri Annui*. It is impossible, and were it possible it would scarcely be judicious, to go here into great details concerning any of these tribes. Much of what is recorded in early writers is still exposed to misinterpretation on our part, for none of the Sonora Indians have been subjected to systematic ethnologic investigation according to the methods initiated by Mr. Cushing, and so long as this is not done we are quite as liable to reject truths as to accept errors.

A powerful group, divided into two dialects, of almost sedentary Indians, barred access, so to say, to Sonora from the south. These were the natives who spoke, and speak to-day, the Cahita language,<sup>1</sup>—the Mayos, and their northern relatives, the Yaquis. In the first half of the seventeenth century these two tribes together represented a population of not exceeding sixty thousand souls.<sup>2</sup> I would here remark, that the average proportion of adult males to the total number of people, among village Indians, does not exceed 1 to 3 $\frac{1}{4}$ . Among roving tribes it is still lower. As most of the estimates of population in former times are derived from those of the "men at arms," this basis of calculation should be stated beforehand.<sup>3</sup>

<sup>1</sup> So it is called by modern linguists, and I follow their lead, not having been among the Yaquis myself.

<sup>2</sup> Ribas, *Historia de los Triunfos*, etc. (lib. iv. cap. i. pp. 236, 237): "La palabra, Mayo, en su lēgua significa, Término: por vētura, por estar este rio entre otros dos de gentes encontradas, y q̄ traian guerras cōtinuas con los Mayos, y no les dauan lugar á salir de sus terminos. . . . Pero aũq̄ el Rio no es caudaloso, era de lo mas poblado de gēte de todos los de Cinaloa: de suerte, que se podrian jũtar en sus poblaciones ocho, ó diez mil Indios de pelea, y eran como treinta mil personas las q̄ lo poblauan." In regard to the Yaquis he states (p. 284): "Quando los Hiaquis en su Gentilidad poblauā este rio, era en forma de rancherías tendidas por sus riberas, y junto á sus sementeras, y el número destas rancherías seria de ochenta, en que auia treinta mil almas."

<sup>3</sup> A close examination of a great many old and modern estimates, lists, and censuses has satisfied me that the average ratios are as stated. It would be tedious to furnish the proof in detail.



The Mayos were independent of the Yaquis, and the relations between the two groups were far from being always friendly. There even existed on the part of the latter a tendency to crowd and overwhelm the former, in that gradual but persistent manner which is characteristic of Indian warfare.<sup>1</sup> Still, there was no difference in degree of culture. Settled each along the banks of a considerable river, which bore the name of its respective tribe, they planted Indian corn, cotton, calabashes, beans, and tobacco, improved the Mezcal varieties of the American agave, hunted, fished, and fought their neighbors, as well as among themselves.<sup>2</sup> Owing

<sup>1</sup> Ribas, *Historia*, etc., lib. iv. p. 236.

<sup>2</sup> Ribas, (*Historia*, p. 237.) speaking of the Mayos: "Su lēgua es la misma que corre en los rios de Cuaque, y Hiaqui: el natural de la gēte no tã feroz como el de las otras Naciones; ántes mas tratable, y blãdo: son todos labradores, excepto los de qual, ó qual, rãchería, q̄ eran mōtarazes. En lo demas de sus costūbres, sustēto, casas, viuiēda, armas, vsos de borracheras, y bailes, multiplicidad de mugeres, ó cōcubinas, erã los Mayos semejëtes á las demas Naciones de q̄ auemos escrito. Á la pesca se dauan muchos, particularmēte los q̄ teniã habitaciō mas cercana á la mar, el qual, y su rio, es muy abudãte de pescado: sus poblaciones estauã en forma de rãcherías á las riberas del rio." In a general way, this author, who saw the Indians of Sonora when they were yet untouched by the influence of European culture, says of them (lib. i. cap. ii. pp. 5, 6): "Las poblaciones destas naciones son ordinariamente á las orillas y riberas de los rios; porque si se apartaran dellos, ni tuuieran agua que beuer, ni aun tierras en que sembrar. Las habitaciones, en su Gentilidad, erã de áldeas, ó rancherías no muy distantes vnas de otras aunque en partes á dos y tres leguas, conforme hallauan la comodidad de puestos y tierras para sementeras, que ordinariamente las procurauan tener cerca de sus casas. Estas hazian, vnas de varas de monte hincadas en tierra, entretexidas, y atadas con vejucos, que son vnas ramas, como de çarçaparrilla, muy fuertes, y que duran mucho tiempo. Las paredes que hazian con essa barazon las aforrauan con vna torta de barro, para que no las penetrasse el sol, ni los vientos, cubriendo la casa con madera, y encima tierra, ó barro, con que hazian açotea, y con esso se contentauan. Otros hazian sus casas de petates, q̄ es un género de esteras texidas de caña raxada, y estas cosidas vnas con otras, siruen de pared y cubierta, que es tumbada sobre arcos de varas hincadas en tierra, y sobre ella corre el agua sin peligro de gotear, y quedan al modo de los carros cubiertos de España. Delante de sus casas levantan vnas ramadas que les siruen de portal, sobre que guardan los frutos de sus sementeras, y debaxo del es su viuienda entre dia, y les sirue de sombra. Allí duermen de noche en tiempo de calores, teniendo por colchon

to the almost tropical climate, their dwellings appeared frail, canes and boughs forming the framework, palm-leaves the

y cama vna estera de caña de las dichas. Cerradura, ni llauue, no la vsauan, ni la conocian, y lo que mas es, sin temor de hurtos; contentándose quando algunas vezes hazian ausencia de su casa, con poner á la puerta algunos ramos de árbol sin otro guarda. Y esta tenian tambien para los frutos de la sementera, quando los dexauan en el campo. . . . Las semillas que estas gentes sembrauan, y frutos de la tierra que benefician y cogen, y de que se sustentan, son en primer lugar el maiz que en España llaman, trigo de las Indias, que se da con tanta multitud, q̄ suele rendir vna fanega sembrada ciento y mas de fruto. Demas de esse siembran entre el maiz varios géneros de calabazas, sabrosas y dulces, y de algunas dellas hazen tassajos que secos al sol les duran mucho tiempo del año. El frixol, que es semilla semeiante á la haba de Castilla, y aun mas suauue, vsan todos sembrarlo, con otros géneros de semillas," etc. Among the nutritive plants he mentions also Mezquite beans, Mezcal, Tunas, and others. Cotton is mentioned by him on page 12: "Y para sembrar essas semillas, y limpiar la tierra, no tenian otros instrumentos que los de vnas cuchillas anchas, y largas, de palo, con que mullian la tierra; en que tambien ayudaban á los varones las mugeres. Estas vsauan el arte de hilar, y texer algodón, ó otras yeruas siluestres, como el cañamo de Castilla, o pita; y desta hazian algunas mantas, no en telares, que aun esse arte no alcançaron; sino con traça trabajosa, hincando vnas estacas en el suelo, de donde tirauan la tela." Of tobacco he says (p. 9): "Y en estas tales fiestas eran tambien muy célebres los brindis del Tabaco, muy vsado de todas estas gentes barbaras." He places considerable stress on the fact, that all these Indians of Sonora and of Sinaloa were addicted to intemperance (p. 8): "El vicio que mas generalmente cundia en estas gētes, y de tal suerte q̄ apenas se hallaua vna en la qual no predominasse, era el de la embriaguez, en q̄ gastaua noches y dias; porq̄ no la vsauan cada vno solos, y en sus casas, sino en célebres, y continuos cōbites que hazian para ellos: y qualquiera del pueblo q̄ hazia vino, era llenando grandes ollas, y combidando á la boda á los de su ranchería, ó pueblo, y á vezes tambien á los comarcanos, y vezinos: y como era tanto la gente, no faltaua combite para cada dia y noche de la semana; y assí siempre se andaua en esta embriaguez. El vino hazia de varias plantas, y frutos de la tierra, como de Tunas, que en Castilla llaman higos de las Indias, o de Pitahayas; otras vezes de las algarrouillas de Mezquite, q̄ atras dixen, ó de la p'ãta Mescal, y sus pencas, cóforme á los tiempos en que se dan estos frutos, y de otras plantas; q̄ molidas, ó quebratadas, y echadas en agua, en dos o tres dias se acedan, y toman el gusto que tanto arrebatoua el juicio que de almas racionales les auia quedado á estas gentes. Entre todos los vinos que hazian, el mas estimado y gustoso, era de panales de miel, q̄ cogen á sus tiempos. Y es de advertir, que en este vicio de embriaguez auia vna cosa que lo templaua, porq̄ en el no entrauan mugeres, ni los que eran moços, y gente nueua." *Segunda Relacion Anónima de la Jornada de Nuño de Guzman* (Collection de Documentos para la Historia de México, Garcia Ycazbalceta, vol. ii. p. 304): "El

outer protective shell.<sup>1</sup> Split up into a number of autonomous villages, each one governed after the well known tribal system, the entire dialectic cluster only coalesced temporarily and at rare intervals, for self-protection, in case insult offered by one of their villages to outsiders led to threatened revenge on a larger scale.<sup>2</sup> No central head existed, either for war or

brebaje que tienen es de unos árboles que tienen que se dice mezquites, que dan unas algarrobillas delgadas, y majanlas en unos almireses de palo que tienen grandes, y aquello mezclan con agua, y otras cosas de que hacen su brebaje para beber.”

<sup>1</sup> See above. Also *Proceso del Marques del Valle y Nuño de Guzman y los Adelantados Soto y Alvarado, sobre el Descubrimiento de la Tierra Nueva, 1541* (*Doc. de Indias*, vol. xv. p. 332): “En sábado, día de Sant Francisco, pasé el río, y de la otra parte hallé una estancia de treinta ranchos de petates con unas ramadas pequeñas; no había gente.” Castañeda, *Cibola*, p. 157: “On nomme cette province Petatlan, parceque les maisons sont faites en Petates (nattes de jonc). Cette manière est la même pendant deux cent quarante lieues, jusqu'à l'entrée du désert de Cibola.” *Relacion del Suceso de la Jornada que Francisco Vasquez hizo en el Descubrimiento de Cibola, 1541* (*Doc. de Indias*, vol. xiv. p. 318): “Todo este camino hasta cinquenta leguas ántes de Cibola es doblado, aunque en algunas partes está apartado del camino; la poblacion es toda una suerte de gente, porque las casas son todas de petates, e alguna entre ellas de azoteas baxas. Tienen maiz todos, aunque no mucho, y en algunas partes muy poco; tienen melones é frisoles.” Ribas, speaking of the change in customs and manners of the Yaquis, after their reduction to obedience to the Church, says (*Historia de los Triumphos*, lib. v. cap. xxi. p. 339): “Los pueblos estan dispuestos en muy buena forma, sin quedar ya vno solo, que de assienta viua en sus sementeras, ni rancherías antiguas. Las casas hazen ya muchas de paredes de adobes, y terrados, y las de los Governadores mas amplas.”

<sup>2</sup> Ribas, lib. i. cap. ii. p. 5: “Qvâdo llamo naciones las que pueblan esta Prouincia, no es mi intento dar á entender, que son tan populosas como las de Europa; . . . porque no tienen comparacion con ellas. Pero llamolas naciones diferêtes, porque aunque no son tan populosas, pero estan diuididas en trato de vnas con otras: vnas vezes en lenguas totalmente diferentes, aunque tambien sucede ser vna la lengua, y con todo estar desvnidas, y encontradas: y en lo que todas ellas estan diuididas y opuestas, es en continuas guerras q̄ entre ellos traian, matandose los vnos á los ôtros; y tambien en guardar los términos, tierras, y puestos que cada vna destas naciones poblauan, y tenia por propios; de suerte, q̄ el q̄ se atreuia á entrar en los agenos, era con peligro de dexar la cabeça en manos del enemigo que encôtrasse.” *Ibid.*, p. 11: “Leyes, ni Reyes que castigassen tales vicios y pecados, no los tuuieron, ni se hallaua entre ellos género de autoridad y gouierno político que los castigasse. Es verdad que reconocian

in peace.<sup>1</sup> Still, it is not improbable that each group may have constituted a sort of barbaric confederacy, although it is certain that it did not possess the consistency which we admire in the "League of the Iroquois." Gentilism certainly prevailed,<sup>2</sup> and there are traces of similar esoteric clusters to those discovered by Mr. Cushing among the Zuñis, and which, guided by his observations, I have since found in existence among the Queres, Tehuas, and the Tiguas, in New Mexico.<sup>3</sup> Fetichism characterized their religious beliefs, as well as those of all other southwestern Indians, and the absence of the conception of one supreme being is as plain among them as elsewhere.<sup>4</sup>

algunos Caciques principales, que erā como cabeças y Capitanes de familias, o rancherías, cuya autoridad solo consistia en determinar alguna guerra o cometimiento contra enemigos, o en asentar pazes con otra Nacion : y por ningun caso se determinauan semejantes facciones sin la voluntad de los dichos Caciques, que para tales efectos no dexauan de tener muy grande autoridad. En casa destes se celebrauan las borracheras célebres de guerra, y tambien á estos ayudauan sus subditos á hazer sus sementerías, que erā lo ordinario mayores que de los demas. Esta tal autoridad alcançauā dichos Caciques, no tanto por herencia, quanto por valētia en la guerra, ó amplitud de familia de hijos, nietos, y otros parientes, y tal vez por ser muy habladores y predicadores suyos."

<sup>1</sup> Compare the description of the hostilities between the Yaquis and the Spaniards in Ribas, lib. v. cap. ii. to vi. Also in Francisco Xavier Alegre, *Historia de la Compañía de Jesus en Nueva España*, 1842, vol. ii. pp. 31-38. Alegre gathered most of his information from Ribas.

<sup>2</sup> Ribas, *Historia*, p. 295. The disconnected state of affairs among the Yaquis is very well pictured in their attempts to treat with the Spaniards after they had repelled three attacks from the latter. Alegre, *Historia de la Compañía*, vol. ii. p. 32: "Los yaquimis tuvieron su asamblea y se dividieron en varios pareceres. Los mas juiciosos, á cuya frente estaba el cacique Anabaylutei fueron de sentir que se ofreciese al capitan la paz y se le concediese lo que tan justamente pedia."

<sup>3</sup> The sorcerers or magicians were so numerous, that Ribas affirms (p. 332): "En cierto pueblo, por medio de su Governador, quisó otro Padre corregir a vnos quantos hechiceros, para escarmiento de los demas ; y ellos mismos dixeron : Padre, no te canses en juntarnos, porque qual mas, qual menos, la mitad de los del pueblo (que era grande) son como nosotros."

<sup>4</sup> Ribas, p. 332: "Estaua tan sepultada esta Nacion en estas tinieblas, que vna India, ya desengañada despues que se introduxó la doctrina del Euangelio, declaró, y dixó á vno de los Padres que se lo predicaua : Padre, mira de la otra

These two clusters dwelt, for the most part, about the mouths of the two rivers bearing their names: they held but a portion of the course of each stream, and it cannot

parte del rio; ves quantos cerros, môtes, picachos, y cimas ay en todo este contorno? pues en todos ellos tenemos nuestras supersticiones; y á todos los reuerenciamos, y las celebrauamos en ellos. Las viejas certificauan, que el demonio se les aparecia en figura de perros, sapos, coyotes, y culebras." This belief is eminently Indian. To-day the sedentary aborigines of New Mexico, Sonora, etc., believe in the possibility, not only of such apparitions, but also of the transformation, through witchcraft, of men and women into animals of some kind. Ribas, p. 332: "Indios principales, y Fiscales, afirmaron, como cosa sabida y recibida entre ellos, que las hechizeras iban de noche á ciertos bailes y combites cō los demonios, y que boluian por los aires." Page 16: "Vi-niendo aora á las gentes barbaras de que trata esta historia, y auiendo estado muy atēto los años que entre ellas auíe para aueriguar lo que passaua en esta materia de idolatrfa: y lo que con puntualidad se puede dezir es, que aunque en algunas destas tales gentes no se puede negar que auia rastro de idolatrfa formal, pero otras no tenían conocimiento alguno de Dios, ni de alguna Deidad aunque falsa, ni adoracion explicita de señor que tuuiesse dominio en el mundo, ni entendian auia providencia de Criador y Governador de quiē esperassen premios de buenas obras en la otra vida, ó castigo de las malas, ni vsaron de comunidad culto diuino. El que en ellos se hallaua, se venia á reducir á supersticiones barbaras, ó hechizos enseñados por los demonios á particulares personas, con quienes en su Gētilidad teniā familiares tratos; y este vnos implicito, y heredado de sus mayores, q̄ se lo enseñaua á la hora de su muerte, encargán- doles vsassen algunas ceremonias de hechizos, y supersticiones q̄ serian para curar, ó matar, ó engañar." The same author describes the Fetiches very clearly (p. 17): "El pacto q̄ cō estos hechizeros tienē assentado el demonio ordinariamente está aligado, y lo tienen muy guardado en vnos cuercillos de animales parecidos al Hurō, de que hazen vnas bolsillas, y dētro dellas vnas pedreuelas de color, ó chinas medio trāsparentes, y esta bolsilla guardā como si fuera de reliquias; y quando para bautizar se entregā estas prēdas, es buena seña, de q̄ recibē de veras la Fe de Christo, y dexan y se apartan de la familiaridad del demonio." It is indeed very difficult to induce any Indian to part with the Fetich, which many of them carry in the little satchels of buckskin, or hide of some kind, that F. Ribas describes. He continues: "Este muchas vezes se les aparecia en tiēpo de su Gētilidad, hablādoles en figura de animales, pescados, ó serpientes, q̄ no se ha olvidado quā á su proposito le salia el auer derribado á nuestra primera Madre en esta forma. Hōrauāle mucho, ó temiālo quando se les aparecio; y por titulo de honra le llamauan Abuelo, sin hazer discurso si era criatura, ó Criador: y aunque la figura de animal, ó serpiente en que se les aparecia el demonio, la obserbauan y pintauan á su modo, y tal vez leuantauan alguna piedra, ó palo á manera de ídolo; pero claramente no parece reconocian deidad, ni suprema potestad del vniuerso."

be said that their sway extended any distance into the Sierra Madre. East of them, Indians speaking what may be dialects of the Tarahumar and Tepehuan idioms occupied the valleys and fastnesses. These tribes are little known, some of them have disappeared by name, and what we know of their condition recalls that of the Yaquis and Mayos, locally varied through environment.<sup>1</sup>

North of the Yaquis, and in what might be called the southern heart of Sonora, we meet with an interesting tribe, about which little has been said lately, and in regard to which the positive information of older authors has been in a measure overlooked. These are the southern Pimas, also called

<sup>1</sup> Orozco y Berra (*Geografía de las Lenguas y Carta Etnográfica de México*, 1864, p. 356) mentions among the "lost languages" the Tepahues, Tecayaguis, Cues or Macoyahuis, Vayema, Putima, Baturoque, and Teparantana. At the same time he says that the Tepahue was spoken at San Andres Conicari and at La Asuncion Tepahue. The *Relacion de las Misiones que la Cōpañia de Jesus tiene en el Reino y Provincia de la Nueva Vizcaya en la Nueva España*, 1678, (*Documentos para la Historia de México*, IVa Série, vol. iii. p. 384,) says about the Partido of San Andres Conicari: "La lengua es particular si bien una parcialidad de este pueblo es de Mayo en la nacion y en la lengua." In regard to "la Asuncion de Tepahue" (p. 385): "La lengua es particular: distinta de la de los demas pueblos si bien todos los demas de ellos entienden la lengua tepave y aun la caita aunque no la hablaban." This leads to the inference, that the Tepahues and those of Conicari spoke not the same idiom. Ribas (*Historia de los Triunfos*, p. 254, etc.) says of the Tepahues, that they were settled in the mountains higher up than the Mayos, with whom they were generally at war, and that after the reduction of the latter they established themselves "á vn puesto llano, cinco leguas arriba del rio de Mayo, en vn arroyo, q̄ entra en el donde formarō vn pueblo de hasta seiscientas familias, y como dos mil personas de todas edades." Of the Conicaris he tells us (p. 254), "tenia como de dozientas familias." It is difficult to determine whether or not the Guazapares and the Tubares belonged to Sonora. Orozco (*Geografía de las Lenguas*, pp. 323, 324, 326) locates both tribes in southwestern Chihuahua. There is no doubt that they lived there in part. Alegre however (*Historia*, vol. iii. p. 12) locates the Guazapares in Sinaloa, that is, either in the Northern part of that State or in southeastern Sonora. The same with the Tubares. (*Ibid.*, p. 52.) Pedro de Rivera, in his *Diario y Derrotero de lo Caminado visto y observado en el Discurso de la Visita General de Presidios situados en las Provincias Ynternas de Nueva España*, 1736, p. 47, includes the Tubares among the tribes of Sonora. Orozco y Berra classifies both languages as dialects of the Tarahumar.

Nebomes or Coras. I shall call them Nebomes hereafter, in order to distinguish them from the Arizonian Pimas, which are more generally known under that name. Their social organization, their religious system of beliefs and practices, were analogous to those of the Yaquis, their language so differentiated that it made intercourse impossible except by signs, and the Nebomes were higher advanced than their southern neighbors, inasmuch as they were more substantially dressed.<sup>1</sup> Their mode of agriculture and also their

<sup>1</sup> Ribas, who visited the southern Pimas at the time of their first contact with Europeans, speaks of the tribe as follows (*Historia*, p. 360): "En el vestido era esta Nacion la mas compuesta de todas las demas de Cinaloa, á que les ayudaua la mucha cãtidad de los cueros de venado, que sabian beneficiar, y hazen muy buenas gamuzas, muy durable, y que les siruen en particular de cubierta, al modo de faldellines á las mugeres, tan largos q̄ arrastra por el suelo: y era gala entre ellas, q̄ los estremos de las gamuzas arrastrasson por tierra. Á que la gente moça tambien añadia otra gala de labores de almagre. En medio cuerpo arriba, tambien era ordinario traerlo cubierto con mantas, que texiã, ó de algodõn, ó de otra planta como la pita. Y aunque en los varones no era tã ordinario el andar vestidos, todavia muchos se cubrian con dichas mãtas." On page 380 he describes the costume of a chief of the "Sisibotarís," a branch of the Pimas or Nebomes: "Vestido y cubierto con vna large manta, enlaçada al onbro al modo de manto, y demas desta traia otro ceñida á la cintura, como lo vsan otros desta Nacion." Father Alegre gathered his information concerning the Nebomes from the writings of Father Diego Guzman, S.J., who began his mission work among them in 1619, and he quotes his statements in *Historia de la Compañía*, vol. ii. p. 117, "y las mugeres desde muy niños andan cubiertas hasta los pies con pieles de venado muy bien curtidas y pintadas." His information in regard to the Sisibotarís is derived from a letter written by Father Nicolas de Arnaya in 1621 (*Ibid.*, p. 124): "Los hombres se cubren con una pequeña manta pintada de la cintura á la rodilla y quando hace frio usan unas mantas grandes de algodõn y pita. Las mugeres van cargadas de vestidos, y al entrar en la iglesia hacen tanto ruido como si fueran españolas. Las faldellines que usan llegan hasta el suelo, de pieles bruñidas y blandas como una seda, con pinturas de colores ó de algodõn y pita, que tienen en abundancia. Se ponen á mas de eso un delantar de la cintura abajo, que en muchas suele ser negro, y parece escapulario de monjas. Las doncellas especialmente usan una especie de jubones ó corpiños muy bien labrados; á todo esto añaden en el invierno unos como roquetes, y así todas son honestísimas." Ribas (*Historia*, p. 385) uses almost the identical words, but he attributes the letter to Father Pedro Mendez.

houses are described as follows by an author of the seventeenth century, a missionary, who witnessed the first efforts made at their Christianization : " The Nebomes were settled on the banks of creeks with good running water. Their houses were better and more durable than those of other nations, for the walls were made of large adobes, which they manufactured out of clay and covered with flat roofs of earth. Some of these houses they built even much larger, and with loopholes like forts, in order that, if they should be attacked by enemies, the people of the village might retire into them and make use of their arrows." <sup>1</sup>

It is not devoid of significance that the southern Pimas dwelt in such buildings, which so closely recall the architecture of the Casa Grande on the Gila, as well as of the Casas Grandes in Chihuahua.

As to the numbers of the Nebomes, it is difficult to form any close estimate. The tribe was divided into two groups, geographically, — the Lower and Upper Nebomes, — both of which were autonomous, often at loggerheads with each other, and respectively inhabiting a number of equally autonomous villages. If the Nebomes counted, all told, eight thousand souls, it is as much as may be safely attributed to them.<sup>2</sup> They were consequently at a disadvantage, so far as numbers were concerned, as compared with the Yaquis, and only natural advantages and superior architectural skill in works for defensive purposes enabled them to maintain their existence.

Without mentioning here several smaller tribes wedged in, as it were, between the more conspicuous groups,<sup>3</sup> and with-

<sup>1</sup> Ribas, p. 360. Already quoted in the Geographical Introduction. Alegre copies the passage almost textually.

<sup>2</sup> Ribas, *Historia*, p. 370. Alegre, *Historia*, vol. ii. p. 122.

<sup>3</sup> These tribes were branches of the Nebomes; for instance, the Sisibotaria, Nures, and the Aivinos. They spoke the same language, but their settlements lay apart from the clusters formed by the Nebome villages.



out more than alluding to the Eudeves and Jovas, — two clusters using dialects of the Oyata, and occupying a number of villages nearly in a half-circle around the Opatas and dividing them from the Nebomes,<sup>1</sup> — I pass on to the Oyata Indians, a formerly important group, now so completely “Hispani- cised” as to have almost forgotten their native tongue. The

<sup>1</sup> That the Eudeve and the Jova idioms are dialects of the Oyata is generally accepted. The Eudeves began on the west of the Sonora River, at Opo- depe, Cucurpe, and Toape, and extended as far southeast as Matape and Los Alamos. The Jovas were along the Upper Yaqui south of Huassavas, Sahuaripa and Aribechi belonging to their range. Thence they penetrated into the very heart of the Sierra Madre as far as western Chihuahua. All their villages within the great chain are now in ruins, owing to the hostilities of the Apaches. Thus Tyopari, Mochopa, Servas, and other villages, part of which were Jova, part Oyata, had to be abandoned in the second half of the past century. Of the Jovas, says the *Descripcion Geográfica Natural y Curiosa de la Provincia de Sonora*, 1764 (cap. vi. art. i., MSS. of the National Archives at Mexico): “Mas zafios y agrestes son los Jovas, especialmente casi la mayor porcion de su casta que no quiere reducirse á vivir en pueblos, fuera de los que estan en Ponida, Teopari y Mochopa; sino tiran á vivir en las barrancas de la sierra donde nacieron; ni cede su terquedad á diligencias que se hagan con ellos; ni se enamoran con el buen trato, comodidades y conveniencias que se les procuren para conser- varles, aun despues de traídos y congregados en pueblos, como le ha sucedido al padre Manuel Aguirre, misionero en mision de San Luis Gonzaga de Bacade- guatzi con los de la ranchería de Satechi, y los de las margenes del rio de los Mulatos y del de Aros que moran entre breñas y malezas manteniéndose con raices, yerbas y frutas silvestres, consiendiendo sus siembras solo en tal cual mata de maiz y algunas calabazas y sandias donde lo consienten las angosturas, en que dichos rios rompen por aquella Sierra. . . . Su tal cual ejercicio es hacer esteras, *Hijit* en opata de las muchas y buenas palmas de que abunda su terreno, y llevarlas á vender á los pueblos circunvecinos por semillas y alguna ropa que con poco se contentan, pues por comun la frazada que las mujeres mismas se ingenian á tejer á su modo de la lana de unas pocas ovejas que crian, al hõbre sirve de capa, jubon y calzones; y á la mujer de manto, tapapies, camisa y corpiños. Lo bueno que tienen, es no ser perjudicales, ni hazer daño en las vidas y haciendas de los reducidos. Solo con los apaches son bravos,” etc. Of the Eudeves the same source speaks more favorably; they were more docile, and more inclined to learn civilized arts and usages. A number of the Jovas lived in Chihuahua. *Relacion de las Misiones*, p. 341: “Esta nacion está poblada á orillas del rio Papigochic, variedad de algunos pueblos y corre hasta cerca del partido de Sauaripa y uno de sus pueblos lla- mado Teopari.” These Jovas were still independent in 1678.

Opatas, to whom also the names of Sonora, Teguima, and Ure are given,<sup>1</sup> held the northwestern quarter of the present State of Sonora. They held sway over fully one fourth of the State. While in Sonora, the few Opatas who still spoke their aboriginal idiom told me that their proper name was "Joyl-ra-ua!" *Op-a-tu* seems indeed to be a Pima word, a corruption of *Oop*, enemy, and *Ootam*, people, that is, people of our own stock with whom we are at war. The Opatas language, as well known, is closely allied to the Pima; both are but members of one family.

The bulk of the Opatas were settled in the valley of the Sonora River, from north of Bacuachi as far south as Ures.<sup>2</sup> West of this channel, the water supply grows scant and scantier, towards the arid coast of the Gulf of California. Indian settlements therefore became less numerous, and they were no longer of pure Opatas stock. East of the Sonora valley, forbidding mountains separate it from the upper course of the Rio Yaqui, there called locally Rio de Babispe, Rio de Huassavas, even Rio de Sahuaripa. Only the narrow valleys of this stream were inhabitable for agricultural Indians, and these vales themselves are few and far between. Thus the Opatas became geographically and politically divided into a number of small tribes, or rather village communities, au-

<sup>1</sup> The terms Teguima and Ure, as applied to the language, I never heard in Sonora. Still Orozco y Berra, *Geografía*, etc., and Pimentel, *Cuadro descriptivo y comparativo de las Lenguas indígenas de México*, adopt the words.

<sup>2</sup> This appears at a very early date, in 1539, when Fray Marcos of Nizza made his bold journey to Cibola. As I believe to have established in two publications on the subject, the villages of the Opatas reached as far north as above the mouth of the Arroyo de las Higuieritas, and perhaps to Mututicachi. Compare *La Découverte du Nouveau Mexique par le Moine Franciscain Frère Marcos de Nice*, in *Revue d'Ethnographie*, 1886, vol. v. p. 131. Also, *The Discovery of New Mexico by Fray Marcos of Nizza*, in the *Magazine of Western History*. That the Opatas ranged as far south as Ures is well known. We have fair descriptions of the Sonora valley from Castañeda, *Cibola*, p. 157.

tonomous and often hostile towards one another.<sup>1</sup> On the Rio Sonora alone, confederacies appear to have been formed, if the evidence of Indian tradition, as collected by me while there, is reliable.<sup>2</sup> The Opatas of Oposura made war upon those of Banamichi and of Babiadora on the Sonora River ;<sup>3</sup> there was no connection between the people of Babispe and those of Tamichopa, although both dwelt on the Upper Yaqui, and only twenty miles apart. The villages of the Opatas were small, their houses detached, and only for one family. A slight foundation of cobble-stone supported a framework of posts standing in a thin wall of rough stones and mud and a slanting roof of yucca or palm leaves covered the whole. Such was the Opata house in the vicinity of Cumpas.<sup>4</sup> At Joytudachi in the Sierra de Baserac, one of the north-western spurs of the Sierra Madre, I found a house still partly standing. It had the usual limited size, and was made of thin plates of stone laid in mud. On the Sonora River, where the climate is warmer and where it seldom snows, the walls even seem to have been of yucca and canes ;<sup>5</sup> but in

<sup>1</sup> This is already stated by Castañeda, *Cibola*, p. 157 : " Derrière cette province jusq'aux montagnes sont bâtis un grand nombre de villages habités par des Indiens, qui forment une multitude de tribus à part, réunis en petites nations de sept ou huit, dix ou douze villages." He gives several names, which I omit here, as they are evidently misspelt. Ribas is also quite explicit, *Historia de los Triunfos*, p. 392. Here he speaks of the Opatas of the Sonora valley. The population of that valley, he leads us to infer, was about four thousand souls, perhaps five thousand. In addition to these Sonoras proper, he speaks, on pages 358 and 359, of the tribes west from the Rio Sonora, like the Nacosuras (Nacosaris), Cumupas (Cumpas), Buasdabas (Huassabas), and Bapispes (Babispes). All these were Opatas, like the Hures (Ures).

<sup>2</sup> I was told by the Opatas of Banamichi, that they confederated with those of Sinoquipe against their nearest neighbors of Huepaca and Aconchi.

<sup>3</sup> I was assured that the fortified hill called Cerro de Batonapa, near Banamichi, was the place of refuge against incursions from Cumpas and Oposura.

<sup>4</sup> I have not myself seen this building, but obtained a fair description of it through Sr. Espiridion Arvisu of Oposura.

<sup>5</sup> So says Castañeda, *Cibola*, p. 156. He asserts that the dwellings were of canes, or rather of mats ("nattes de jonc"). Ribas (*Historia*, p. 392) says of

the Sierra Madre proper, where the Yaqui gushes out of the picturesque gorge descending from its source at Chu-ui-chu-pa, there are remains of Opatá villages recalling, on a lesser scale, the stately architecture of Casas Grandes. The houses are connected so as to form an interior square, and appear as if raised on artificial platforms.<sup>1</sup> Mutual protection from enemies, which threatened the Opatas on the Chihuahua side of the great central chain, from the inhabitants of the valley of Casas Grandes, is stated as having caused this superior and defensive mode of building.<sup>2</sup>

As late as the past century, isolated hamlets of Opatá Indians were scattered throughout some parts of the Sierra

the houses in the Sonora valley, "sus casas mas durables y compuestas." It may not be amiss to recall here the report of Francisco de Ibarra, *Relacion de los Descubrimientos, Conquistas y Poblaciones hechas por el Gobernador Francisco de Ybarra en las Provincias de Copala, Nueva Viscaya y Chiamella (Doc. de Indias, vol. xiv. p. 482)*: "Y entrando en la dicha tierra adentro, fué en cantidad de trescientas leguas desde la dicha provincia de Chiamella en adelante, en la cual entrada halló grandes poblaciones de naturales, vestidos, y que tenian muchos bastimentos de maiz, y otras cosas, . . . y que ansimismo tenian muchas casas hechas de terrados." The report of Francisco de Ibarra is not always quite clear, and it is evident that he is careful not to diminish the importance of his own achievements; still it is not unlikely that he saw either the houses of the Pimas or those of the Opatas in the Sonora valley. Compare also *Relacion de lo que descubrió Diego de Ibarra en la Provincia de Copala, llamada Topiame*, etc. (vol. xiv. pp. 554, 558). The title is misleading, for it refers to a discovery made by Diego de Ibarra, whereas it is in fact another report on the explorations of Francisco de Ibarra. How far to the north the latter penetrated I am unable to determine.

<sup>1</sup> This is very plain in the ruins of Batesopa and Baquigopa, east of Huachinera, and on the very banks of the Upper Yaqui.

<sup>2</sup> Such is the common opinion of the Opatas of the villages from Huassabas to Baserac and Babispe. They showed me the sites of hamlets which, according to tradition, had been deserted on account of the constant danger threatening from the Chihuahua side. Whether the enemies who compelled this abandonment, were the Sumas of Casas Grandes, or some other tribe who perhaps built the villages whose ruins have given the name to the valley and settlements, I am unable to tell. One of my informants boldly asserted that the builders of Casas Grandes were Opatas. There is nothing improbable in this.

Madre.<sup>1</sup> The movement of the tribe appears to have been a shrinkage from east to west, receding across the Cordillera into the Sonoran valleys. Still the Opatas claim to have come from the north; and this may have been the case. The average general direction of a migratory route is often changed for a while: the movements of southwestern tribes are not so much analogous to a wave, or a steady current, as to a slow filtration, where the fillets are frequently deflected from the original course.

Of the agricultural pursuits of the Nebomes we have a fair picture from the pen of Padre Ribas: "Nearly all the people were workmen; they defined their land, they planted those plants which we said were general all over the Indies, and even in some localities well adapted for it they practised irrigation, leading the water therefor out of the creeks by means of ditches. In addition to this they planted near their houses a kind of vine, of a plant which the Spaniards call *lechuguilla*, since its shape is similar to that of lettuce, only the leaves are much stronger, and it requires one or two years ere it matures. When it is ripe they cut it, and the root toasted with some of the leaves serves as an aliment. It is savory and sweet, and when ground they make of it something like a preserve."<sup>2</sup>

About the Opatas we have no such explicit statements, but vestiges of artificial tanks on barren hills,<sup>3</sup> and innumerable dikes scattered all over the northern parts of the Sierra'

<sup>1</sup> For instance, east of Nacori there are a number of small ruined settlements in the very heart of the Sierra Madre. The majority of these were inhabited by Jovas, still there were Opatas among them. Thus, in 1678, Servas or Sereba was an Opatá village, according to F. Juan Ortiz Zapata, *Relacion de las Misiones*, p. 366.

<sup>2</sup> Ribas, *Historia*, p. 360.

<sup>3</sup> Such tanks are found for instance near the Hacienda de las Delicias, on the hills near Vaynorpa and Badeuachi. The rim is of drift, and they are not very large. The only direct information that I have been able to obtain on the

Madre and its spurs, permit us to form a conception of how they improved the soil for their sustenance. These dikes, called now in the country "benches" (*banquitos*), are an interesting feature in the archæology of the region.

The slopes of the mountain ranges are steep, and exceedingly gravelly or rocky in many places. Only trees and thorny shrubs grow on them. In fact, they cannot be used for tillage of any kind, as the drainage is too violent, especially in summer, with the heavy rains of that season. Still, the Opatas, and their cognates, the Jovas, dwelt on such slopes, forming small villages, and they used the very drainage channels, the so-called "arroyos," for the artificial accumulation of soil, or for retaining in place what was already there. It may be remembered, that, in my report to the Institute dated August 11, 1883, I alluded to the rectangular spaces enclosed by upright small stones which are so numerous in Arizona.<sup>1</sup> I have since found them in northern New Mexico, also in proximity to and connected with ruined villages of the communal type of architecture.<sup>2</sup> In my report alluded to, I described these enclosures as court-yards. In many places, however, they are found apart from houses. Pima Indians of Sonora assert that they were garden beds, where such nutri-

mode of agriculture of the Opatas dates from 1764, that is, after they had been under control of the Jesuit missionaries for more than a century. The *Descripcion Geografica* (cap. vi. art. i.) praises the Opatas and some of the Eudeves for being "los mas aplicados al trabajo y cultivo de sus tierras y cria de ganados. . . . Sus siembras consisten en trigo, maiz, frijol, calabazas, sandias, melones, e'c., de que hacen muy buenas cosechas; pero como no estiman su trabajo, lo malbaratan á toda prisa por qualquier cosa que se les ofrezca por sus frutos."

<sup>1</sup> Compare my report in the *Fifth Annual Report of the Archaeological Institute of America*, 1884, pp. 63, 64, 65, 77.

<sup>2</sup> At the Ojo Caliente of the Hon. Antonio Josef (called Joseph's Hot Springs), near the ruined Tehua Pueblos of Pose-uing-ge and Ho-ui-ri; at the Rito Colorado, about ten miles west of the Hot Springs and near the old Pueblo of Sepa-ue; also near Abiquiu. They are clearly a variety of *banquitos*, and almost an intermediate between them and the "Garden beds" of Arizona.

tious plants were raised as, like corn, grow without irrigation and with the help of summer showers alone. Full confirmation of this statement has been obtained by me through the Opatas of Sonora. By holding the soil in place by means of a low barrier of stones, protruding above the surface rarely more than six or ten inches, a bed of cultivable loam is gradually accumulated. The *banquitos* serve a similar purpose to a greater degree. Behind each wall, (and these are usually from two to three feet in height and one to two feet thick,) a small plot of loam has formed, as wide as the bed of the arroyo, and with a length proportioned to the fall of the creek. These plots are commonly free from rocks, such as mountain torrents always carry; frequently the rocks are heaped at the sides, showing that rock-picking has been the chief duty of the owner, in place of weeding.<sup>1</sup> These simple contrivances, to which man was driven by the nature of the country, have rendered the heart of the Sierra Madre, as well as its wild eastern and western ranges, like the formidable Sierra de Teras in Sonora and the mountains about Casas Grandes in Chihuahua, habitable by land-tilling Indians. The fact that they resorted to such places for their homes, where extraordinary efforts and devices were necessary for subsistence, is also indicative of two facts,—the aridity of the lower levels, and a state of insecurity, both of which conditions seem to have existed from a date long previous to the advent of Europeans.<sup>2</sup>

In dress and ornaments the Opatas resembled the Pimas

<sup>1</sup> This is very clear at the ruins of Va-yua-va-bi, east of Nacori, and at Quita-mac, east of Huachinera. The rocks and stones seem to have been removed from between the dikes and thrown aside, thus clearing the soil.

<sup>2</sup> East of the Sierra Madre the lower levels are indeed very arid, and therefore almost impracticable for agriculture except in some valleys. The course of the Upper Yaqui in Sonora is very tortuous, and along it an occasional opening like a small "bottom" affords room for cultivation. Many miles of rocky gorges intervene between these rare fertile spots.

as well as the Yaquis; but owing to their more northerly and more mountainous home, their costume was more substantial. Skins of deer and cotton mantles constituted it in the main.<sup>1</sup> If Fray Marcos of Nizza was correctly informed, we might even suspect that an occasional buffalo robe found its way into the valley of the Sonora River. Still, the hide of the large red deer, or of the mule deer, so common in Lower California, may have given rise, through imperfect and still more imperfectly understood descriptions of the animal, to the supposition that the Opatas obtained buffalo hides from the Zúñi Indians.<sup>2</sup> It is certain, however, that they secured turquoises and turquoise ornaments by com-

<sup>1</sup> Of this custom we have early descriptions, Fray Marcos de Nizza, *Descubrimiento de las Siete Ciudades*, says (p. 337): "Ántes de llegar al despo- blado, topé con un pueblo fresco, de regadío, á que me salió á rescibir harta gente hombres y mujeres, vestidos de algodón y algunos cubiertos con cueros de vacas, que en general tienen por mejor vestido quel de algodón. Todos los deste pueblo andan encaconados con turquesas que les cuelgan de las narices y orejas, y á esta llaman Cacona." This must have been in the vicinity of Bacuachi. One year later, the expedition of Coronado found the "Sonoras." According to Castañeda (*Cibola*, p. 157), "Les femmes portent des jupons de dessous en cuir de cerf tanné, et de petits san-benitos qui leur descendent à mi-corps." Ribas says (p. 392): "La gente que en el esta poblada, es del mismo natural que los Sisibotaris, y de las mismas costumbres vestidos como ellos, y mas que otras Naciones."

<sup>2</sup> I doubt very much the existence of buffalo robes in Sonora at the time of Fray Marcos. The distance was too great. Furthermore, the monk only repeated what he understood the people to say to him, and he had never seen buffalo hides, still less the animal itself; misunderstanding was therefore easy. I am of the opinion that the large hides shown to him were those of large deer, like *Cervus canadensis*, or of the "Bura," or mule deer. The latter is found in Sonora and in Lower California. The only buffalo robe that may have been exhibited to him was the hide which he describes as follows (p. 341): "Aquí en este valle, me truxeron un cuero, tanto y medio mayor que de una gran vaca, y me dixeron que es de un animal, que tiene solo un cuerno en la frente y questo cuerno es corbo hácia los pechos, y que de allí sale una punta derecha, en la cual dice que tiene tanta fuerza, que ninguna cosa, por recia que sea, dexa de romper, si topa con ella; y dicen que hay muchos animales destos en aquella tierra; la color del cuero es á manera de cabron y el pelo tan largo como el dedo." But this was among the Sobaypuris of Arizona.



mercial intercourse with the people of Cibola-Zufi, and that parrot skins and plumes were given to the latter in return.<sup>1</sup> Aboriginal commerce, slow and irregular, contributed to modify ideas and customs, by creating new desires, and furnishing the means of satisfying them.

In regard to the religious ideas and beliefs of the Opatas, they do not appear to have fundamentally differed from those of the other southwestern tribes. At the present time, it is very difficult, if not impossible, to gather anything on this subject except after a long residence among them; and even then it must be considered that the changes which the Opatas have undergone are perhaps more thorough than those of any other tribe.<sup>2</sup> Still, traditions are left, and one of them, as related to me by an Indian of Huachinera, recalls strangely the tale of the creation of the sun and moon current among the Nahuatl.<sup>3</sup> Some Spanish authors speak of their belief in a supreme being,<sup>4</sup> called Tamu-mo-ta, but the chief

<sup>1</sup> I have already mentioned this fact in the Geographical Introduction.

<sup>2</sup> They are absolutely Christianized, on the surface at least. This does not prevent them from being convinced of the efficacy of witchcraft and of the existence of witches. I have a slight suspicion, furthermore, that they still maintain their former practices and rites in secret. As far as their original condition is concerned, we must go back to Ribas in order to find some intimations of it (*Historia de los Triunfos*, lib. vi. cap. xviii. p. 393): "Apartauanse de costumbres Gentílicas, que en todas estas Naciones reinan, como viuen en tinieblas, por mas morigeradas y másas que sean, y en particular el vicio tan repetido forçosamente en esta Historia, de las borracheras, que á todos los manchaua." The similarity of customs between all the tribes of Sonora was such, that it caused Father Alegre, who had access to the reports and correspondence of all the missionaries of his order, to include these customs in a general picture of all the tribes of that country. In this he follows Ribas, who also includes all the Indians of what at his time was called Sinaloa in a general view. (Lib. ix. cap. ii. to vi.)

<sup>3</sup> At Baquigopa, I was shown the place where the sun and moon were said to have been created, and in the manner told by Sahagun. I shall have to return to this further on.

<sup>4</sup> This fact is found in the document entitled *Estado de la Provincia de Sonora*, written by an anonymous Jesuit, in 1730. It is printed in the third

attention was always drawn towards their faith in witchcraft and their practice of it.<sup>1</sup> This belief is indeed fundamental with the Indians, and is a sure indication that what is cur-

series of Documents for the History of Mexico. I refer here to a manuscript copy made by myself from the original in the Mexican Archives. The writer says of the Opatas: "De aquí tuvo entre ellos origen un error oculto á los primeros misioneros y descubierto en estos años por algunos padres perictísimos en la lengua opata, este era, que estaban persuadidos á que su primer principio, no solamente en cuanto á su poblacion en estas tierras, sino en cuanto al ser y existencia, era Moctezuma, y así le llamaban en su lengua Tamo Mota que quiere decir: nuestro primer principio, de que ya por la misericordia de Dios estan desengañados." On the other hand, I again refer to the statement of Ribas (*Historia*, p. 16), already quoted.

<sup>1</sup> In this all authors of the past centuries agree, and also in that they had recourse to innumerable presages, etc. Among these one very singular one is related in Alegre, *Historia*, vol. ii. p. 217. Since his account is probably derived from the *Descripción Geográfica* (cap. v. art. iii.), I will take the quotation from the latter document: "Antiguamente, para saber por donde venían sus enemigos, cojian cierta especie de langosta llamada Hupitui: tomándola de su cabeza la preguntaban ¿ por donde venían sus enemigos? y como es natural que el animalito menée y alce los piés en tal situacion, tomaban por respuesta y creían que los apaches entraban por el rumbo que señalaba dicha langosta con la manita que primero alzaba." It would carry us too far to repeat here all that is told by older authors about the superstitions of the Opatas, — that people wounded by a lightning stroke were thereafter excluded from intercourse with the rest, — that when it hailed, they placed in the doors of their dwellings a cane (Baqui-go), believing that this would cause the hail to stop. The custom of erecting heaps of stones, sticks, etc., alongside of trails, so common among the New Mexican Indians and also in Peru, is thus described: "Á las orillas del camino real se suelen encontrar unos montones de piedras, palos, huesos de animales, etc., en dichos montones suelen echar los de á caballo, las varillas que llevan para pegar á la cabalgadura, y los de á pie alzar algun palito por el camino y tirarlo asimismo sobre dichos montones; unos dicen que con esto dejan allí el cansancio, así propio como el de la bestia: otros que allí está enterrado alguno, que murió de frio en tal paraje y que para calentarle hacen aquellas ofrendas, que suelen quemar algun dia qua hace mucho frio." This custom is well known in New Mexico, where the stones and sticks or branches signify as many sacrifices and prayers or invocations. The sticks and twigs stand in place of what is known among the Pueblos as "prayer plumes," or "prayer sticks," and wherever these heaps are found it is a sure sign that the same ideas prevail that underlie the complicated uses of the prayer plumes, in most instances, even, that the tribes had the plumes also and used them as votive offerings. Analogies with northern tribes are therefore not wanting. The anonymous report which I have already quoted, *Estado de la Provincia de Sonora*, 1730, contains

rently called their religion was more properly a fetichism, highly developed, very complicated, and systematized in every detail. Mention is made of places of sacrifice situated out-

the following very significant statement in regard to the beliefs of the Opatas : "No se halló en esta nacion ópata la idolatría ni la embriaguez ; muchas mugeres si solian tener, al sol y á la luna veneraban como hermanos, y aun todavia escondidos en donde el padre no los pueda ver en sus bailes, saludan á la luna nueva esparciéndole por el aire puños de pinole. Sus viejos, que entre ellos tienen grande autoridad, les enseñan patrañas muy ridículas ; diré una sola, en que se conoce su grande simpleza y poco discurso para convencer de embusteros á sus viejos predicadores ; estos les han persuadido (con algunos resabios de la fabulosa laguna Stigia) que en muriendo van sus almas á una espaciosa laguna, en cuyas orillas por la banda del Norte estaua sentada un hombrecillo muy pequeño, á quien llamaban Butzu-uri : este, pues, las recibia, y colocándolos apiñadas por su multitud en una gran canoa, las remitia, á la otra banda del Sur, á dar residencia á una reverenda vieja que se llamaua Vatecom Hoatziqui, en una por una las iba comiendo, y á las que hallaba pintadas con las rayas con que se afean las caras, las arrojaua á la laguna diciendo que no las comia porque tenían espinas, y las no pintadas pasaban á la barriga contentas de gozar de una inmundísima bienaventuranza " This recalls forcibly the lagune of Shi-Pap-u, or Cibobe, of the Queres and Tehuas of New Mexico, and the monsters which, according to Cushing, receive the souls on their approach to eternal rest and joy in the lagune of Cothluellonne. I only add here the following from the same source : "Valense de los maleficios, yerbas venenosas para quitar la vida á sus mismos parientes, y especialmente á aquellas que quiere mas el padre ó con quienes habla frecuentemente por sus familiares, etc." The marriage ceremonies are described as follows in the *Descripcion Geográfica* : "Apuntaré las mas decentes, y son : 1º. juntos grandes y pequeños, ponen á los mocetones y mujeres casaderas en dos hileras, y dada una seña emprenden á correr estas, dada otra siguen la carrera aquellos, y alcanzándolas, ha de cojer cada uno la suya de la tetilla izquierda ; y quedan hechos, y confirmados los desposorios. Acabado este preámbulo, se ponen á bailar, y segun me acuerdo haber oido, los novios y novias en traje de la primera inocencia. Á su tiempo, como ya tienen para cada par de novios prevenidos dos petates ó esteras de palma, sin mas ceremonia que la dicha, los meten entre sus dos esteras á cada par, y los demas siguen á festejarlos con sus danzas y cantares hasta que amanece o se cansan, aunque solo en este con incansables. Semejantes funciones las hacen en los bosques no muy retirado de los pueblos." The same document also describes the mortuary customs : "Al enterrar á sus difuntos todas estas naciones, á escepcion de los apaches, en su gentilidad y aun recién convertidos, solian de enterrar con ellos todo su ajuar y vestuario, con su pñole, olla de agua, etc. . . . Á los niños y niñas de pecho les llevan en una jicara la leche ordenada de sus pechos las mismas madres, y se las echan en la sepultura ; y esto lo hacen por algunos dias continuos." The Jesuit Father Ignatius Pfeffer-

side of the villages,<sup>1</sup> and many of their dances are described. We recognize among them the deer dance (Maso-dau),<sup>2</sup> and in the details of some of the others analogies with practices of the New Mexican pueblos are quite abundant.<sup>3</sup> At the

korn, who was missionary in Sonora for eleven years, says in his *Beschreibung der Landschaft Sonora samt anderen merkwürdigen Nachrichten von den inneren Theilen New-Spaniens*, (Cologne, 1794, vol. ii. p. 214,) that the Pimas bewail their dead. Of the medicine-men he asserts (p. 209) that they suck the sickness through a tube, and also blow tobacco smoke on carbuncles. This agrees with what we are told by Ribas (*Historia de los Triunfos*, lib. i. cap. v. p. 17): "El medio de curar estos endemoniados medicos es vnas vezes soplado la parte lesa ó dolorida del cuerpo, ó todo el, con tãta fuerça y conato, q̄ se oye muchos passos el ruido q̄ hazē: otras chupãdo la parte dolorida. Y auq̄ en parte pudieramos dezir, q̄ esta acciõ tenia el efecto natural de la vëtosa, que atrae, o disgrega el humor, pero esso está embuelto en tantas supersticiones y embustes, q̄ no nos podemos fiar q̄ sea todo seguro, y libre de engaño, ó pacto con el demonio: porq̄ á los enfermos les dan a entender, que les saca del cuerpo palos, espinas, y pedreçuelas, que les causauan el dolor y enfermedad; y todo es embuste, porq̄ ellos traen esos en la boca, ó en la mano con dissimulacion; y quando han curado al enfermo se lo muestran, vëdiéndolos por verdad, lo q̄ es patraña y mentira."

<sup>1</sup> Castañeda mentions those places in *Cibola*, p. 157: "Tous les matins, les caciques des villages montent sur de petites éminences de terre élevées à cet effet; et, pendant plus d'une heure, ils crient comme des crieurs publics, pour avertir chacun de ce qu'il a à faire. Leurs temples sont de petites maisons autour desquelles ils plantent une quantité de flèches quand ils s'attendent à la guerre." This is so far the only mention which I have found of places of worship among the Indians of Sonora.

<sup>2</sup> The deer dance was mentioned to me while I was in Sonora. It is said to be still used to-day. Pfefferkorn (*Beschreibung*, vol. ii. pp. 79, 80) refers to animal dances in general: "Sie wissen den Gang, die Spruenge, die Raenke, das Bruellen, die Wuth, kurz, alle Eigenschaften dieser Thiere mit vieler Aehnlichkeit nachzumachen, und damit der Spass desto natuerlicher schein, bekleiden sie sich mit der Haut des Thieres das sie vorbilden wollen. Dieses Possenspiel nennen sie *Toopter*, das Thiermachen." This seems to imply that they had other animal dances beside the Maso-dau.

<sup>3</sup> Whoever has seen the dances of the New Mexican Pueblos must be struck by the resemblance between the so-called "Entremeseros," or clowns, and the description of the solo dancers among the Opatas and Eudeves, as given by Pfefferkorn (vol. ii. p. 80): "Ihre vornehmsten Taenze sind der Pascofa, und der Montezuma. In dem ersteren koemmt ein Indianer zum Vorschein, der einen Taenzer, und zugleich einen Harlekin, vorstellt. Seine Tracht stimmt auch mit dieser Person ueberein. Auf dem Kopfe traegt er ein lederne

present day, the Dauí-Namaca, a dance modified by ideas of the Catholic Church, is danced during Easter week.<sup>1</sup> The deer dance has almost fallen into oblivion, and the Mariachi, one of the many sensual and decidedly obscene performances constituting a part of Indian rites, has at last been abolished.<sup>2</sup>

Muetze, welche mit langen vielfaerbigen und emporstehenden Federn geziert ist. Am Hintertheile des Kopfes haengt der Schwanz eines Coyote, welcher ueber dem Ruecken des Taenzers hinablaeuft. Ober dem Elnbogen, und unter den Knien, ist er mit Baendern geziert, welche mit langen und niedlichen Federn dicht besetzt, und mit kleinen Schellen oder Muscheln zu dem Ende behaengt sind, damit diese bei den Bewegungen des Koerpers ein Geraeusch von sich geben. Den Unterleib hat er bis zur Haelfte der Schenkel ringsherum mit einer Schuerze von praechtigen Federn, und den Hals mit einem Kragen von dem naemlichen Stoffe bedeckt. Der ganze uebrige Leib ist mit verschiedenen Farben bemalt, und das Gesicht auf eine laecherliche Art beschmiert. In der Hand haelt er einen Stab, an dessen Spitze zwei oder drei Fuchsschwaenze, oder ebensoviele Rindsblasen angebunden; womit er die Knaben, welche ihm aus Neugierde oder Muthwillen zu nahe kommen, verscheucht. In diesem Putze, tritt der Pascola auf den Schauplatz, und faengt seine Rolle an. Er tanzt, und bewegt die Fuesse mit einer unbeschreiblichen Geschwindigkeit so, dass diese Bewegungen nicht nur mit allen und jeden Noten, sondern auch mit den raschen Laeufen der Musik, vollkommen uebereinstimmen. Unter dem Tanzen macht er zuweilen erstaunenswuerdige Luftspruenge, auch dann und wann laecherliche Mienen, und naerrische Gebaerden. . . . Die gewoehnliche Musik bei diesen Tanze ist eine kleine Trommel, und eine Floete. Ein Indianer spielt beide zugleich, und haelt so ziemlich den Takt." The Pascol is (according to Escudero, quoted by Orozco y Berra, *Geografía*, etc., p. 355) still danced among the Yaquis, and the description given of it agrees with that of Father Pfefferkorn. Escudero very justly remarks: "La institucion de este baile podria decirse que se haria siguiendo el principio de Horacio, *Canendo et ridendo corrigo mores*; porque en el se satirizan los vicios y se dicen chistosos epigramas, que casi siempre agradan á los espectadores." This same kind of satire is displayed by the Qo-sha-re of the Querés, personages whose real functions are quite different from the rôle of clowns which they play in the dances of the Pueblos.

<sup>1</sup> The Dauí-na-maca is performed in the valley of the Rio Sonora annually. In place of head-boards or feather bushes the dancers wear a head-band of matting covered with colored paper, and decorated by a medallion and bright plumes. A peculiar kilt, made of canes, is worn on the occasion.

<sup>2</sup> The Mari-a-chi was a round dance. Among the many dances that had to be abolished was the Torom-ra-qui. It is described as follows in the *Estado de la Provincia de Sonora*: "Y por ser prueba de su docilidad no será fuera de propósito decir, que esta nacion Opatá usaba un baile verdaderamente diabólico

In these displays bright plumes held, as they still hold, the place of painted head-boards, but masks seem to have been used also.<sup>1</sup> Both faces and bodies were painted with bright tints, solo dancers appeared, and the music was in no manner distinct from the rhythmic noise accompanying the performances of northern Indians.

The Opatas danced the scalp dance also.<sup>2</sup> This shows that the custom of mutilating the dead enemy by taking his scalp prevailed among them. As we go farther south, however, the *head* of the foe was the most desired trophy. A gradual change in these customs of war religion appears from the north to the equator, from the process of scalping to that of securing the entire body for purposes of cannibalism, or the live enemy in order to sacrifice him to the fetiches.<sup>3</sup>

que llaman Torom Raqui, con que decian que asegurauan las lluvias y las cosechas abundantes: este baile comenzaba al salir el sol y duraba hasta ponerse, á el asisten de todos los pueblos, sembraban toda la plaza adonde se bailaua de todo género de semillas y ramos de árboles y á trechos huecos y pesuñas de bestias, astas de reces, caracoles, y otras inmundias, en los cuatro angulos de la plaza formaban cuatro chozas, de donde salian por torno los bailadores con unos aullidos y clamores espantosas, y disfrazados con trajes y monteras abominables al son de huesos y sonajas, legaban á cada una de las baratijas que estaban esparcidas en la plaza y bailaban con tristisimos gemidos, llantos y ceremonias diabólicas."

<sup>1</sup> The Pascola wore a mask, according to Escudero. Orozco, *Geografía*, p. 355.

<sup>2</sup> Compare Pfefferkorn, *Beschreibung*, etc., vol. ii. p. 172. According to him, the triumphant war party was received by the women. *Descripcion Geográfica* (cap. v. art. v): "Si les va bien en la campaña, de los enemigos que matan traen sus cabelleras, que aprecian mas que otro botin, y los cautivos, niños y mugeres que llegando á sus pueblos bailan dia y noche, que da lástima ver el estrago que causan con esta locura en si propias, y mas en los cautivos que de esta manera llevan en triunfo."

<sup>3</sup> Torturing prisoners of war seems to have taken place occasionally among the Opatas. *Descripcion Geográfica*: "En algunos pueblos aun de Ópatas siendo estos, segun todas, los mas allegados á la razon entre los demas indios, he sabido, usarse el salir las viejas de sus casas con tizones ardientes y quemar á los pobres cautivos en varias partes de sus cuerpos, mayormente en los muslos con tanta crueldad, que he visto los señales en un muchachito bien tierno, y tales que no se le quitaron en toda su vida." The Yaquis took the heads of

Anthropophagy in America was practised mainly within the tropics.<sup>1</sup>

The same may be said in regard to the use of poisoned arrows. That the Opatas used them is fully established, and the counter poison is also known.<sup>2</sup> The custom appears to have been general with the tribes of Sonora, and the poison is described as mortal, though not in every instance.<sup>3</sup> In addition to the bow and arrow, the usual and well known aboriginal weapons, the club, the shield, and possibly the sling, were handled by the Opatas in warfare, and, like less sedentary tribes, they frequently set out in small war parties, accompanied by a sorcerer or medicine-man.<sup>4</sup>

Remnants of fortifications are common in Sonora. These are the so-called "Cerros de Trincheras," more or less isolated heights, on whose slopes stone parapets have been erected at various elevations, presenting the aspect of concentric circum-

the dead enemies, not merely the scalp. So did the tribes of Sinaloa proper. Ribas, *Historia*, pp. 10, 294.

<sup>1</sup> I have not found any trace so far, of a positive nature, that any of the tribes of Sonora have been cannibals.

<sup>2</sup> As early as 1542, the Spaniards experienced the poisoned arrows of the Opatas. As to the counter poison, it is given in the *Descripción Geográfica*: "Taramatraca ó Caramatraca, se llama una raiz pequeña que se halla en la costa de Guaimas, es muy medicinal y contraveneno muy apreciable para heridas de flechas poñzonosas, aun contra la mas brava del seri, como me lo aseguro el padre Francisco Pimentel, de la Compañía de Jesus, quien sirvió de capellan en la expedición contra dicho enemigo el año de 1750, y que ninguno murió de los heridos que se valieron de ella mascándola y tragando la saliva y poniéndola, así mascada, sobre la herida y aun comiéndola."

<sup>3</sup> Castañeda, *Cibola*, p. 221.

<sup>4</sup> The warlike customs are so fully and so frequently described, that I forbear quoting in detail. Ribas (*Historia*, lib. i. cap. iii.) is very detailed about them. Among others he describes the war paint: "Para salir á la guerra se embijan, o pintan con vn barniz que hazen de vn azeite de gusanos, rebuelto con almagre, ó ollin de sus ollas, con que quedan pintados en cara y cuerpo desuerte que parecē fieros demonios del infierno." An equally full account may be found in the *Descripción*. According to it, the young men were "initiated" (cap. v. art. v.). Pfefferkorn also (*Beschreibung*, vol. ii. pp. 163-172)

vallations, encircling a more or less conical elevation. On the top or summit there are nearly always traces of rude habitations, and of round small erections, that appear to have been lookouts or watch-towers. The Opatas country is rich in such remains, and the outskirts of the Sierra Madre particularly so. Indian tradition of to-day connects their erection and use distinctly with the Opatas. It is further asserted by the same source, that these parapet hills were fortified, not only against enemies of a foreign stock, but against neighboring villages also. Thus the "Cerro de Batonapa," near Banamichi on the Sonora River, served as a place of refuge for the inhabitants of Motepori, Badeuachi, Vaynorpa, etc., if attacked by the other Opatas, those from the valleys of Oposura and Cumpas, or even by their immediate neighbors of Huepaca and Aconchi. The latter had a "Refuge Hill" at Huepaca, quite as extensive as that of Batonapa.<sup>1</sup>

Villages expressly fortified were also in existence. Thus, in the very heart of the savage Sierra de Teras, the ruins at "Los Metates" are those of a little pueblo built on a steep but low promontory of rocks, of which almost every projection shows traces of having been lined by parapets. The cluster of dwellings on the "Mesa de San Antonio," near Granados on the Upper Yaqui, was surrounded by a low circumvallation. Still the majority of villages were open, their people

gives details. Their tactics were the usual ones of surprises and ambush. But if hard pushed, they fought desperately.

<sup>1</sup> One of these "Cerros de Trincheras," and one whose size and importance has lately been much exaggerated through newspaper reports, is near Magdalena in Sonora. These rude fortifications were much in use among the Sonora Indians. Pfefferkorn says about them (*Beschreibung*, vol. ii. p. 161): "Noch stehen auf einigen Bergen die Ueberbleibsel der Brustwehren, welche diesen Voelkerh statt einer Festung dienten. Sie waren von aufgehauften Steinen auf die Art einer Mauer errichtet; und standen vom Fusse des Berges mehrere dergleichen uebereinander." Similar fortifications were erected by the Seris against the Spaniards in 1758, (*Ibid.*, vol. i. p. 414,) and by the insurgent Tarahumares in Chihuahua.



relying for safety in case of attack upon the wide range of view, or upon the peculiarly concealed locality, but especially upon the safety resorts just described. These features tend to indicate that, at the time when they were in use, there was as yet little or no danger from that prowling and incessant harassing which has rendered the Apaches so formidable to the village Indians of northern Mexico during historical times. While these military constructions are of course evidences of continual dissensions among the Indians of Sonora, they indicate a warfare less persistent and less unrelenting than that which the Apaches have since made upon them.<sup>1</sup>

Between the Opatas and Eudeves in the east, and the arid shores of the Gulf of California on the west, a branch of the great and numerous Pima stock, the Papap-Otam or Pápagos, roamed over, rather than inhabited, northwestern Sonora and southwestern Arizona. The Pápagos came in contact with the Spaniards in the latter half of the seventeenth century.<sup>2</sup> From the nature of their country, they could scarcely be called village Indians. Though they spoke the Pima language, they were much more unsettled than either the Nebomes or the Arizonian Pimas. Mostly reduced to hunting, to wild plants, and to a limited exchange with other tribes for their subsistence, the Pápagos were shunned and feared, as nearly all roving Indians are by

<sup>1</sup> Pfefferkorn mentions (vol. ii. p. 161) frequent wars between the Opatas and the other tribes, but they were not as unremitting in their hostilities as the Apaches have shown themselves to be. There were periods of peace, or at least of security.

<sup>2</sup> The name Papa-Otam is taken from the *Descripción Geográfica* (cap. vi. art. ii.). On the map accompanying the work of Father Pfefferkorn they are called "Papabi-Ootam sive Papagos." Ootam signifies man in the Pima language; what the other word means I am unable to say. That they are Pimas is fully established. It was the celebrated Jesuit Father Eusebius Kühne or Kino who made the Spaniards first acquainted with them. They were not hostile, only shy, in the beginning.

sedentary tribes.<sup>1</sup> Still, it was shyness rather than ferocity that kept the former aloof from intercourse. Their situation was such as to render life dismal. In the southwest, their neighbors were a tribe which has left in the records of Sonora

<sup>1</sup> Although the Pápagos were never, on the whole, dangerous to the whites, they enjoyed a bad reputation for a long time. The so called Papagueria is very well described in the *Descripcion Geográfica* (cap. vi. art. ii.): "Verdad es, que en todo este vasto espacio hay mucho despoblado, como son casi todas las marismas, y aun la mayor parte de ellas incapaz de poblarse por la gran escasez de agua y esterilidad de la tierra, porque todo el largo trecho que lo ay desde Caborca hasta cerca de la boca del rio Colorado, que pasa de ochenta leguas, son casi puros médanos y páramos tan escasos de agua, que apenas se halla por toda la costa para poderla registrar caminando; y aun para esto falta del todo las últimas treinta leguas ántes de llegar á dicha boca. . . . La única mision que se erigió el año de 1751 por Mayo en San Miguel de Sonoitac, cerca de cincuenta leguas al nor este de Caborca, aun ella sola padecia escasez de agua, y así no hay donde congregár á los pápagos ó papapootam, que así se llaman los pimas que viven en aquellos páramos, de semillas de zacate, yerbas y frutas silvestres, y aun de conejos y ratones." The *Noticias de la Pimeria* (anonymous, its date 1740) mentions the Pápagos as "tambien es nacion Pima, pero muy inferior á la otra, respecto á que estos no tienen rio, arroyos ni ojo de agua, y viven el verano en los llanos haciendo vatequi o pozos para beber, y en dichos llanos siembran de temporal maiz, frijol y calabazas, muy poco de este, y apenas se les acaba, se reparten á las rancherías ó pueblos de los otros pimas á servirles como criados por solo el interes de la comida, y aun se alargan hasta venir á San Ignacio y Dolores; son muy afectos á comer carne, que aprecian en extremo la que fuera, aunque sea de caballo, burro, etc., y al tiempo de volverse á sus tierras, no estan seguros los perros de que los hurten para comer; es nacion muy pusilánime y afecta á los españoles como las demas." Father Kühne, in his letter to the Padre Visitador Horacio Polici, dated September 22, 1698, (*Carta del Padre Eusebio Francisco Kino, al Padre Visitador Horacio Polici, acerca de una Entrada al Noroeste y Mar de la California*, etc.,) says that the Pápagos, that is, the inhabitants of the country between Caborca and the Rio Gila, — he does not mention them as Pápagos by name, — consist of "mas de cuarenta rancherías entre chicas y grandes, todas de gente muy amigable, docil y tan afable que en todas partes nos recibieron con casas prevenidas, con cruces y arcos puestos y con muchas de sus comidas de maiz, frijol y calabazas, sandias y pitahayas, y de sus cazas, liebres, etc., y con muchos bailes y cantares de dia y de noche." In the winter of 1697, the same missionary had already traversed a part of the Papagueria and had been kindly treated. Compare *Relacion del Estado de la Pimeria, que remite el Padre Visitador Horacio Polici*, 1697; and in it the joint report made of the trip by Cristobal Martin Bernal, Eusebio Francisco Kino, and others, Dec. 4,

a stain scarcely less dark than that made by the Apaches. These neighbors were the Seris, linguistically allied to the Arizonian Yumas,<sup>1</sup> and of whom little is known except that they were a terrible scourge to the village Indians of Sonora first, to the Spanish settlements and to the missions afterwards,<sup>2</sup>

1697. Father Jacob Sedelmayer, S. J., *Relacion que hizo . . . con la Ocasion de haber venido a México por el Mes de Febrero del Año de 1746, a solicitar Operarios para fundar Misiones en los Rios Gila y Colorado*, etc.: "Las rancherías que hay desde casas grandes hasta abajo, Pimicas, Papalotes que viven á su lado del Sur en tierras secas y estériles, y inadministrables y por eso las mas gentiles." Notwithstanding the docility of the Pápagos, we find them described as wild, and even as dangerous. Of their other customs and of their religion, etc., we have nothing except the well grounded complaint that they were much addicted to witchcraft, and that their superstitious practices contributed to diminish their numbers with the ultimate prospect of their complete extermination. Without referring to other sources which speak positively on the subject, I quote here Fray Juan Domingo Arricivita (*Crónica seráfica y apostólica del Colegio de Propaganda Fide de la Santa Cruz de Queretaro*, Segunda Parte, lib. iii. cap. xiii. p. 397): "Son estos Indios muy inclinados y propensos al exercicio y trato de la hechizería, cuya raiz les viene de su antigua prosapia gentílica supersticion. . . . Ellos mismos son sus cruels verdugos, que por un ridículo sentimiento hacen duelo, y por rencor, envidia ó venganza, y aun por sola vanidad y loca presuncion, se acometen y se matan unos á otros con cruels y torpes maleficios." This is what may be observed to-day among the Apaches, Navajos, and among the New Mexican Pueblos.

<sup>1</sup> The Seris appear first under the name of Heris, and thus they are called by Ribas (*Historia*, lib. vi. cap. i. p. 358). He speaks of them in a very appropriate manner: "Es sobremanera bozal, sin pueblos, sin casas, ni sementeras. No tienen rios, ni arroyos, y beuen de algunas lagunillas, y charcos de agua: sustentanse de caça," etc. He had ascertained that a portion of the Seris dwelt on an island in the Gulf of California, for he says (p. 359): "Y dentro de la misma mar, en isla, se dize que habitan otros de la misma nacion." The first white man who came in contact with the Seris was undoubtedly Fray Marcos de Nizza, in 1539 (*Descubrimiento de las siete Ciudades*, p. 331): "Asimismo me vinieron á ver indios de otra isla mayor quella, questá mas adelante de los cuales tuve razon haber otras treinta islas pequeñas, pobladas de gente y pobres de comida, ecebtó dos, que dicen que tienen maiz. Estos indios traian colgadas de la garganta muchas conchas, en las cuales suelon haber perlas; é yo les mostré una perla que llevaba para muestra, y me dixerón que de aquellas habia en las islas, pero yo no les ví." The discovery that the Seri language belongs to the Yuma family of idioms is due to Mr. Albert S. Gatschet.

<sup>2</sup> From the latter part of the seventeenth century to the close of the eighteenth, the documents relative to Sonora are filled with complaints about ravages

and that at the present time they huddle together on the isles of the Californian Gulf, shy and difficult of approach, living, as they always have as long as known to Europeans, on marine productions, fish, shells, and whatever game they might occasionally secure, and having some commerce. To-day they perform occasional work at the port of Guaymas, whereas in the sixteenth century and previously they even depended for Indian corn upon barter with the inland tribes.<sup>1</sup> Close by the Seris dwelt, along the coast also, the Guaymas and Upan-Guaymas. Both clusters may be said to have been exterminated by the Seris, in the same relentless but slow manner in which the Apaches wiped out some of the Indians of Chihuahua.<sup>2</sup> Little, if anything at all, is therefore known of them, and they have been classed linguistically with the Seris themselves.<sup>3</sup> I am informed, however, on the authority

committed by the Seris. It would be needless to refer to them in detail. Their last stronghold was the "Cerro Prieto," where they finally surrendered in 1770. The Seris never were numerous; with the exception of the Guaymas, they constituted the weakest tribe of Sonora in point of number. But their home — if a range of arid coast may be called a home — was such as to render offensive warfare against them almost impossible, whereas they could prey upon their neighbors with impunity.

<sup>1</sup> Ribas says (*Historia*, p. 358): "Sustentanse de caça; aunque al tiempo de cosecha de maiz, con cueros de venados, y sal que recogen de la mar, van á rescatarlo á otras naciones. Los mas cercanos destos á la mar tambien se sustentan de pescado." This, having been written about the year 1645, of course refers to commerce as it existed *previously* to the advent of the Spaniards.

<sup>2</sup> The enmity between the Guaymas and the Seris must have been hereditary, or at least traditional. Thus, in 1754, while the Seris were temporarily at peace with the Spaniards, the Guaymas attacked one of their rancherias unexpectedly, and committed some murders. In matters of war between Indian tribes it is difficult, nay, often impossible, to ascertain which party is to blame.

<sup>3</sup> See Orozco y Berra, *Geografía de las Lenguas*, p. 354. I was told in Sonora, that the name Guaymas was an Opata word, and signified "where they ate." I cannot vouch in the least for the correctness of this interpretation. The *Descripción Geográfica* (cap. v. art. i.) says of the Guaymas: "Hablan con muy poca diferencia una misma lengua con los Seris; pero es tan corto su número, que en ninguna manera merece el nombre de nacion; á demas de vivir ya mezclados con los hiaquis en Belen y otras, por haberse visto obligados á ceder su

of a distinguished traveller, Mr. Alphonse Pinart, that the Guaymas were of the stock of the southern Pimas, or Ne-bomes. This would suffice to explain the savage hatred with which the Seris persecuted them. The Guaymas, furthermore, are represented as having been land-tillers on a very low scale,<sup>1</sup> a feature in which they differed essentially from the Seris. The latter may be regarded as something like maritime Indians, akin to the Antillean and South American Caribs. The Isla del Tiburon and other islands were to them not only homes, but also their places of refuge, or lairs.<sup>2</sup> Here they were invulnerable by the tribes of the mainland, and safe unless caught on one of their marauding expeditions away from the coast. But once near the sandy and waterless, treeless "Playas," or on the shores of the Gulf, the Seris could hoot at the idea even of pursuit.

It is a well known fact that the Seris used poisoned arrows. It is even asserted, and commonly believed, that they still use them.<sup>3</sup> In presence of the positive assertions of early chroniclers, that the Opatas also used these dangerous weapons against the first Spaniards who came to Sonora, assertions which are substantiated by the descriptions of symptoms and by the indication of well known

naturaleza al sangriento furor de los Seris." The mission of Nuestra Señora de Belen had been recently founded in 1678, according to Ortiz Zapata (*Relacion de las Misiones*, etc., p. 379) : "Nuevamente fundada de indios que llaman de la nacion Guaymas los cuales algunos años ha que han ido acudiendo á este partido atraidos de la Divina Providencia," etc.

<sup>1</sup> Perhaps this was due to their contact with the Yaquis. They were neighbors, although hostile to each other, as Ribas relates on page 319. He calls them Guayamas.

<sup>2</sup> See *Descripcion Geográfica* : "Otro asilo tienen, así en su isla del Tiburon, casi como cuarenta leguas al Poniente de la hacienda de Pitiic, . . . como en la de San Juan Bautista."

<sup>3</sup> Orozco y Berra, *Geografía*, p. 354. Charles P. Stone, *Notes on the State of Sonora*, Washington, 1861, p. 19.

counter poisons, the fact can hardly be doubted. The nature of the poison was evidently vegetable, and no credit is to be given to tales ascribing the mortal effects of arrow wounds to snake poison collected on arrow-tips and preserved there in a dried state. A document of whose great value for aboriginal medicine there can be no doubt, the celebrated "Rudo Ensayo," gives the name of the plant whose milky sap was used to anoint the weapons, and thus render them fatal.<sup>1</sup>

Ere leaving the Indians of Sonora, and before I pass on to the tribes of Chihuahua, I must add a few remarks on their medical art, if their empirical practice may be so called. It appears certain that the Opatas, Pimas, and probably the Yaquis, possessed and used a vast arsenal of medicinal herbs and other remedies, in addition to the superstitious practices resorted to by them for purposes of healing and curing.<sup>2</sup> I cannot go into any details, but it is my duty to call the attention of students of other branches of science than ethnology to the lists given by Jesuit fathers of the medicinal plants of Sonora, and to their accounts of the virtues attributed to them, and of the preparation and application of remedies.<sup>3</sup> I have myself experienced the value of some

<sup>1</sup> The *Rudo Ensayo*, published by Buckingham Smith in 1863, is the same as the *Descripcion Geografica*. In the latter there is mention of a plant: "230. Magot en lengua ópata es un árbol pequeño muy lozano de verde y hermoso á la vista; pero contiene una leche mortal, que á corta incision de su corteza brota, con la que los naturales solian untar sus flechas, y por eso la llaman Yerba de la Flecha, pero ya pocos la usan. Sirue tambien dicha leche para abrir tumores rebeldes, aunque no lo aconsejaria por su caracter venenoso." This would indicate a Euphorbiacea. In regard to the poison used by the Seris the writer is not so positive as to the ingredients employed, but is of the opinion that it must be vegetable. The tale of snake poison being used he rejects.

<sup>2</sup> I cannot sufficiently insist, from a practical point of view, upon a thorough study of the medicinal plants of the Southwest in general. There are certainly many of great value.

<sup>3</sup> The *Descripcion Geografica*, or *Rudo Ensayo*, appears to be the source from which Alegre gained his information on the plants, etc. of Sonora. The work of Pfefferkorn, *Beschreibung der Landschaft Sonora*, also contains information, but it may have come from the same source, since the *Beschreibung* is posterior

of them, and have become inclined to suppose that a study of them, with the methods and means of modern science, might be profitable, independent of its value as a contribution to knowledge of Indian culture.

While in Sonora we have mostly met with tribes almost, if not exclusively, sedentary, (the Seris and Pápagos being the only ones to whom this designation cannot be properly applied,) on the soil of Chihuahua the proportion of roving Indians to those of more sedate habits is greater. It is easy to account for this, when we consider the physical geography of the country.

The western half of Chihuahua, generally speaking,<sup>1</sup> is occupied by the Sierra Madre and its immediate ramifications. That region is therefore better watered than the eastern half, large portions of which, while not strictly plains, are still broad valleys, through which the water supply is scant, and often but periodical.<sup>2</sup> The southeast is particularly forbidding in this respect; furthermore it is hot, and the mountains are rugged and arid.<sup>3</sup> With the limited mechanical means at his disposal, the Indian could not well subsist by agriculture on an area of this sort; there was little incentive for him to become or remain a permanent settler, but often

to the *Description* by thirty years, and P. Pfefferkorn was in Sonora when the *Description* was written. He was then missionary at Toape (cap. vii. art. iii.). As for the author of the *Description*, I am convinced it was the Padre Nentwig, S. J., priest at Huassavas in eastern Sonora.

<sup>1</sup> I use this term, because there are levels of considerable extent, and also long valleys, like those following the course of the Rio de Casas Grandes and Rio de Galeana. But the whole region belongs to the upper drainage of the great central chain.

<sup>2</sup> The eastern half of Chihuahua is not absolutely barren. Still, the watered expanses are isolated, and the region near the Rio Grande may be termed arid, and it is excessively hot and unattractive, even at present.

<sup>3</sup> See above. Mezquite beans have been the chief support for days of the horses of the United States troops that entered Chihuahua from that direction, in pursuit of Apaches, according to convention between the governments of the United States and Mexico.

the necessity of shifting seemed absolute. In consequence of this, we find village Indians clustering three centuries ago in the southwest and west of Chihuahua, as also in the extreme east, on the triangle formed between the Rio Grande del Norte and its western tributary, the Rio de las Conchas, or Conchos.<sup>1</sup> The former people, or the mountaineers proper, belonged linguistically to the same great family with the Yaquis, Pimas, and Opatas. They lived in the extreme Southwest, the Tepehuanes in the South and as far as Namiquipa, and the Tarahumares<sup>2</sup> south of Casas Grandes. Outposts of Sonoran Jovas, perhaps of Opatas too, reached over into Chihuahua from the west in small villages. Since the boundary line between Sonora and Chihuahua is yet imperfectly defined, it is not worth while attempting to locate such advanced colonies of the one or the other cluster with any great precision.<sup>3</sup>

<sup>1</sup> The name has been corrupted into "Conchos," but the original designation was "Rio de las Conchas." See Joan de Miranda, *Relacion hecha al Doctor Orozco, Presidente de la Audiencia de Guadalajara*, etc., p. 566: "Á diez y á doce leguas de las minas de Santa Bárbara, al Norueste, está un rio muy grande que corre hácia Lebante; llamanle el rio de las Conchas, y á esta causa, llaman los indios que en el hay, de las Conchas." It was called thus in the documents of 1582. *Testamento dado en Méjico sobre el Descubrimiento de doscientas Leguas adelante de las Minas de Santa Bárbola, Gobernacion de Diego de Ibarra*, etc. (*Doc. de Indias*, vol. xv. pp. 83, 90). It was Antonio de Espejo who (*Relacion del Viaje, Doc. de Indias*, vol. xv. p. 104) perverted it into Conchos.

<sup>2</sup> It is not possible to establish definite boundaries, for the simple reason that there were none. The tribes were so scattered, that they seemed to overlap one another's grounds, and the settlements frequently shifted their location. Orozco y Berra's ethnographic map seems to be correct in the main. Tutuaca, however, was a mission of the Tepehuanes, and Tutuaca lay almost in the latitude of the city of Chihuahua, near the present boundary dividing Chihuahua from Sonora. The fact that Tutuaca was a Tepehuan settlement in 1678 is established by the Jesuit P. Juan Ortiz Zapata, *Relacion de las Misiones*, p. 340.

<sup>3</sup> Ortiz Zapata, *Relacion*, p. 342. These Jovas probably were the Indians whom Cabeza de Vaca met in the Sierra Madre, who lived partly in houses made of sod, *Relacion de Naufragios* (in Vedia's *Historiadores Primitivos de Indias*, vol. i. p. 543), "Entre estas casas habia algunas de ellas que eran de tierra," and who told him about so called Pueblos farther north.



In the valley of Casas Grandes and north of it, tribes occupied the country which have completely disappeared, and to which I shall refer later on. Whether these tribes were land-tilling or not is a point yet in doubt.

In the east we find the Jumanos, a tribe also extinct as such, settled between the Rio Grande and the Conchas. When first met with and described, in 1582, the Jumanos lived in villages of houses with upright walls and covered with mud roofs; they cultivated corn, squashes, and beans. They may consequently be classed, so far as that part of the tribe is concerned which lived in Chihuahua, among the sedentary Indians of the Southwest.<sup>1</sup>

<sup>1</sup> Antonio de Espejo, *Relacion del Viage (Documentos de Indias, vol. xv. p. 168)*: "Acabadas de salir desta nacion, entramos en otra que se llama de los Xumarías, que por otro nombre los llamaban los españoles, los Patarabueyes, en que parecia habia mucha gente y con pueblos formados grandes, en que vimos cinco pueblos con mas de diez mil indios, y casas de azotea, bajas, y con buena traza de pueblos; y la gente desta nacion está rayada en los rostros; y es gente crecida, tienen maiz y calabazas, y caza de pié y vuelo, y frísoles y pescados de muchas maneras, de dos rios caudalosos, que es el uno que dicen viene derechamente del Norte y entra en el rio de los Conchos, que este será como la mitad de Guadalquibi, y el de Conchos será como Guadalquibi, el cual entra en la mar del Norte." A better and clearer description of the delta formed by the junction of the Rio Grande and the Conchos could not be wished. The other copy of Espejo's report, in the same volume of the *Documentos de Indias* (p. 105), has distinctly "que se llama de los Jumanos." The corrupt version given in Hakluyt describes the dwellings of the Jumanos as being "de calicanto." There is nothing of it in the original reports.

It is strange that there should be, so far as anything appears, such a long silence on the Jumanos of Chihuahua, after Espejo's journey, for it is more than likely, it is almost certain, that they continued to inhabit the delta above mentioned. They were there in 1683, and of their own choice; no missionary had induced them to settle there. This is clearly established by the documents relative to the reconnaissance made by Juan Dominguez de Mendoza as far as the Rio Nueces in Texas in the year 1683 (see *El Diario del Viaje de Juan Dominguez de Mendoza á la Junta de los Rios y hasta el Rio Nueces*, MS. copy in my possession), and more particularly by the documents annexed to it. See also Felipe Romero, *Carta al Gobernador Don Domingo Gironza Petriz de Cruzate*, and *Pedimento al Maestro de Campo Juan Dominguez Mendoza*. Father Nicolas Lopez, who accompanied Dominguez, says the same in his *Memorial acerca de la Repoblacion de Nuevo México y Ventajas que ofrece el Reino de*

The centre of Chihuahua cannot be said to have been permanently occupied by any cluster of natives. It was how-

*Quivira*, April 24, 1686: "Y en la sazón hallé treinta y tres capitanes infieles de la nacion Jumanas y otras que venian á pedir el baptismo, . . . nos fuimos caminando á pie y descalzos en compañía de dichos infieles sin escolta de españoles, hasta llegar á la Junta de los Rios, . . . á donde nos tenian estos infieles fabricados dos ermitas aseadas," etc. Also Fray Alonzo de Posadas, *Informe al Rey sobre las Tierra de Nuevo México Quivira y Teguayo*, 1686. It is true that Dominguez calls these Indians Julimes, but from the contexts I must conclude that they were also Jumanos. It looks as if the two tribes had lived together at the "Junta de los Rios." In 1715, when the missions were re-established there, the following tribes or clusters are mentioned as living at the "Junta" in *Los Titulos y Advocaciones de los Once Pueblos contenidos en esta Relacion (Documentos para la Historia de México, Cuarte Seria, vol. iv. p. 169)*: Mesquites, Cacalotes, Oposines, Conejos, Polames and Sivolos, Puliquis, Conchos, Pasalmes. These names are repeated, with many others, as those of tribes inhabiting New Biscay in 1726, by the Brigadier Pedro de Rivera (*Diario y Derrotero de lo Caminado visto y observado*, etc., p. 22). Juan Dominguez de Mendoza (*Diario*, fol. 46) gives the names of a number of tribes connected at least with the Jumanos, which he met in northwestern Texas, and among that list the "Poliches" (Puliquis?) are mentioned. I suspect, however, that these names are not always those of separate tribes, but rather names of clans or bands. The Jumanos are ranked among the Chihuahua tribes by Orozco y Berra (*Geografía*, etc., p. 386). But he considers them as a branch of the Apaches-Faraones. There are no grounds for such a conclusion beyond the possible fact, that the remnants of the Jumanos may have become absorbed by the Apaches, upon the latter obtaining sway over Chihuahua. This is only a possibility, and as yet no certainty. Of the language of the Jumanos we know nothing. Fray Nicolas Lopez asserts (*Memorial*) that he composed a vocabulary of the Jumano idiom, but we have no knowledge of its existence. He says: "Yo Señor, saldria de esta ciudad á fines del que viene para aquella custodia; llevo dispuesto el ánimo á entrar segunda vez á dichas naciones, por saber ya la lengua jumana y haberla predicada á aquellos y haber hecho vocabulario muy copioso de dicha lengua, como consta juridicamente en los instrumentos que tengo presentados." Father Lopez is not an absolutely reliable authority. He took the part of Juan Dominguez Mendoza in the latter's quarrels with nine of his men, who subsequently deserted his camp, returning to El Paso del Norte at their own risk. Compare his *Diario*, fol. 14, *Auto*, fol. 15, *Peticion*, etc.; also Felipe Romero and others, *Carta al Gobernador*, fol. 1-3; *Pedimento*, p. 2. He was even accused of conspiring with Dominguez against the Governor Petriz de Cruzate, in 1685. *Testimonio á la Letra dela Caussa Criminal que se á seguido contra el Maestro de Campo Juan Domingues de Mendoza y los demas*, etc., September, 1685, MS. Some of his claims to services performed may be exaggerated.

The Jumanos of Chihuahua disappear in the eighteenth century. In regard to their possible linguistic connection with the Julimes, see further on.

ever claimed and roamed over by Indians whose idioms are yet unclassified, simply because some of these idioms have disappeared from the surface. In the south, we find the Conchas, or Conchos, and, hanging about them like Arabs of the desert, a wild, ferocious, errant stock, the Tobosos. What the Seris were to Sonora, the Apaches to New Mexico at an early date, the Tobosos were to the aborigines of Chihuahua, and later on to the Spaniards, namely, an incessant scourge. Their incursions extended over a wide range, embracing the States of Nuevo Leon, of Tamaulipas in part, of Coahuila, and of Chihuahua. So omnipresent were these nomads, that each one of these districts now claims to have been their home at one time, while in fact they wandered everywhere and dwelt nowhere.<sup>1</sup> The Conchos were not

<sup>1</sup> The Tobosos also appear first in Espejo's reports, *Relacion del Viage*, p. 167. He calls them Tobozos, and in the other version there is the misprint Jobozos. Already Espejo noticed that they were shy and shiftless: "Son esquivos, y así se fueron de todas las partes que estaban pobladas, en xacales, por donde pasabamos; . . . sustentanse con lo que los dichos Pazaguates; usan de arcos y flechas; andan sin vestiduras; pasamos por esta nacion que parecia haber pocos indios, tres jornadas, que habria en ellas once leguas."

Gaspar Castaño de Sosa, who marched from Nuevo Leon to New Mexico in 1590, makes no mention of the Tobosos in his Journal. Neither does Juan de Oñate in his diary of 1596. The Tobosos were, then, to be found mainly in Coahuila and Nuevo Leon, and also in Tamaulipas. They became formidable to Chihuahua only in the seventeenth century, after missions had been established, and the contact with civilization gave some pretext for depredations. I say pretext, for in most cases, as with the Apaches, for instance, such tribes only waited for some opportunity to resort to murder and rapine. In his *Curta Etnográfica*, Orozco y Berra localizes, so to say, the Tobosos in Coahuila and Nuevo Leon. It seems certain that they most habitually infested those districts, but they were also a terrible scourge to Chihuahua. On the whole, it would be as difficult to assign to them a definite territory as it would be to the Apaches in former times, previously to their reduction to reservations. In 1630, Fray Alonso de Benavides mentions again the Tobosos, *Memorial que Fray Ivan de Santander de la Orden de San Francisco, Comisario General de Indias, presentó á la Magestad Católica del Rey don Felipe Cvarito Nuestro Señor*, Madrid, 1630, p. 7. He speaks of the Tobosos along with a number of other tribes of Chihuahua, like the Tarahumares, Sumas, Janos, etc., and says of them collectively: "Gente muy feroz, barbara, y indómita; porque andan siempre totalmente desnudos,

any more tractable, neither do they appear as having been more civilized in the beginning, yet they showed afterwards

sin tener casa, ni sementera alguna, viuen de lo que caçan, que es todo género de animales, aunque sean inmundos, mudándose para esto de unos cerros á otros; y sobre el juego suelen estas naciones tener guerras ciuiles, y se matan brutalmente, sus armas son arco y flecha, que son las generales de todas las naciones; quando passamos por entre ellos, nos embisten cara á cara, si ven poca gente, y hacen el mal que pueden; por lo cual no se puede passar menos q̄ cō doze hombres cō sus cauallos, de armas mui biē apercebidos, y aun desta suerte se ha de ir coh cuidado, haziēdo lūbre á prima noche en vna parte, para diuertírlos, y passarla lo mas adelante que se pudiere; y por lo menos quando ven mucha fuerça y gente, procuran de noche en sus emboscades hazer el daño que pueden en la cauallada; y desde que se descubrió el Nuevo México, siempre que se passan estas cien leguas, ha auido guerras con estos indios, en defensa de los daños que pretenden hazérnos." The historian of the Jesuit missions in Mexico, P. Francisco Xavier Alegre, says of the Tobosos, speaking of their first appearance as fomenters and leaders in the insurrections of contiguous tribes (*Historia de la Compañía de Jesus en Nueva España*, vol. ii. p. 244): "Comenzaron las hostilidades por los tobosos, gentes belicosas y barbaras, y que servian como de asilo á todos los foragidos y mal contentos de aquellas provincias. Los robos y las muertes eran ordinaries no solo en los carros y españoles que encontraban en los caminos, pero aun en las poblaciones y en los reales de minas mas poblados. En los reales de Mapimi, del Parral y en San Miguel de las Bocas se vivia en un continuo sobresalto, especialmente en las crecientes de las lunas, en que solian juntarse." This recalls vividly the condition of New Mexico and of Arizona not more than twenty-five years ago. The same custom of starting on forays and killing expeditions with the waxing moon, is well known to exist also among the Apaches. What Father Alegre says refers to 1644, however. A witness of the times, the Jesuit P. Nicolas de Zepeda, says, *Relacion de lo Sucedido en este Reino de Vizcaya desde el Año de 1644 hasta el de 1645*, etc. (*Doc. para la Historia de Méjico*, Serie 2): "Como tambien tan cercano á las cosas tan nobles que han sucedido de dos años á esta parte que ha que comenzaron á malograrse los indios de la nacion tabaz, que es y ha sido siempre la mas cruel, bulliciosa y guerrera pues no obstante que casi cada año de nuevo les bajaban de paz los señores gobernadores y capitanes de presidios." The historian of the Province of San Francisco de Zacatecas, Fray Francisco de Arlegui, devotes several chapters to dissertations on the manners and customs of the Indians inhabiting or roaming over the various regions through which the missions of that Province were scattered. He enumerates a long list of tribes, and among them the Tobosos. But his picture of habits and mode of life is general, embracing all the forty and more tribes of his list, and without special reference to any of them in particular. The dissertation embraces chapters ii. to xii. inclusive of his *Crónica de la Provincia de N. S. P. S. Francisco de Zacatéas* (1st edition, 1737, pp. 148-208). It would be impossible to tran-

a much greater willingness to adopt permanence of abode.<sup>1</sup> Almost in the heart of the Concho range we find the Julimes, a small tribe classified linguistically with the Tepehuanes. I may be permitted here to call attention to the possibility of the Julimes having been properly but Jumanos, and of stating that my reasons for this suggestion are found in comparisons of the Reports on the Missions of the "Junta de

scribe the whole of it here, and I simply refer the reader to the work, pointing out to him, however, that of the many and often interesting statements we are never told to which particular tribe they refer.

The constant hostilities of the Tobosos were, for more than a century, the greatest obstacle to the colonization of Chihuahua, and they seriously impeded communication between Parral and New Mexico. The authors of the past century designate them as the scourge of northern Mexico. Says Fray Isidro Felis de Espinosa, *Crónica Apostólica y Seráfica de los Colegios de Propaganda Fide de Querétaro* (1746, lib. v. p. 481): "Como son los Indios Tobosos, apostatas de nuestra Santa Fe, y azote de las Provincias de la Nueva Vizcaya y de Coahuila." And the same author uses almost the identical words in the *Peregrino Septentrional Allante* (*Biography of Fr. Antonio Margil de Jesus, 1737, p. 271*). It was only after more than a century of frequently unsuccessful warfare — very similar to that which the United States troops have had to carry on against the Apaches, although numbers were, on the part of the Spaniards, much inferior to those of the American troops employed in the Southwest, and there was much less disparity in armament between the Spaniards and the Tobosos than between the Americans and the Apaches fifteen years ago — that the Tobosos were finally exterminated and the Apaches took their place as the curse of the unfortunate provinces. In 1748 the Tobosos, according to Villa-Señor y Sanchez (*Theatro Americano*, vol. ii. lib. v. cap. xi. p. 297), were reduced to not over one hundred families. Together with another tribe from Coahuila, the Gavilanes, they were still committing depredations. The Gavilanes decorated their faces with a blue line on the forehead.

It is not unreasonable to suppose that the few remaining Tobosos, if any, joined the Apaches, when the latter began to infest Chihuahua. But this would be no proof of the assumption by Orozco y Berra, that the language of the Tobosos belonged to Apache or Tinne stock. See *Geografía de Lenguas*, pp. 309, 325, 327. It is perfectly true, as the author just quoted says, that the Tobosos prepared the road for the Apaches in central and southern Chihuahua, in Coahuila, and in neighboring States; but while it is not at all impossible that they were a kindred tribe, there is as yet, to my knowledge, no evidence to that effect.

<sup>1</sup> Compare Arlegui, *Crónica*, p. 308, on the labors of Fray Alonzo de Oliva among the Conchos.

los Rios," which date back as far as 1683.<sup>1</sup> The Julimes are said to be extinct, and there is no doubt as to their having disappeared as an autonomous tribe. Whether every trace of their idiom is really lost, is yet to be ascertained.

In 1725, a list is given of the tribes of Chihuahua, which counts up as many as twenty-seven.<sup>2</sup> Some of these (as the catalogue includes all the Indians of New Biscay in general), lived outside of the limits of the present Mexican state, and others are evidently but the names of different bands or clans of one and the same tribe.<sup>3</sup> While it is possible, therefore, that I may omit one or more small tribes in my enumeration, it is quite as likely that future researches will connect some of those which, in the present state of knowledge, I am compelled still to treat as independent groups.

Among the tribes of northern and northeastern Chihuahua, most of which have ceased to exist politically, if the term may be employed in designating societies of the Indian kind,

<sup>1</sup> I have already alluded to the contradictory reports about the Indians of the "Junta de los Rios," dating from 1683 to 1686. Thus, Dominguez Mendoza, in his *Diario* (fol. 5), calls them "Jente de la nasion Julimes jente politica en la lengua mexicana y que todos siembran mais y trigo y otras semillas." Also Felipe Romero (*Carta*, p. 1), "á este puesto de Xulimes." But Fray Nicolas Lopez, *Memorial*, calls them Jumanos. So, on the other hand, Fray Silvestre Velez de Escalante, *Carta al Padre Fray Agustin Morfi* (April 2, 1778, paragraph 7), says: "Llegaron á la junta de los dos rios Norte y Conchos, predicaron á los indios que allí estaban, que eran de las tres naciones, Conchos, Julimes y Chicolomes." The documents of 1715 do not mention the Jumanos as living there. It may be that, as Sabeata, the Jumano Indian who guided Dominguez, considered the people at the Junta as his own, and as Espejo had, in 1582, met the Jumanos at that very place, that the Julimes were in fact but a branch of the Jumanos. I give this as a mere suggestion. In a witchcraft trial of 1732, (*Causa Criminal contra unos Yndios del Pueblo de Santa Ana denunciados por Echiseros*, MS. in my possession,) there appears a Jumano Indian from El Paso, but whose relatives lived at Julimes. Orozco y Berra (*Geografía*, p. 326) classifies the Julime with the Tepehuan, without giving any authority for so doing.

<sup>2</sup> Rivera, *Diario y Derrotero*, p. 22.

<sup>3</sup> Surnames given to clans or to bands have often appeared as tribal names, e. g. those of the various fractions of the Apaches.

are the Mansos, the Piros, and the Tiguas. All three reside at or near El Paso del Norte, the Tiguas even on the Texan side of the river, but none of them were original Chihuahueros.<sup>1</sup> The Mansos were transplanted to the south in the middle of the seventeenth century,<sup>2</sup> the others in 1680 and 1681.<sup>3</sup> Therefore they belong to New Mexico, which was their original home. It is different with the lost tribes called Sumas, Janos, and Jocomes.

The Janos became known to the Spaniards as early as the beginning of the seventeenth century, if not earlier, and it is likely that the Jocomes were equally well known about the same time, since they were near neighbors of the Janos, and their allies and confederates in every subsequent enterprise against other Indians, as well as against the Spaniards.<sup>4</sup> Considerable interest attaches itself to these lost tribes, since they were found occupying the vicinity of the large

<sup>1</sup> Not even the Mansos. Juan de Oñate met them, or some of them, in or near the Pass (Paso del Norte), on the 3d of May, 1598. *Discurso de las Jornadas que hizo el Campo de su Magestad desde la Nueva España á la Provincia de la Nueva México* (Doc. de Indias, vol. xvi. p. 243). But these were only men: "Y vinieron al Real quarenta de los dichos indios, arco turquesco, cabelleras cortadas como porrillas de milan, copetes hechos ó con sangre ó con color para atesar el cabello: sus primeras palabras fueron Manxo, Manxo, Micos, Micos, por decir mansos y amigos."

<sup>2</sup> In 1659 the mission of El Paso del Norte was founded. Fray Garcia de San Francisco, *Auto de Fundacion de la Mision de Nuestra Señora de Guadalupe de los Mansos del Paso del Norte*, Dec. 8, 1659 (MS. copy from the *Libro primero de Casamientos* of El Paso del Norte, fol. 74, 75): "Y aver bajado, no con pocos trabajos, al passo del Rio del Norte, de la banda de N<sup>o</sup> España; que es el medio de la cuztta y prouya del N<sup>o</sup> México y en dho citio auer congregado las mas de las Rancherías de los gentiles Mansos."

<sup>3</sup> Upon his retreat from Santa Fé, Ant. de Otermin gathered many Indians of Isleta, Alamillo, and Socorro, Tiguas as well as Piros, and carried them to El Paso, where they were afterwards settled in the pueblos of Senecu and Socorro del Sur (both Piros), and Isleta del Sur (Tiguas). Compare on the subject *Salida de Otermin para el Paso del Norte* (MS. 1680, copy). The facts need no proof, they are too well established.

<sup>4</sup> The earliest mention I can find of the Janos, as a tribe, dates from the first half of the seventeenth century.

ruins called Casas Grandes. The most numerous and most extended of them were the Sumas, of which by the way, the last survivor still dwelt at El Paso del Norte in 1883. With his death, so my informant, a Manso Indian, pertinently remarked, the Sumas would die out completely, since, said he, "There are no women left to perpetuate the tribe." This simple statement conveys the valuable information that among the Sumas also descent was in the female line.

Geographically, the Sumas appear to have been divided into two branches, one part of them hovering about the environs of El Paso, the other in possession of the fertile valley in which the ruins of Casas Grandes are situated. Of the first, we only know that they appear to have lived in very frail abodes, to have been hostile to the whites for a long time at least, that their dress was very scant, and their weapons the customary ones of all southwestern aborigines. Of their creed, their superstitious practices and medicine, and their religious organization, nothing as yet has become known beyond the fact that the peculiar office or dignity termed erroneously "Cacique" to-day existed among them, that they had at least three principal shamans or leading "medicine-men," and that they celebrated dances of a religious nature, which often had a sensual and even obscene character.<sup>1</sup> These northern Sumas appear not to have been

<sup>1</sup> That the Sumas lived about the Pass of the North at a very early date is certain. They are mentioned as forming a part of the first mission there, under the name of Zumanas, by Fray Garcia de San Francisco, *Auto de Fundacion*, 1659: "Por aver ido, á dha custta los Capitanes y ancianos de la gentilidad, de los indios Mansos y Zumanas, á suplicarme; les bajase á predicar el SS evang° de nro Sr. Jesuxpto." At a still earlier date, in 1630, the Sumas are mentioned by Benavides, *Memorial*, p. 7. Vetancurt, *Crónica de la Provincia del Santo Evangelio de México* (edition of 1871, p. 308), speaks of the Zumas and Zumanas as living somewhat below the Paso. Of their original numbers I have no idea. They became very turbulent after the uprising of 1680. As early as 1681 there were signs of trouble. *Autos que se ysieron sobre clamar los Vecinos de este Reino para Salir á Mejorar de Puesto*, 1681 (MS.



numerous, and their style of living, even during the past century, whenever they could return to their pristine condi-

copy, fol. 1): "Y mas abiendo corrido vnas vozes de que á ymitacion de los del Nueuo Mexo, an tratado de perder la obediencia á su Rl mag." This occurred at the instigation of Pueblo Indians from New Mexico, who had accompanied Otermin to El Paso. *Autos Criminales contra Juan Paititi, Indio*, 1682, (MS. copy). *Causa contra Juan Cucala*, same year (MS. copy). *Interrogatorios de Indios hechos en el Pueblo del Paso del Norte*, 1681 (MS. copy). *Confesion y Declaracion de un Yndio de Nacion Pecuri que dijó llamarse Juan*, 1683 (MS. copy). They finally broke out in 1684, (*Causa Criminal por Denunciacion de Andres Jopeta contra Nucbe Yndios*, etc., 1684, MS. copy,) and dragged the Mansos into the fray, (*Causa Criminal que se á seguido contra los Yndios Xptianos Manssos*, etc., 1684, MS. copy,) and compelled the Governor Domingo Jironza Petriz de Cruzate to march against them, and against the Janos, their confederates: *Lista y Muestra dela Gente de Gua que por Orden del Capn Dn Domingo Xironza Petriz de Cruzate va á aser Castigo y Justa Güa alos Yndios Xptianos Apóstatas Janos Sumas y demas Nasionen*, Sept. 6, 1684 (MS. copy). They were definitively reduced in 1686: Escalante, *Carta*, 1778, par. 7. Several settlements of Sumas were formed by the Spaniards around El Paso at various times, but only one remained, San Lorenzo del Real. In 1744 it had fifty Indian families, in 1765 only twenty-one. Fray Agustin Morfi, *Descripcion Geográfica del Nuevo México*, 1782 (MS. copy, fol. 114). From a document of the latter part of the past century, the exact date of which I am unable to ascertain, although a copy of its text is in my hands, I gather that the population had at an early date decreased to one hundred and eighty-nine. *Estado de la Mision de San Lorenzo el Real Pueblo de Zumas* (MS.). Current tradition among the Mansos of El Paso attributes their decline to the small-pox. It is certain that between 1693 and 1709 severe epidemics prevailed among the Indians at the Paso. *Libro Tersero de Difuntos. El Paso del Norte* (MS.).

In regard to the customs of the Sumas of the Rio Grande, little is positively known. That they originally lived almost like nomads is certain. The document above cited, *Estado de la Mision de San Lorenzo*, contains some information on their condition at that place. Among the one hundred and eighty-nine individuals of all ages and sexes, there were still twelve who never had embraced Christianity. Even among those who had been baptized, there were three acknowledged sorcerers: "Obseruan su especie de religion, vsan de infinitas supersticiones y abusos como pudieran en la gentilidad. Los principales agoreros de los christianos son tres, llamados Santiago Chicama, Antonio Colina y Felipillo. Á estos juntamente con todos los gentiles seria conuenientísimo separarlos del pueblo," etc. The Caçique had recently died. Among the many bad habits charged to the Sumas, in general terms, the use of the Peyote is specially mentioned. This herb has a very bad reputation in the southwest among Indians and Spaniards. Says the document before quoted: "Es gente mui viciosa dada á la embriaguez, y no es la peor la del vino y aguardiente si la de

tion, was little, if any, better than that of the Apaches.<sup>1</sup> Of their language it may yet be possible to save some fragments, by searching at El Paso del Norte, where, as I have stated, the "last of the Sumas" may still be alive.

As early as 1645, an author of high importance for the history and ethnology of Sonora speaks of the "Sunas" as living in the northwestern part of the present territory of Chihuahua.<sup>2</sup> Fifteen or twenty years later began the conversion of the "Yumas," who occupied the valley of Casas Grandes.<sup>3</sup> There is no doubt that these Yumas were but

la yerua que llaman Peiote esta los trasporta de modo que los vuelve furiosos. Es entre ellos yerva misteriosa y la vsan en sus juntas de religion, que por lo comun acaban en las mayores impurezas y obcenidades. Á estas juntas se congregan de noche y con escasa luz. Se inciensan por todos los de los demas, y aquellos explican los principales dogmas de su religion y acaban como dexo dicho." Touching the office of the Cacique the document says: "Pues este tiene entre ellos una especie da soberanía que todo quanto manda se ejecuta sin repugnancia; á este solo obedecen, prefiriendo su dictámen en qualquier asunto al de qualquier Justicia, y Ministros, y aun el Gobernadorcillo que de ellos se les nombra por el Juez Real, está subordinado en vn todo al Cazique." It is easy to recognize, for any one who knows the religious organization of the New Mexican Pueblos, the same office of chief oracle combined with the duty of chief penitent, which the so-called Cacique of the Pueblos fills to this day.

In the documents forming the acts of the prosecution against the Mansos Indians when the latter, induced by the Sumas, rose against the Spaniards in 1684, there is a mention of a ceremony performed by the Sumas, *Declaracion de Juan del Espiritu Santo* (fol. 21): "Y llebándole de buelta á la Rancheria, les hallo á todos Juntos en Rueda, y con un cuchillo clauado en medio de ella en el suelo." This ceremony appears to have been connected with their customs of war. Among the Pueblos I never heard of a similar practice, but it is said that the Apaches have some performance of that kind.

<sup>1</sup> *Estado de la Mision de San Lorenzo el Real*: "Aspiran siempre á la independencia, lo que comprueba el modo de vida que observan, semejante al de los Apaches."

<sup>2</sup> Ribas, *Historia de los Triumphos* (lib. vi. cap. i. p. 359): "La Nacion de los Batucos, caminando al Norte, tiene tambien por confinantes muchas Naciones de Gentiles amigos Cumupas, Buasdabas, Bapispes; y declinando al Oriente, á los Sunas." The location could not be more definite.

<sup>3</sup> Arlegui, *Crónica de Zacatcas*, (p. 105.) says that the mission of San Antonio de Casas Grandes was founded in 1640. This appears to be erroneous. In the

the Sumas, and that the word is a misprint. Different from their brethren who roamed near the Rio Grande, the Sumas of Casas Grandes are described as a docile, even as a sedate stock, whom it became easy to accustom to culture of the soil after the methods in vogue among the Spaniards of the seventeenth century.<sup>1</sup> How far they had been agricultural already, it is impossible to determine. Still, it seems as if there had been more stable settlements of theirs around the important ruins appropriately called "the Great Houses."

third volume of the fourth series of *Documentos para la Historia de Mijico*, there are a number of documents concerning the establishment of the missions of Casas Grandes, Torreon, and Carretas. In the *Patente*, dated October 11, 1666, (p. 238,) it is stated: "Certifico y doy fé como el señor maese de campo D. Francisco de Gorraez Beaumont, caballero de la Orden de Calatrava, gobernador y capitan general de este reino de la Nueva Vizcaya que fue habiendo certidumbre y clara noticia de que los indios barbaros que asisten en el Distrito de Casas Grandes distancia de este real del Parral mas de cien leguas, pedian el santo Evangelio y ser instruidos y catequizados en los misterios de nuestra santa fé católica, condescendiendo á sus piadosos ruegos y llevado del celo cristiano que le acompaña, envio al dicho puesto con licencia de sus prelados al padre Fray Andres Perez, religioso de esta provincia, aviándolo de todo lo necesario para el efecto mencionado, el cual se ha ejercitado mas de dos años en catequizar, bautizar y casar mucha cantidad de indios, formar poblacion." This places the beginning of the missions at about 1664. The principal missionary of Casas Grandes was however Fray Pedro de Aparicio: *Patente*, *Ibid.*; Andres Lopez de Gracia, *Carta al Gobernador Antonio Oca Sarmiento* (*Ibid.*, p. 242). He died soon. Andres Lopez, *Carta al Padre Provincial Valdes* (*Ibid.*, p. 245); *Informe al Virrey Marques de Mancera*, October 23, 1667, (p. 232). Francisco de Gorraez Beaumont, *Informe al Virrey* (p. 233): "Al segundo año de mi gobierno en aquellas provincias, haciéndome capaz de ellas, tuve noticia como en esta paraje citado de las Casas Grandes y otro llamado el Torreon y las Carretas y su circunferencia habia muchos indios llamados Yumas y otras naciones." That the Yumas and the Sumas were one and the same tribe can hardly be doubted. Aside from the fact that it was generally admitted in the latter half of the seventeenth century that the Sumas were the inhabitants of the Casas Grandes valley, there is the testimony of various documents to the effect. The Yumas are nowhere spoken of, and the word appears to be simply a misprint.

<sup>1</sup> This is shown by the kind reception given by them to Fray Andres Perez, to Fray Pedro de Aparicio, and to Fray Nicolas de Hidalgo. See the documents above quoted.

But I have not been fortunate enough to find any vestige of authentic Suma tradition concerning those ruins themselves. It is likely, from reasons that will be stated further on, that Casas Grandes were built by another stock; it is certain that, when first heard of by the Spaniards and missionaries, Casas Grandes was already a cluster of stately ruins.<sup>1</sup>

The fate of the Sumas of northwestern Chihuahua is so intimately connected with the history of the Apaches and of their devastations, that I prefer to turn to it again when I shall treat of that much dreaded tribe. But I cannot overlook here the very positive statements of the Opatas of eastern Sonora, that the people living at Casas Grandes were always their bitter enemies, and that the villages in the Sierra Madre like Batesopa, Baquigopa, Quitamac, and others, owe their destruction to incursions of these foes, — raids made long ere the white man entered the valleys of the Upper Yaqui.

Concerning two tribes who were immediate neighbors of the Sumas, and often their allies, not much more than the name and their manner of disappearance is as yet known. These were the Janos and the Jocomes, both ranging to the north of Casas Grandes and as far west as the present village of Fronteras in Sonora,<sup>2</sup> who vanished within the grasp of

<sup>1</sup> Franc. de Gorraez Beaumont, *Informe*, p. 234: "Por haber tenido noticia que en este puesto de Casas Grandes era panino de minería y segun tradicion antigua, y ruinas que se veian que decian ser del tiempo de Moctezuma." The Casas Grandes are spoken of as ruins in all the documents relating to the place.

<sup>2</sup> The headquarters, so to say, of the Janos were Janos and Carretas. There two missions were established. Both, however, were soon abandoned, owing to the incursions of the Apaches, and their forming a league or alliance with the Janos, Jocomes, and some Sumas. This league was, according to Alegre, *Historia de la Compañia de Jesus*, (vol. iii. p. 53,) at Casas Grandes, in October or November, 1684. The originator of the conspiracy is said to have been an Opatá Indian of Sonora, and it included, in addition to the Conchos, Tobosos, and Opatas, "los sumas ó yumas, á los janos, á los chinanas," etc. The

the Apaches, and were absorbed by the latter. The names of these tribes are frequently mentioned in the early reports and registers of the Jesuit missionaries of Sonora; they are always characterized as so many fiends who harassed and hampered the docile village Indians of Opata stock.<sup>1</sup> And yet, at the same time, while they were the greatest impediments to progress of the Jesuit missions, the Janos and Jocomes had submitted willingly to the control of the Franciscans. Such a strange condition could not last; the Spaniards, especially the clergy, could not allow the converts of one order to remain persecutors of the other and of their neophytes. When the great insurrection initiated in New Mexico began to spread southwards through the Apaches, it found the Janos and their allies willing to join in it. Their incursions soon extended as far as southern Arizona, but this course of action was the doom of the tribe, which before long disappeared among those who had led them into the new career of rapine. A few remnants of it were still left around Janos in the first half of the past century; but now the name of the tribe is extinct.

I have designated these Indians by such names as the Spanish authors have applied to them, but it is by no means certain that such designations are genuine. It is not improbable that the words Janos, Jocomes, etc., were derived from some other Indian idiom, and were given to them by

Jocomes were of course included. These lived west of the Janos, partly in Sonora, near Corodéhuachi or Fronteras, partly in Chihuahua. Of the language, manners, and customs of either tribe nothing is known. The assertion of Orozco y Berra (*Geografía*, pp. 325, 386), that their idioms were "de filiacion apache," may ultimately prove true, but he fails to give any evidence of it.

<sup>1</sup> These depredations are so well known, that it is useless to adduce proof. As early as 1655, the church books of Bacadéhuachi in Sonora report the O-pa-ua (enemies) as killing the inhabitants of caves in the Sierra Madre. In the past century, the Janos and Jocomes are yet mentioned frequently. *Difuntos de este Real de Opoto*, 1677 to 1743 (MS.).

foreign tribes, or that the names are the product of misunderstandings or misapplications. Whether traces may yet be found of the language spoken by the lost clusters of north-western Chihuahua, that of the Sumas excepted, is in my estimation doubtful. It may be, that among the Apaches traces of the Janos idiom still linger, and the statement of Orozco y Berra — which makes of that language, as well as of the Toboso, a branch of the Apache — may yet prove correct. No vocabulary of it has been discovered, but this is no proof that none ever existed.

The main aboriginal groups of Chihuahua, and those who are best known to-day, are thus the village Indians of the mountain regions, the Tepehuanes, and especially the Tarahumares. The Conchos are extinct as a tribe, the Tobosos were destroyed. The Jumanos were not of such importance in Chihuahua as they were in New Mexico, and they also lost, so to say, their individuality in the whirlpool constituted by the Apache tribe. It is to the Tepehuanes and Tarahumares that I must devote more attention now.

The former are properly Indians of Durango,<sup>1</sup> and only their most northern spurs extended into Chihuahua. They inhabited that celebrated mining region of the Southwest where San Jose del Parral now stands.<sup>2</sup> They were village Indians, they cultivated all the nutritive plants common to the American native before the coming of wheat, barley, the potato, fruit-trees, etc., and other vegetables imported from the eastern continent or from the southern half of America. Cotton appears also to have been raised by them ; they wore cotton mantles and used the fibre of the yucca for making garments also. Their abodes were of wood, of

<sup>1</sup> Orozco y Berra, *Carta Etnográfica*.

<sup>2</sup> The ethnographic map just cited includes Parral within the range of the Tarahumares, but I still suspect that the Tepehuanes formerly reached into that neighborhood.

branches, and sometimes of stones and of mud. The villages or rather hamlets (*rancherías*) commonly occupied the banks of streams.<sup>1</sup> Their country being mountainous, they clustered together in valleys and sheltered nooks, where it was easy to raise some limited crops, and where at the same time protection from enemies was relatively easy to secure. For the Tepehuanes bordered upon tribes whom, through their own ferocity, they had turned into hereditary enemies.

All authorities agree in describing the Tepehuanes as a group not only warlike, but decidedly ferocious, — as a scourge to all who lived within reach of their grasp. The Acaxees of Durango, and the Tarahumares of Chihuahua were in mortal dread of them.<sup>2</sup> The object of the Tepehuanes in

<sup>1</sup> The oldest description of the Tepehuanes at my command dates back to the year 1596. It is contained in the Documents for the History of Mexico, and bears the title, *Del Anua del Año de 1596*. It says of them: "Los tepehuanes hacen grande ventaja á los de la Laguna para recibir la fé, así por ser de naturaleza mas blandos y llegados á razon como por tener algun rastro de politica humana de que carecen todos los de la Laguna. Andan vestidos de lana y algodón; tienen cosechas de maiz; habitan de asiento en sus casillas o chozas, crian con amor y cuidado á sus hijos." But the most complete description has been left by Ribas (*Hist. de los Triunfos*, lib. x. cap. i. p. 574): "El sustento era el general de los Indios, maiz con otras semillas propias suyas que sembrauan, por ser casi todos labradores, aunque no de grandes sementeras; y á falta dellas se valian de los otros frutos siluestres de que vsan otras Naciones. De la caça, y otros animales, y aues tambien se valian, de que ay abundancia en sus tierras. El vestido es el que se ha dicho de otras Naciones serranas, vsando muchos dellos de mantas de algodón, que sembrauan, y pita que se da en sus montes; y de las mismas hazian á su modo faldellines las mugeres. De la planta de Mescal, y otros frutos siluestres, hazian vino y celebrauã sus embriaguezes frequentemente, que estas en todas estas gentes las tenia introducidas el demonio. . . . Las casas eran ó de madera y palos de monte, ó de piedra y barro: y sus poblaciones vnas rancherías, á modo de cafilas, cerca de aguajes arroyos, y rios, que no les faltauan, y el principal era el de Santiago Papazquiuro, su principal pueblo." Arlegui (*Crónica*, p. 187) says: "La qual se estiende desde la Sierra del Mezquital hasta el Parral, en que habitaba toda la Sierra multitud de Indios en Pueblos muy bien formados hasta adelante de Topia, y muy cerca de caponeta."

<sup>2</sup> The relations between the Tepehuanes and their neighbors are thus described by Ribas, *Historia*, p. 574: "El natural de los Tepeguanes, de suyo fue

these constant hostilities was the killing of the men in order to secure their heads, and the carrying of women and female children into slavery. The Tarahumares were specially afraid of them, for their settlements were more particularly menaced by the Tepehuanes. It took the Jesuits a long time, and it cost them many martyrs, ere they succeeded finally in restoring peace between the tribes, and accustoming the ferocious Tepehuanes to cease preying upon their neighbors.

The Tepehuanes more properly belong to the State of Durango, and should be referred to the Indians of that section. I may be permitted to screen myself behind this geographical accident in order to escape the duty of entering at any length upon the question of their creed and beliefs. The information which we as yet possess on this topic is not as detailed and positive as might be desirable. Still, it is not devoid of importance.

It appears from the reports of early Jesuit missionaries, that they succeeded in obtaining, and destroying, according to custom, a great number of large and small idols which were held in veneration by the Tepehuanes. The majority of these were of stone, and had at least human faces, if not the entire human form. They were real fetiches, to

siempre mal sujeto, brioso, y guerrero, y que se preciaua de leuantar cabeça, y sujetar, y hazerse temer de Naciones vezinas, en particular de la Acaxee de la Taraumara, y de otras; á las quales tenian tan acobardadas, y ellos á ellas tan superiores, que sucedia entrar en vna poblacion de las dichas poco número de Tepeguanes, y sin atreuerse á hazerles resistencia, sacar della las mugeres, y donzellas que les parecia, y lleuarselas á sus tierras, y apreuechase tiranicamente dellas." Still they sometimes confederated with fractions of a neighboring tribe against the other branches of that tribe. So it happened with the Tarahumares, and this was the origin of the establishment of missions among the latter. *Ibid.*, p. 592: "Porque leuantándose vn alboroto de guerra entre estas dos Naciones, los Tepeguanes vezinos a los Taraumares, y que poblauan en el valle del Aguila, embiaron á pedir socorro de gente á los demas pueblos Tepeguanes," etc. But Alegre (*Historia de la Compañía*, vol. ii. p. 6) represents the case differently. He says that the Tepehuanes of the Valle del Aguila had confederated with some Tarahumares.



which the Indian applied for the most varied purposes, as in case of disease, failure of rain and of crops, in war, etc.<sup>1</sup> While, of course the medicine-men had the most important idols in charge, every Indian family harbored and revered its

<sup>1</sup> I proceed chronologically as far as possible. The oldest mention of the idols of the Tepehuanes that I can find is that of the Jesuit P. Juan Fonte, given by Alegre, *Historia*, vol. i. p. 452: "Semejante fue el número de bautismos en la mision de Tepehuanes. . . . Estos gentiles (dice el padre Juan Fonte en la relacion que hace al padre provincial), guardan la ley natural con grande exactitud. El hurto, la mentira, la deshonestidad está muy lejos de ellos. La mas ligera falta de recato ó muestra de liviandad en las mugeres, sera bastante para que abandone su marido á las casadas y para jamas casarse las doncellas. La embriaguez no es tan comun en estas gentes como en otros mas ladinos, no se ha encontrado entre ellos culto de algun dios; y aunque conservan de sus antepasados algunos idolos, mas es por curiosidad ó por capricho que por motivo de religion. El mas famoso de estos idolos era uno á quien llamaban Uamari, y habia dado el nombre á la principal de sus poblaciones. Era una piedra de cinco palmos de alto, la cabeza humana, el resto como una columna, situada en lo mas alto de su montesillo sobre que estaba fundado el pueblo. Ofrecianle los antiguos flechas, ollas de barro, huesos de animales, flores y frutas." The instances of idols among the Tepehuanes being described by early witnesses are not unfrequent. Thus Ribas (*Hist. de los Triunfos*, p. 582) speaks of an idol that was, after many fruitless endeavors, at last delivered up: "Sacó de su casa y choza al ídolo y á escusas de los demas, embuelto y cubierto, lo truxó, y se lo entregó al Padre; ausiando á los circumstantes, q saliesen fuera, sino querian caer allí muertos." When the idol was at last uncovered, "y hallaron que tenia por encima tres, ó quatro telas muy sutiles, que jugaron ser membranos de sesos de cabeças humanas. Estas cubrian vna piedra rolliza, como de jaspe, y poco mayor que vna mançana." Such fetiches of rolled pebbles are common among the New Mexican Pueblos to-day. *Ibid.*, p. 598. An Indian who had been Christianized turned to idolatry again: "Este apóstata de la Fé, y trayendo consigo vn Ídolo, por medio del qual se entendia con el demonio, y era como su oráculo." For further details, I refer to *Anua del Año de 1596*, p. 24. In the same volume and under the heading of *Del Anua del Año de 1598*, p. 47, is the following paragraph: "En viendo algun remolino causado de viento solian todos los que lo veian tirarse á tierra de espanto, diciéndose unos á otros Cachiripa! Cachiripa! que así llaman al demonio; y preguntando que? por que hacen esto? Decian que porque no se muriesen, que iba allí el demonio." The whirlwind is one of the most common symbolical figures on ancient pottery in the Southwest. For the rest of the superstitions and idolatries of the Tepehuanes, I again refer to Arlegui, *Crónica*, Tercera Parte, cap. iii., to the end of the third part. It would be superfluous to quote in detail.

own, and the general features of their worship are in strict accordance with the celestial or supernatural democracy peculiar to all Indian mythologies. There existed no belief in one really supreme god. Locally or occasionally, one or the other of the idols appeared endowed with certain advantages over all others. As the necessity of the case dictated, such or such a fetich was applied to in preference to all others. As was the case with the Navajos, the Olympus of the Tepehuanes reflected their own social and governmental organization. Split into a number of autonomous villages, each at liberty to fight for or against its neighbors, the tribe formed no political unit. So the mythology did not give rise to any hierarchy; the multiplicity of fetiches was evidently systematized, but after the basis of their efficiency and not from the standpoint of tradition or chronological creation.<sup>1</sup>

Sorcery and witchcraft of course played an important part in the life, public as well as private, of the Tepehuanes.<sup>2</sup> The prevalence of rites of this description is a sure sign of the existence among the Tepehuanes of esoteric societies. That clans existed among them, there can be no doubt either. These features describe sufficiently the standard of culture reached by the tribe; they place it on a level with the Yaquis,

<sup>1</sup> The reference to the Navajos is based upon the excellent pamphlet of my friend Dr. Mathews on the Navajo Mythology.

<sup>2</sup> Ribas, *Hist. de los Triunfos*, p. 574: "En todo lo demas de costumbres gentlicas, principalmente de hechizeros, introduxó el enemigo infernal en esta Nacion, lo que en las otras; y aun desta se auia en señoreado tãto mas, quãto la hallo mas conforme en su natural, á la fiereza y crueldad de que se vistió esse enemigo, luego que cayó del cielo, para perseguir a los hombres." This accusation of witchcraft, fulminated against the Indians, is often taken with a smile of disdain by such as do not know the real nature of the aborigines. But it is certain that, for the Indian, there is nothing more dreadful than sorcery. He believes in it, he lives partly through it, and he punishes it in secret as severely as possible. The mention of sorcerers among Indians, on the part of early missionaries, should therefore never be taken lightly. On the contrary, it reveals a condition which is characteristic of Indian society.

Mayos, and others of Sonora, with whom they were, besides, linguistically connected.

The same may be said of the Tarahumares. They stood on the same level as their neighbors and enemies, had analogous habits and customs, their language was fundamentally related to the others, and they bowed to the same species of worship.<sup>1</sup> But the Tarahumares, owing to the nature of the country which they inhabited and to the constant danger to which they were exposed, were in many places cave-dwellers. They lived in natural cavities, as well as in open-air dwellings of mud, stone, or wood. These caves they partitioned to suit their convenience; whole families, even small villages, occupying such troglodytan recesses.<sup>2</sup> If the verbal information imparted to me lately is correct, the Tarahumares are, at

<sup>1</sup> Wherever there appears a religious organization indicated by systematized sorcery, gentilism always prevails. Another sign of gentilism is the absence of family names. Both are clearly defined among the Tepehuanes.

<sup>2</sup> Ribas, *Historia*, p. 594: "La morada de mucha gente es de cuevas (q̄ ay muchas en su tierra) y algunas tan capaces, que en vna viue vna parêtela, haziendo sus diuisiones de casillas dentro. Vsan el vestido de sus mantas de pita, q̄ sabē bien labrar las mugeres: son muy recatadas, y no vsan sentarse ni entremeterse con los hombres. En enterrar sus difuntos se diferencia de otras Naciones, en tener lugar señalado y apartado á modo de cementerios donde los entierran, poniendo con el difunto todo el ajuar de que vsaua, y comida para el viaje; y la casa donde auia muerto se quemaua, ó totalmente se desamparaua; y el luto de los parientes era cortarse el cabello. El natural de la gente es mas blando y docil que el de los Tepeguanes. El modo de recibirme era, que ántes de llegar á su pueblo, como dos leguas, tenian puestas atalayas, para que en descubriendome fuessen de carrera á auisar al pueblo donde toda la gente, hombres, y mugeres, con sus niños, se juntauan en hileras para el recibimiento, precediendo el Cacique con su lancilla, o chuzo, plumería, y otros adornos q̄ ellos vsan." Ribas quotes this from a letter written by Father Juan Fonte, who visited the Tarahumares in 1608. Alegre, *Historia*, vol. ii. p. 6. The fact that the Tarahumares dwelt at least partly in caves cannot be doubted. Cave-dwelling, on the whole, seems to have been quite common in the mountains of Chihuahua, in those of Sonora bordering upon Chihuahua, and in Sinaloa. In the *Libro de Entierros de la Mision de Bacadehuachi*, 1655, (MS.,) it is mentioned that the Janos and Jocomes used to surprise and kill the people of the Sierra Madre in their cave dwellings. In many places of the Sierra, the

the present time, and in a few secluded localities, still the cave-dwellers of the American continent.

About the numbers of these different tribes at the time of their first contact with Europeans of Spanish blood, nothing absolutely trustworthy is known to me. There are very detailed counts by Jesuit missionaries, but these refer only to such as had embraced Christianity.<sup>1</sup> The manner in which

formation of rocks favors the existence of natural cavities, therefore ancient cave houses and whole cave pueblos are of common occurrence.

In regard to the creed and beliefs of the Tarahumares, little is reliably ascertained. We might judge from what is known of the Tepehuanes, who, in addition to being their near neighbors, spoke a kindred language. It is certain that witchcraft played an important part with them. Drunkenness was among them too. Compare, for instance, *Testimonio de Carta Escrita por los Padres Tomas de Guadalajara y José Farda*, February 2, 1676 (*Doc. para la Historia de Méjico*, 4th series, vol. iii. p. 283). In a general way, I also refer to Arlegui, *Chronica*, *ut supra*.

On the whole, the Tarahumares were a numerous, scattered, and quite docile tribe. At the instigations of the Tepehuanes, Tobosos, and of some of their own sorcerers or medicine-men, they rose upon the missionaries several times during the seventeenth century, and behaved with as much cruelty as any other Indians. Otherwise they were quiet, and tilled their plots of land, raising the usual kinds of crops.

<sup>1</sup> The oldest census of the Tarahumares, for instance, which is at my command, dates back to 1678. There are certainly older ones, and even this one embraces only such Indians as had become Christian. It is found in the *Relacion de las Misiones*, by P. Juan Ortiz Zapata, S. J. According to it, the number of persons administered by the Jesuits in the districts of western Chihuahua, almost exclusively Tarahumares, with but a few Tepehuanes and Conchos, was about 8,300. In addition to these, there are mentioned a number of heathens in the mountains, but their numbers were of course unascertainable. In 1570, the Cabildo Eclesiástico of Guadalajara reported to the king, *Informe al Rey por el Cabildo Eclesiástico de Guadalajara, acerca de las Cosas de aquel Reino*, January 20, 1570 (Ycazbalceta, *Coleccion de Documentos*, vol. ii. p. 503): "Item: enviamos la copia autorizada de los indios, y por ella parece haber en este reino hasta veinte y cuatro mill y treientos indios tributarios, que en uno de los medianos pueblos de Tlaxcala ó México hay mas indios que en todo este Reino." New Galicia, to which this statement applies, extended then over southern Chihuahua also, but only Santa Barbara and San Bartholomé, or the regions of Parral and Allende, were included in the report. The bulk of the numbers applies therefore to the southern Tepehuanes (those of Durango), and to other more meridional tribes. In speaking of the Jumanos in 1582, Espejo (*Rela-*

the Indians of Chihuahua have disappeared is varied, and the term "extermination" can hardly be applied to any. In regard to the sedentary stocks proper, civilization or assimilation to Spanish American habits has more than anything else contributed to destroy the *Indian*, without however obliterating the *man*. Through bringing the natives into Missions, and often congregating there representatives of different, even hostile stocks, a new population has been formed of land-tillers and herders that is still largely Indian without the organization of society that more than anything else distinguishes the Indian in his natural condition. To search among these for remains of their ancient culture and traditions will be the task of the practical ethnologist; it is hardly doubtful that such researches will be richly rewarded.

The Apaches are also considered as belonging to the aboriginal inhabitants of Chihuahua. In point of fact, they did not penetrate so far south before the latter half of the seventeenth century. The career of this adventurous and dangerous tribe deserves separate treatment, and I shall devote to it a special section after I have spoken of the Indians of Arizona and New Mexico.

*cion del Viage*, p. 168) estimates their numbers at 10,000, but all through his report, those estimates, for reasons which I shall give further on, are greatly exaggerated, — sometimes even tenfold and more. In 1684, Juan Dominguez Mendoza (*Diario*, fol. 49) gathered at the Junta de los Rios "todos los gobernadores y Capitanes con mas de quinientos Yndios que unos y otros son de las Siete naciones que tienen dada la obediencia a su mag<sup>d</sup>." Of the Mansos, Vetancurt says (*Chronica*, p. 308): "Tiene [the mission of El Paso] mas de mil feligreses." In 1744, the various villages composing the jurisdiction of El Paso del Norte contained, in all, 360 families of Indians, and their number was on the decrease. Morfi, *Descripcion Geográfica*, fol. 114. The census of 1749 (*Relacion de las Misiones del Nuevo México*, MS. copy) gives for the same district 1,328 Indians of various tribes. In 1725, Rivera (*Diario y Derrotero*, p. 22) says of the Indians of New Biscay in general: "Y hauiéndose computado su número, se halla hauer de todas edades y sexos cinquenta y vn mil novecientos y diez; y todos estan administrados por Religiosos de Nro P. S. Fráncisco, y de la Sagrada Compañia de Jevs." This included Durango also.

Although the Arizonian natives became known fully to the Spaniards later than the Pueblos, I hold it to be in order to speak of them first. It is true that from the reports of Fray Marcos of Nizza and of Coronado's chroniclers, both treating of events which occurred between the years 1539 and 1542, some data may be gathered about the Arizonians; still, it is not until 1604 that an insight is obtained into the ethnography of the whole territory as constituted to-day.<sup>1</sup> Detailed statements concerning the tribes of central Arizona appear only after 1680, when the Jesuits extended their travels to the Gila and beyond, and for northern Arizona, where the Moquis had been well known for some time, we must look to the letters of Fray Francisco Garcés and Fray Silvestre Velez de Escalante for satisfactory information. Fray Marcos, Castañeda, and Jaramillo describe, without naming them, the Sobaypuris or Pimas of the valley of the Rio San Pedro, and they hint at the Apaches also. The former are represented as agricultural Indians living in villages scattered along the banks of the little stream. Among them Cibola-Zuñi was well known, and a certain commerce existed with the most westerly pueblos of New Mexico.<sup>2</sup>

<sup>1</sup> Through the expedition of Juan de Oñate to the mouth of the Colorado. Unfortunately, I have not the report of Fray Roque Figueredo on that important journey, but its lack is partly supplied by the manuscripts of Fray Gerónimo de Zárate-Salmeron and of Mateo Mange, to both of which I shall refer further on.

<sup>2</sup> Fray Marcos de Nizza, *Descubrimiento de las Siete Ciudades* (*Doc. de Indias*, vol. iii. p. 338): "Otro día entre en el despoblado. . . Al cabo dellos, entre en un valle muy bien poblado de gente, donde en el primer pueblo salieron á mi muchos hombres y mugeres con comida; y todos traian muchas turquesas que les colgaban de las narices y de las orejas, y algunos traian colares turquesas." *Ibid.*, p. 339: "Aquí habia tanta noticia de Cibola, como en la Nueva España, de México y en el Perú, del Cuzco." That Fray Marcos was a truthful and reliable reporter I have established beyond a doubt, I believe, in *The Magazine of Western History* (*The Discovery of New Mexico by Fray Marcos of Nizza*); and in the *Revue d'Ethnographie* (*La Decouverte du Nouveau Mexique par le Frère Marcos de Nice*).

To condense the material in a general sketch, we find that the ethnography of Arizona has not much changed since about the year 1600. The main changes which have taken place are due to the Apaches in the last half of the seventeenth century, and to the settling of the country since its annexation by the United States. The Apaches caused the Sobaypuris to give up their homes on the San Pedro and to merge into the Pápagos.<sup>1</sup> During the wars with the Apaches, the Tontos were either destroyed or absorbed by the former. Therefore the appellation of Tonto-Apaches. The last mentioned wars were waged only about thirty years ago, and their real cause is still wrapt in doubt.

In the beginning of the seventeenth century, we find that Arizona was inhabited in the south by tribes speaking the Pima language. The extreme southeast of the territory seems to have been desert, only a band of Apaches traversing it occasionally. Along the San Pedro valley, the Sobaypuris had their settlements, which extended as far north as within a short distance of the Rio Gila. West of them commenced the range of the Papap-Otam, or Pápagos, whom we have already met in northwestern Sonora, and who roamed over rather than resided in the southwestern corner of Arizona

<sup>1</sup> The Sobaypuris being in no way different from the Pimas, to whose linguistic stock they belonged, I do not refer here specially to their customs, etc. In regard to their fate, it is known that the Apaches compelled the abandonment of their settlements on the Rio San Pedro. Arricivita, *Crónica Seráfica y Apostólica del Colegio de Santa Cruz de Querétaro* (part ii. p. 410): "Vió las que habian sido habitadas por los Indios Sobaipures, que son parcialidad de los Pimas lastimosamente desiertas por la barbara persecuciõ de los Apaches." The *Descripcion Geográfica de Sonora* (cap. vi. part ii.) fixes the date of the abandonment of the San Pedro valley in 1762: "Ya cansados de vivir en guerra continua, han abandonado el año de 1762 su ameno y fertil valle, retirandose unos á Santa Maria Soamca, otros á San Javier del Bac y Tucson, y otros al pueblo de visita de Guevavi llamado Sonoitac." The date seems correct. P. Manuel de Aguirre, *Carta al Teniente Coronel D. Juan de Pineda, Doc. para la Historia de México*, 4th series, vol. i. p. 125.

to within a short distance of the Gulf coast.<sup>1</sup> The country is so bleak, so destitute of attractions for village Indians, that no large population of any numbers could remain there for any length of time so long as general safety was not firmly established. An agricultural stock could prosper in those regions only with a great deal of patient toil. Therefore the scattered remains of more permanent villages, with artificial tanks, mounds of houses constructed of clayey marl and sometimes more than one story high, which are met with here and there throughout the Papageria, are evidences of a period of relative quiet that has long since disappeared.

North of the Pápago, and along the Gila River, between the Cañon of San Carlos and Yuma, the Pimas proper, or Aquira-Otam, dwelt in scattered hamlets, the houses of which combine to-day the mud roof of a typical New Mexican Pueblo with the temporary frame-work of frail branches characteristic of the roaming savage.<sup>2</sup> The frailty of these abodes seemed so apparent to the first missionaries who visited them, and at the same time so adapted to the intensely hot and arid climate, that their intricate construction, the sig-

<sup>1</sup> Caborca, for instance, was a Pápago mission.

<sup>2</sup> It would seem that the Sobaypuris dwelt in more substantial houses. See Christobal Martin Bernal, Eusebio Francisco Kino (Kuehne), and others (*Relacion del Estado de la Pimeria*, 1697, MS. copy): "Tienen muy buenas y fertiles tierras con sus acequias, son indios laboriosos en algunas partes, tienen principio de ganado mayor y menor, de sementeras y cosechas de trigo y maiz, y casas de adobe y terrado para los reverendos padres que piden y esperan recibir." This would indicate that the Sobaypuris, even if they did not dwell in such houses, at least knew how to construct them. Among the Gila Pimas the buildings erected for the missionary were, however, invariably "de Petates." *Relacion del Viaje al Rio Gila* (MS. copy). P. Jacob Sedelmair (*Relacion*, 1746, MS.). The term *Rancheria*, which is always applied to the settlement of the Gila Pimas, implies a group of frail constructions or huts. The roof of the Pima hut, although dome-shaped, is in material exactly similar to the ordinary mud roof of the New Mexican pueblos; in fact, it is only a convex one of the same kind, and also similar to the roof of the Casa Grande ruin near by.



nificant touches of a more permanent style of architecture, escaped their notice, as well as that of observers of a later period who were better equipped than the devoted missionaries of two centuries ago, and who enjoyed the benefit of all the intervening growth in methods of research.

The Pimas lived then very much where they live now, and as they live to-day. They cultivated their little patches of indigenous plants, they irrigated to a moderate extent, using mountain torrents rather than the river. For this there was a good reason. The Gila, while at times a large stream, does not afford a regular supply. During some of the months when water is most needed, its level is often lowest. During the same period, showers descend upon the environing mountains daily, and their waters escape through gulches into the plain below. It was more advantageous for the Pimas to collect the torrents and guide them to their fields, than to dig long canals along the river bottoms, as their ancestors are said to have done at a time when they were yet undisturbed by prowling intruders.<sup>1</sup>

Of the social condition of the Gila Pimas, of their organization, and of their beliefs and religious rites, nothing of importance can be gathered from older sources beyond the conviction that they were very much the same at that time as they are to-day. A close study of these people, after the manner in which Mr. Cushing has studied the Zuñis, appears

<sup>1</sup> The information on the condition of the Arizonian Pimas is meagre, and not sufficiently specialized. Nearly all the sources already quoted refer also to their agriculture and accompanying arts. That they irrigated is beyond a doubt. They raised cotton and dressed in cotton. As to the localities occupied by their rancherías, they extended from the western end of the San Carlos Cañon to beyond Gila Beno. In 1697 the number of rancherías was about six. *Relacion del Estado de la Pimeria*. In 1746 Father Sedelmair, *Relacion*, speaks of three rancherías about Casa Grande on the Gila. When the Franciscans took charge of the former Jesuit missions, the number of Pimas and Pápagos settled there at the missions was 3,011. Arricivita, *Crónica Seráfica*, p. 402.

therefore of much importance. There is more originality, in the sense of absence of contamination through European influence, among the Pimas of Arizona than among most other Indian stocks. This is easily accounted for. They became quickly reduced, that is, gathered to larger communities receiving a light coat of Christianity ; but the abolition of the Jesuit missions followed so closely upon their reduction that the effects of these first missions were but transient. The Franciscans, the successors of the Jesuits, had to begin anew, and they had in addition to contend with an almost insurmountable obstacle, — one which in the exhausted condition of Spain was beyond hope, — the sudden expansion of the Apaches. The influence which it exercised was not detrimental through its devastations alone. It was the moral infection which did the greatest harm. Whenever an Indian tribe is persistently harassed by another, it tends to incline towards its tormentors, or at least to turn away from those who pretend to protect it. The Spanish administration in Mexico was unable to protect the missions, and the Pimas, who had been unsuccessfully rebellious once before, gradually became indifferent. At last, the missions were abandoned as useless, and the Pimas relapsed almost into their pristine state, with the exception of a few dim and mythologized recollections of the earliest teachings of the Christian faith among them.

I have been thus explicit in regard to the Gila Pimas only in order to show that what may yet be secured from their traditions and beliefs possesses intrinsic interest, and should be gathered as soon as possible. I have already alluded to some of these traditions in my Report of 1883.<sup>1</sup> What I have since heard through Mr. Cushing, gained from his long resi-

<sup>1</sup> *Fifth Annual Report of the Executive Committee of the Archaeological Institute of America*, Appendix, p. 80.

dence in the vicinity of the Pimas near Tempe, corroborates my former statements. The Pimas are still divided into clans; they have no central government, but among them the esoteric societies constitute a mutual tie that supplies the want of a central political nucleus. They form, so to say, an unconscious unity, through the bonds of language, of creed, and of ceremonial congruence.

While the Pimas occupied the specially arid portions of Arizona, another linguistic stock, the Yumas, extended along the great Colorado River of the west, and had penetrated inland as far as the Tonto Basin. From its issue from the terrible Cañons in northwestern Arizona to its mouth, the Colorado River was controlled by tribes speaking the language to which modern philology has applied the name of Yuma. The Spaniards knew all these tribes, they met them in the localities where they became known to subsequent explorers, and they describe them accurately in their original state. The Amacavas are the Mojaves of to-day. We find a plain mention of the Yavipais, and of the Huallapais. As we approach the mouth of the Gila, the Yumas are mentioned, originally under a different name, but the identity of the tribe is unmistakable. The Cocapas are even named as such by Juan de Oñate, in 1604.<sup>1</sup> All these tribes held commercial relations with Zuñi; they were village Indians within the limits prescribed by the nature of the region; they lived

<sup>1</sup> Fray Gerónimo de Zárate-Salmeron, *Relaciones de todas las cosas que en el Nuevo México se han visto y sabido así por Mar como por Tierra, desde el Año de 1538, hasta el de 1626* (MS. in the National Archives of Mexico): "Luego los Cocapas, son 9 pueblos, esta es la ultima que se vió, y llegó hasta lo ultimo donde se puede beber el agua dulce que es cinco leugas de la Mar." Mateo Mange, *Luz de Tierra Incógnita, en la América Septentrional ó Indias Orientales de la Nueva España*, 1720, (MS., cap. xix. p. 237.) merely transcribes Fray Zárate's relation, who in turn evidently gathered his information from the report of Fray Francisco de Escobar, who accompanied Oñate, and who was then commissary of his order.

partly in large communal houses accommodating a number of families, and the autonomy of the various hamlets was carried to the extent of absolute independence. Of their rites, creeds, and beliefs we know very little, but what is told of them fosters the idea that the principles pervading all Indian creeds were also paramount among theirs.

For the ethnography of northwestern and western Arizona, the report on Juan de Oñate's journey from San Gabriel del Yunque on the Rio Grande opposite the pueblo of San Juan de los Caballeros to the mouth of the Colorado, in the years 1604 and 1605, is an excellent guide; but for the ethnology of the Lower Colorado, to about as far north as Long Bend, there are earlier sources of considerable value. I refer to the report of Hernando de Alarcon on his boat voyage up the great stream in 1540, and to the statements concerning the expeditions of Melchior Diaz and Garcia Lopez de Cardenas to the same river in the same year, the former crossing it above Fort Yuma, the latter visiting the plateau above the Grand Cañon, whence he looked down into the frightful chasms without being able to descend into them.<sup>1</sup>

Alarcon certainly held intercourse with the Cocapas, the Yumas, and the Mojaves. Melchior Diaz met the two last mentioned tribes, and possibly some of the first. He calls attention to the large communal sheds, accommodating a number of families, which constituted the homes of the Lower Colorado Indians.<sup>2</sup> Alarcon obtained some dim no-

<sup>1</sup> There does not seem to exist an original report on the trip made by Melchior Diaz. The information I have on it is, however, from a member of Coronado's expedition, Pedro de Castañeda, *Relation du Voyage de Cibola* (French translation of the Spanish original, in Ternaux-Compans's collection (vol. i. chap. x. and xvii.)). There is also a short, but quite valuable, notice of it in Mota-Padilla, *Historia de la Nueva Galicia* (cap. xxxii. p. 158).

<sup>2</sup> The fact that Alarcon came up as high as Long Bend, that is, higher than the mouth of the Rio Gila, is doubted. But there is no reason to doubt the accuracy of his statement that he proceeded eighty-five leagues up the Colorado

tions of the faith and creed; and he ascertained that, far as was the distance to Zuñi-Cibola, that cluster of villages

of the West, counting from its mouth. *Relation de la Navigation et de la Découverte faite par le Capitaine Fernando Alarcon* (in *Relation du Voyage de Cibola*, Appendix, p. 347): "J'ai fait quatre-vingts cinq lieues en montant le fleuve." Herrera, *Historia General*, Dec. vi. lib. ix. It is alleged that Alarcon failed to notice the mouth of the Rio Gila, and that he must have seen and mentioned it in case he had gone higher up the Rio Colorado. But at the time of the year when Alarcon made his exploring expedition, (August, September, and the beginning of October,) the Gila is so low that it scarcely would attract attention from any one who, like Alarcon, was ascending the main stream in boats. As to the journey of Melchior Diaz, it is much more difficult to trace his course. There is no doubt however, that he crossed the Colorado River into southern California. His description of the large communal dwellings of the Colorado River Indians is in Castañeda, *Voyage de Cibola* (p. 49): "Après avoir fait environ cent cinquante lieues, il arriva dans une province dont les habitants, d'une taille prodigieuse, sont nus, et habitent de grandes cabanes de paille construites sous terre. On ne voyait que le toit de paille qui s'élevait au dessus du sol: l'entrée était d'un côté et la sortie de l'autre. Plus de cent personnes, jeunes et vieilles, couchaient dans chaque cabane." More than two hundred years later this statement about the dwellings was confirmed by Father Sedelmair, S. J., *Relacion*, 1746 (MS.): "Sus rancherías, por grandes de gentío que sean, se reducen á una ó dos casas, con techo de terrado y zacate, armadas sobre muchos horcones por pilares con viguelos de unos á otros, y bajas, tan capaces que caben en cada una mas de cien personas, con tres divisiones, la primera una enramada del tamaño de la casa y baja para dormir en el verano, luego la segunda division como sala, y la tercera como alcoba, donde por el abrigo meten los viejos y viejas, muchachitos y muchachitas, excepto los pimas que viven entre ellos, que cada familia tiene su choza aparte." It seems, then, that this style of communal living was peculiar to Indians of the Yuma group. This division of the house into three compartments is still found among the Nahuatl Indians of Central Mexico. See *Archæological Tour into Mexico*, pp. 124, 129, 132.

In connection with the above confirmation, by authority of a later date, of the statements of Melchior Diaz, I may advert here to another point, also related by Diaz, or rather by Castañeda (*Cibola*, p. 49), which has given rise to the name "Rio del Tizon" (river of the firebrand), applied in older sources to the Colorado of the West. It relates to the custom of the Indians there of carrying a firebrand in order to keep themselves warm, whenever they undertook journeys during the cold season. "Quand ils voyagent pendant les grands froids, d'une main ils portent un tison qui leur sert pour réchauffer l'autre et tout le corps; de temps en temps ils le changent de main. Cet usage a fait donner le nom de Rio del Tizon à une grande riviere qui arrose le pays." This custom is also reported as extant, in 1746, among the Cocomicopas, by Sedelmair, *Relacion*: "Su frazada en tiempo de frio es un tizon encendido que aplicándole á la boca

was known to the Yumas and the Mojaves, and occasionally visited by them.<sup>1</sup> In 1583, Antonio de Espejo penetrated into northwestern Arizona from the Moqui pueblos, a distance of one hundred miles at least, and he is the first to mention the "Cruzados,"<sup>2</sup> a tribe which it is not very easy to identify, although, from the direction in which they were met, we might suppose them to have belonged to the Yavipais. In the report of Oñate's journey there is a list of the tribes which he encountered between the Moquis and the Colorado, as well as along that river to its mouth. From the Moquis to the Little Colorado, and even beyond the latter as far west as the vicinity of Prescott, the country appeared to be a desert. In the region where the present capital of Arizona has been located, probably a little to the west, the Cruzados were found; and the inference that these Indians were the Yavipais is thus confirmed.<sup>3</sup> Here Oñate

del estómago caminan por las mañanas, y calentando ya el sol como á las ocho tiran los tizonos, que por muchos que hayan tirado por los caminos, pueden ser guías de los caminantes; de suerte que todos estos rios pueden llamarse rios del Tizon, nombre que algunas mapas ponen á uno solo."

<sup>1</sup> Alarcon, *Relation de la Navigation et de la Découverte*, p. 309: "Je parvins, par signe, à apprendre que le soleil était ce qu'ils révèrent davantage." He speaks of this alleged sun-worship several times. In regard to intercourse with Zufi, it is alluded to very distinctly and positively on pages 321, 325, 331, etc. Even the name or word Cevola seems to have been familiar to the natives on the upper course of the river.

<sup>2</sup> *Relacion del Viage*, p. 183. He marched to the west of Ahuatuyba (a now deserted Moqui village) forty-five leagues. "Hay algunos pueblos de indios serranos, los cuales nos salieron á recibir en algunas partes, con cruces pequeñas en las cabezas" The Indians told Espejo that "detras de aquellas serranías, que no podemos entender bien que tanto estaba de allí, corria un rio muy grande." This river must have been the Colorado.

<sup>3</sup> Zárate-Salmeron (*Relaciones*, par. 46) indicates that the Cruzados lived in the vicinity of the Sierra de San Francisco, in northern Arizona. After crossing the Little Colorado River, Oñate struck "por las faldas de unas mui altas sierras donde los españoles sacaron mui buenas metales. . . . En esta sierra tienen sus moradas los Yndios Cruzados, son rancheados, las casas de paja, no siembran bastimento: sustentanse con la caza que matan, venados, y carneros

heard of the Amacavas, or Mojaves, and he shortly afterwards found them on the Great Colorado.<sup>1</sup> Lower down were the Bahacecha, who spoke the same language, or very nearly the same, and who therefore were either a branch of the Mojaves, or else of the Huallapais, since the latter belong linguistically to the same family. The Bahacecha extended to near the mouth of the Gila, to which river Oñate gave the name of Rio del Nombre de Jesus, and there he met a tribe which he calls Ozarrar. As he says that the Ozarrar occupied the banks of the Gila for some distance to the east, it may be supposed that they were the Maricopas. Below the mouth of the Gila dwelt successively the Halchedoma, the Haclli, the Cohuana, the Halliquamayas, and finally the Cucapas, who ranged as far as the Gulf of California.<sup>2</sup>

It is to be observed, that Oñate found the villages of these tribes sometimes on one, and sometimes on the other bank of the stream.<sup>3</sup> Some of the names can easily be recognized. The Cohuana, for instance, are the Yumas, or Cuchan, which is the same word as Gohun or Ko-un, applied in the latter case to the Tontos. In the Halliquamayas we find the Comoyei; in the Cucapas, the Cocopas.<sup>4</sup> The others appear to be names of single groups of one tribe, local appellatives.

monteses (que hay muchos). . . . Con los pieles se cubren las carnes ellos, y ellas, andan calzados chicos y grandes: Tambien tienen para su sustento Mescalí que es conserva de raíz de Maguey." Ibid., par. 47: "Llaman á estos Yndios los Cruzados, por unas cruces que todos, chicos y grandes, se atan del copete que les viene á caer en la frente; y esto hacen quando ven á los Españoles."

<sup>1</sup> Ibid., par. 47. The identification with the Mojaves is fully made out by Mr. A. S. Gatschet, *Classification into seven Linguistic Stocks of Western Indian Dialects contained in forty Vocabularies. U. S. Geological Surveys, vol. vii., Archaeology* p. 415.

<sup>2</sup> Zárate-Salmeron, *Relaciones*, par. 47, 53. It may be also that the Gila Pimas are meant, at least in part. For the other tribes, see the same paragraph.

<sup>3</sup> Ibid. Already Alarcon had made a similar remark.

<sup>4</sup> This identification is after Gatschet, *Classification*, p. 415.

The dwellings of the Mojaves and their neighbors, the Bahacechas, are described as low, constructed of branches and covered with mud.<sup>1</sup> Of the Ozarrar it is stated that they wove mantles of cotton, and wore the hair long, plaited, and covered it with a piece of cloth or buckskin.<sup>2</sup> The tribes of the Lower Colorado as far as the Gulf are represented as being similar to the Bahacecha and the Mojaves, their language but little differentiated, their mode of living identical. All cultivated Indian corn, and gathered shells, and even coral and pearls. Their numbers are mere guesswork, and show the exaggerations that such estimates usually reveal.<sup>3</sup> It is only in the seventeenth century that we obtain anything like reliable estimates of the numbers of most of the Yuma tribes.

The celebrated Jesuit missionary, Father Eusebius Francis Kuehne, or Kino, visited the Lower Gila.<sup>4</sup> In 1744, Father Jacob Sedelmair followed the Gila as far down as its mouth, and he gives a catalogue of the numerous hamlets inhabited by the Coco-maricopas along the stream. He noticed the admixture gradually taking place between the Maricopas and Pimas, several of the rancherías speaking both languages.<sup>5</sup> The Maricopas extended also along the Rio Colorado, and were neighbors of the Yumas.<sup>6</sup> North of them lived the "Nijores," in whom we easily recognize the Yavipai.<sup>7</sup> Father

<sup>1</sup> Zárate-Salmeron, *Relaciones*, par. 50.

<sup>2</sup> *Ibid.*, par. 53.

<sup>3</sup> *Ibid.*, par. 53, 54.

<sup>4</sup> Father Kuehne made the journey to the Colorado and Gila first in 1698. See his *Diario de la Entrada al Norueste*, MS. It was not his only trip in that direction.

<sup>5</sup> Sedelmair, *Relacion*: "Desde la junta [of the Gila and the Salado] hasta la primera ranchería hay como doce leguas; es ranchería de mucha gente llamada stue, cabitio, tripulados, pimas y cocomaricopas, que los mas saben las dos lenguas."

<sup>6</sup> *Ibid.*

<sup>7</sup> *Ibid.* Also *Noticias de la Pimería*, 1740 (anonymous MS.).



Sedelmair describes all these river tribes as kindly disposed, eager to treat with the new-comers, agricultural, and the men as going almost naked, while the women dressed in cotton mantles and in skirts made of buckskins or of willow bark. Sorcerers, that is Indian Shamans, were numerous, and the missionary found traces of fetiches.<sup>1</sup>

It is to the Franciscan Fray Francisco Garcés — the heroic priest who travelled without escort through central Arizona as far as the Moqui villages, in order to make a fruitless attempt for the reduction of the latter — that we owe a reasonable estimate of the numbers of all these tribes, as well as a correct picture of their geographical distribution. He but confirms, in the latter case, the statements of his predecessors in the main, but he corrects them in details, and adds further information. According to him, the Pimas and Pápagos numbered together 6,500 souls; the Maricopas, 2,500; the Yuma tribes on the Colorado, 5,500; the Mojaves (whom he calls "Jamajabs"), 3,000; the Cocopas and other Indians settled on the lowest course of the Colorado, like the Comoyéi, etc., 8,000.<sup>2</sup> He also names the Huallapai and Yavipai for the first time as such, without attempting an estimate of their numbers.<sup>3</sup> Through him, also, we obtain a glimpse at the most northern Indians of Arizona, who in

<sup>1</sup> Sedelmair, *Relacion*: "Su religion es ninguna; no tienen ídolos, ni adoratorios, ni culto público, aunque desde nuestras entradas por nuestras predicaciones, tienen conocimiento del verdadero Dios. . . hechiceros no faltaran entre ellos como lo hay entre todas estas naciones y son los que estorban mas la conversion, y uno de ellos me lo afirmó, y yo viendo en la pared de casa grande una cueva, meti mano y saqué un bulto en forma de hombre, que lo quemé delante de un monton de indios de Sudacson."

<sup>2</sup> *Diario y Derrotero que siguió el M. R. P. Fr. Francisco Garcés en su Viaje hecho desde Octubre de 1775 hasta 17 de Setiembre de 1776, al Rio Colorado, etc.* (*Doc. Hist. Mejico*, 2d series, vol. i. p. 350).

<sup>3</sup> *Ibid.*, p. 351. He calls the Huallapai "Jagullapai," and the Yavipai are subdivided by him into Yavipaicajuala, Yavipai Cuercomache, Yavipai Jabesua, and Yavipai Muca Oraive.

point of fact but sporadically visited the territory, the Yutas.<sup>1</sup> In addition to these, the Navajos roamed over the northeast, and claimed it as their soil. But since the Navajos belong with the Apaches, mention only can be made of them here, a fuller sketch being reserved for the proper place later on.

Of the Tontos, or Gohunes, little, if any, notice is found in the documents of Spanish times. The tribe held the valley of the Upper Rio Salado and the so called Tonto basin. Into these regions, which are difficult of access from the south, the Spaniards hardly penetrated, and the missionaries were busy with the Gila Pimas and with the tribes of the Colorado River. Still, Fathers Sedelmair and Keller both visited the banks of the Salado, which they baptized Rio de la Asuncion, and they also examined part of the Lower Rio Verde.<sup>2</sup> On his trip to the Moquis, Father Garcés did not go through the wild and dangerous country between the Gila on the south and the Moqui plateaus. But he mentions the inhabitants of the valleys in that direction, around the Sierra Ancha, the Sierra Pinal, etc., as "Yavipais-Tejua."<sup>3</sup> They were enemies to the other Indians, who inclined in favor of Christianity. The Tontos already, then, seem to have

<sup>1</sup> *Ibid.*, p. 351. As Payuchas and Yutas.

<sup>2</sup> Sedelmair, *Relacion*: "Está uno en su junta con el rio de la Asuncion, compuesto del Salado y Verde." The name "Rio de la Asuncion" applies therefore only to that part of the Salado below the mouth of the Rio Verde. In the year 1743, Father Ignatius Keller travelled through that region when he attempted to reach the Moquis: "De estas rancherías [on the Gila] sale camino derecho para la provincia de Moqui hácia el Norte, pero tiene muy cerca al Oriente una sierra poblada de los enemigos apaches, que el año 1743, salieron al padre Ignacio Keler de la Compañía de Jesus cuando iba al Moqui, y le llebaron la caballada y volvió su reverencia con trabajo."

<sup>3</sup> Garcés, *Diario y Derrotero*, etc., p. 352: "El intermedio del Colorado y Gila, ocupan los yavipaistejua, y otros yavipais: al sur del Moqui son todos yavipais, que es lo mismo que apaches, donde se conoce el gran terreno que ocupa esta nacion." *Ibid.*, p. 351: "En el dia de hoy, todas las del rio Gila y Colorado estan en paz, y todas sus colaterales, menas los yavipaistejua enemigos de los pimas y cocomarcopas."

been classed with the Apaches,<sup>1</sup> as they were afterwards in the popular mind. Their idiom, however, is declared to be of Yuma stock by high recent authority.

The extermination of the Tontos as a tribe is represented as having been an absolute necessity. Such may have been the case, but it is not to be forgotten that very little is known as to the manner in which it was accomplished. One thing however is certain, namely, that if the Spaniards had done it in the manner in which it is said to have been performed, there would be a hue and outcry about "cruelty" and "treachery" over the whole civilized world. I have heard too many conflicting tales about the so called "Pinole treaties," and other incidents of the Tonto war, to venture any opinion of my own on the subject. But at any rate it is a dark and certainly interesting matter in the study of Anglo-American Indian policy.

Longest, and above all best, known among the Indians of Arizona, are the Pueblo Indians of the north, the Moquis, or Shinumo. They were mentioned to Fray Marcos of Nizza in 1539, under the name of "Totontec," — a corruption of a Zuñi term which applied to a cluster of twelve pueblos lying in the direction of Moqui, and already abandoned in the sixteenth century, but the reminiscence of which still remained in the name.<sup>2</sup> In 1540, one of Coronado's lieu-

<sup>1</sup> It is worth noticing that Father Garces clearly intimates that the Yavipai were the Apaches also. So, on page 355, he speaks of the Yavipai-Lipanes, Yavipais-Natajé, Yavipais-Navajai, and Yavipais-Gileños. All these names are those of Apache tribes.

<sup>2</sup> The ruins of the villages whose name, as given by the Indians of Zuñi in their idiom, has been corrupted into Totontec, lie between Zuñi and Moqui. It is interesting to note how the reports which Fray Marcos gathered in Sonora concerning the northern Pueblos frequently relate to events which had occurred some time previous to his coming. Tribes were mentioned to him, like "Marata" and "Totontec," who had ceased to exist, though the distant southern Indians had no knowledge of their disappearance. This is very instructive in regard to the value of historical tradition in point of chronology.

tenants, Don Pedro de Tobar, visited the seven villages of Tusayan, a few days' journey northwest or west of Zufii. There is not the slightest doubt that the Tusayan of Castañeda is the Moqui of to-day.<sup>1</sup> The group consisted of seven pueblos, and that same number subsisted until the beginning of the past century, when one of the seven disappeared, Ahuatu,<sup>2</sup> although it was promptly replaced by a village founded mostly by Tanos fugitives from New Mexico, and to which, in deference to the language there spoken, the name of Tehua has been given.<sup>3</sup>

Not much importance can always be attached to the numbers and names of Indian villages, according to Spanish sources of an older date. Thus, at the time of Coronado, the seven pueblos of Tusayan Moqui admit of no doubt. Forty years afterwards, the Asay or Osay of Chamuscado had,

<sup>1</sup> In addition to the abundant documentary evidence, Mr. Cushing has lately obtained from the Zufii Indians another and quite satisfactory proof of the identity of Tusayan with Moqui. Two of the largest Moqui villages were formerly called by the Zufiis Usaya-kue, or people of Usaya. Hence T-usayan, the Asay and Osay of Chamuscado.

<sup>2</sup> Ahuatu, Aguitobi, Aguatuvi, or Ahuatuyba, was destroyed by the Moquis of Oraybe, in the year 1700. It existed in June of that year: Fray Juan Garaycochea, *Carta al Gobernador Pedro Rodriguez Cubero*, June 9, 1700. In 1701, Cubero made an unsuccessful expedition against the Moquis. *Relacion Anónima de la Reconquista del Nuevo México* (MS. Sesto Cuaderno). The cause for this military movement is stated in the declaration of the New Mexican clergy, November 20, 1722, as follows (*Autos y Pareceres dados por Orden de Don Antonio Cobian Busto Visitador de los Presidios en la Tierra adentro*, MS.): "Se mobió [Cubero] con las armas de este Rl Presidio á la venganza del estrago qe dhos apostatas executaron contra los Yndios del Pño de Aguatubi de su misma Nazon, qe pacíficos y combertidos á fira Sta Fee passaron á sangre y fuego las vidas bienes y alajas, del culto diuino de los miserables qe solo con la firmeza con qe se hallauan de fira Sta Fee sin otro motibo hizieron en ellos tan pernissiosos estragos." It appears, therefore, that Ahuatu was destroyed either towards the end of the year 1700, or in the beginning of 1701.

<sup>3</sup> The Tehua pueblo in the Moqui region was erected in the first years of the eighteenth century; at any rate, between 1696 and 1706. It certainly existed at the latter date. Juan Roque Gutierrez, *Junta de Guerra en el Paraje de los Chupaderos; Camino para Moqui*, October 4, 1706 (MS.).

according to the statements made to that explorer by Zuñi Indians, — he himself never visited the locality, — only five.<sup>1</sup> Two years later, Antonio de Espejo went among the Mohoche, who are the Moqui again, and he finds the same number of villages.<sup>2</sup> In 1599, when Juan de Oñate received the formal allegiance of the Moquis, he mentions only four.<sup>3</sup> Six years later, Oñate passed through the country on his way to the Colorado River, and his chroniclers record seven Moqui villages.<sup>4</sup> In 1680 only five are counted; <sup>5</sup> but ever since seven has been admitted as the real number, and there are indeed seven of them at this day.

The Moquis are Pueblo Indians to all intents and purposes, their language excepted, which has been classed with the Shoshoni or Numa group of American idioms.<sup>6</sup> Nothing can be said about them, as they appeared in the past centuries to the first European visitors, that does not apply to the New Mexican Pueblos also. The differences are purely local, and can at once be explained by physical causes. Thus, the Moquis raised cotton, whereas the Zuñis did not; and the reason for it is found in the southerly exposure of the lands which the Moquis cultivate.<sup>7</sup> The blankets of rabbit

<sup>1</sup> *Testimonio dado en México sobre el Descubrimiento de Doscientos Leguas adelante de las Minas de Santa Bárbara*, etc., 1582 (*Doc. de Indias*, vol. xv. pp. 86, 93).

<sup>2</sup> *Relacion del Viage*, p. 182.

<sup>3</sup> *Discurso de las Jornadas*, p. 274. *Obediencia y Vasallaje á su Magestad por los Indios de la Provincia de Mohoqui* (*Doc. de Indias*, vol. xvi. p. 137).

<sup>4</sup> Zárate, *Relaciones*, par. 44.

<sup>5</sup> Vetancurt, *Crónica*, p. 321. In 1692, Diego de Vargas found only five. *Relacion de la Reconquista*, Primer Cuaderno, MS.

<sup>6</sup> As early as 1876, Mr. Gatschet, *Zwölf Sprachen aus dem Südwesten Nord Amerikas*, p. 56, asserted: "Dass die Moquis Shoshonen sind, wird man mit ziemlicher Gewissheit den untenstehenden Zusammenstellungen entnehmen können." In his *Classification*, p. 412, he is more positive yet: "The Moqui language is certainly Numa."

<sup>7</sup> That they cultivated cotton is amply proved. Castañeda, *Cibola*, p. 61, says that there was no cotton raised in Tusayan. But the *Relacion del Suceso de la*

hair, which Fray Marcos was informed were made and worn at Totontec,<sup>1</sup> were not exclusively Moqui; the Zuñis made them also. There is one point, however, that attracts our attention in regard to the Moquis, and that is the feeling of coldness, not to say hostility, which prevailed between them and their nearest neighbors, the Zuñi Indians. As early as the time of Coronado, the two clusters were not on good terms.<sup>2</sup> There was comparatively more intercourse between the Moqui and some of the Rio Grande Pueblos than between the Moquis and Zuñi. Up to the present day this feeling, strengthened by events subsequent to the reconquest of 1694,<sup>3</sup> is very marked. Another curious fact, which may be deduced from the report of Fray Marcos, and which is corroborated by Moqui and Zuñi tradition, is the existence of a cluster of twelve pueblos inhabited by people of Moqui stock, the ruins of which villages exist to-day, and which have given rise to the name of Totontec. We are led to infer in this case, as well as in that of the ancient villages at the salt marshes near Zuñi, that the said cluster of twelve was abandoned but shortly before the sixteenth century. One of their number, Ahuatu, even remained occupied until the first half of the past century. These are among the few historical data

*Jornada que Francisco Vazquez hizo en el Descubrimiento de Cibola (Doc. de Indias, vol. xiv. p. 321)* says: "Los pueblos son algun tanto mayores que los de Cibola, y en los demas, en comida y en todo son de una manera, salvo que estos coxen algodón." Zarate, *Relaciones*, par. 44.

<sup>1</sup> Fray Marcos de Nizza, *Descubrimiento de las Siete Ciudades*, p. 338.

<sup>2</sup> Castañeda, *Cibola*, p. 58: "Car ils n'avaient pas de rapports avec cette province."

<sup>3</sup> Not only were the relations between the Zuñis and the Moquis very much strained by the attitude taken by the Moquis during the reconquest, but this tension brought about open hostilities. Francisco Cuerdo y Valdés, *Orden al Capn Dn Francisco Valdes Soribas sobre la Guerra contra los Moquis* (MS., 1706), says: "Entendiendo en la guerra defensiva que se ase a los reueldes y contumases apóstatas de la dha Provinzia de Moqui quienes continuamente ynbadiendo ostillizando y ynfestando la dha Provinzia de Zuñi."

that may be gathered from early Spanish records now at my disposal, and which relate to a period anterior to the coming of the white man.

In the beginning of the seventeenth century, we find mention made of a tribe, now reduced to a few families that have sought shelter at the bottom of the abyss of Cataract Creek, one of the tributaries of the great Colorado, where they live in small permanent dwellings made of mud, stone, and wood. These village Indians of to-day are mentioned in former times as the merest savages. If the Cosninos, Cosninas, or Hava-Supay, as they are variously called, have progressed in culture while diminishing in numbers, it can only have been through force of circumstances. It would be an interesting illustration of how dire necessity may work upon the culture of a people. On a very small scale, it would recall the progress achieved at one time by the ancient Mexicans, when driven into the marsh or swamp called the "Lake of Mexico." The Cosninos appear to be kindred to the Moquis, although their language is classified with the Yuma group; and the present condition of the Hava-Supay may therefore be but a "return to first principles," compelled by accident. At all events, it is very desirable to continue among them the researches begun by Mr. Cushing.<sup>1</sup>

I now pass to the Indians of New Mexico. The sedentary groups, the Pueblos *par excellence*, will first be considered. As already stated, whatever is said in regard to

<sup>1</sup> The Cosninos are frequently mentioned by older authors. As to the origin of the name, Fray Francisco Garces, *Diario*, p. 352, says: "En los nombres de las naciones puede y suele haber muchas variacion, v. g. los cocomarcopas y jalchedunes, llaman á los jamajabs Cuesninas o Cuismers, y los demas Jamajabs." This would imply that the Cosninas were Mojaves. But it is also supposed that the language is Moqui, or at least of the same stock. Mr. Gatschet, however, than whom there is certainly no higher authority, classifies the Cosninos among the Yuma tribes. *Classification*, p. 415.

customs and habits of the New Mexican Pueblos, applies to the Moquis too, at least in a general way. Discrepancies of an important or interesting nature I shall call attention to if necessary. Furthermore, under the head of New Mexican Pueblos, I include the remnants of New Mexican tribes now settled in Chihuahua and Texas, the Piro and the Tiguas. The Mansos will be treated of among the roaming Indians of New Mexico.

In the first half of the sixteenth century, and until the great uprising of 1680, the villages or "pueblos" extended, or were scattered rather, on a line from Taos, in the extreme north, as far south as where San Marcial now stands, or a length of nearly two hundred and thirty miles. From east to west they spread from about longitude  $105^{\circ} 30'$  (Taos, Pecos, and the pueblos south of the Salines or Manzano) to nearly  $110^{\circ} 30'$  (the Moqui villages). Within the area thus defined the villages were scattered very irregularly, and in fact their inhabitants occupied and used but a small quantity of the ground. Extensive desert tracts often separated the groups, and these spaces were open to the roving Indians who prowled about in and between the permanent settlements, much to the detriment of their inhabitants. Thus, Acoma is separated from the Zuñi group by at least seventy miles of waste, and the Navajos raided over this space at will, endangering communications. From Acoma to the Rio Grande Tiguas, another forty miles of desert intervened. Between the latter and the Tiguas of Cuaray, Chilili, and the Manzano, both groups of one and the same linguistical stock, the uninhabited region is from thirty-five to forty miles wide, and here the Apaches could lurk and assault at any time. The Pueblos, far from being masters of New Mexico previous to the coming of the Spaniards, were, on the contrary, hemmed in and hampered on all sides by tribes who, while not mere sav-



ages, were of wild habits, and, having no permanent abode, were swift in their movements, and, as we shall see further on, had a great advantage in number over the Pueblos.

The Pueblos, besides, were not harmonious among themselves. Divided into seven distinct linguistic groups, the difference of languages created a barrier that often led to intertribal hostility. Moreover, there was not even unbroken peace between the villages of the same stock.<sup>1</sup> The villages of that time were on an average much smaller than those of to-day inhabited by Pueblo Indians, but there was a greater number of them.<sup>2</sup> The aggregate population of the pueblos

<sup>1</sup> I have already alluded to the unfriendly relations between Zuñi and Moqui. The reports of Fray Marcos about "Marata" afford another instance. *Descubrimiento de las Siete Ciudades*, p. 340: "Dice qué á la parte del Sueste, hay un reino que se llama Marata, en que solia haber muchas y muy grandes poblaciones, y que todas tienen estas casas de piedra y sobrados, y questos han tenido y tienen guerra con el Señor destas siete cibdades, por la cual guerra se ha disminuido en gran cantidad este reino de Marata, aunque todavia está sobre sí y tiene guerra con estos." The current Zuñi tradition confirms this report. The ruins of the villages of "Ma-tya-ta," or "Ma-ky-a-ta," lie along the old trail leading from Ha-ui-cu to Acoma, and there are to-day — according to Mr. Cushing, to whom I owe the knowledge of these facts — descendants of their former inhabitants among the Zuñis. Fray Marcos therefore reported on events which, at his time, had but lately occurred. Hernando de Alvarado saw these ruins in 1540 on his way to Pecos, and speaks of them in his *Relacion de lo que Hernando de Alvarado y Fray Joan de Padilla descubrieron en Demanda de la Mar del Sur* (*Doc. de Indias*, vol. iii. p. 511). Evidence of actual hostilities, probably between Pueblos, is given by Gaspar Castaño de Sosa, *Memoria del Descubrimiento que Gaspar Castaño de Sosa hizo en el Nuevo México* (*Doc. de Indias*, vol. xv. p. 256): "Y andando tomando la posesion de los dichos pueblos, fue por entre unas sierras donde halló dos pueblos despoblados, respeto de que por guerra de otros habian dejado sus pueblos, como en efeto hera, porque otros indios que con nos iban nos lo dieron á entender, é lo vimos claro ser así, por las muestras de muchas muertes que habia señales."

<sup>2</sup> Castañeda, *Cibola*, p. 172, enumerates 71 pueblos. Oñate, *Obediencia y Vasallaje á Su Magestad por los Indios del Pueblo de San Juan Baptista*, (*Doc. de Indias*, vol. xvi. pp. 108-117,) more than one hundred, although several pueblos appear two or three times under different names. Benavides, *Memorial*, over eighty. This includes the period from 1540 to 1630. That the villages were small is stated by Castañeda, *Cibola*, p. 146: "Des villages de deux cents âmes

in the sixteenth and seventeenth centuries did not exceed twenty-five thousand souls.<sup>1</sup>

au lieu de grandes villes, et tout au plus huit-cents ou mille habitants dans les plus grands villages."

<sup>1</sup> Castañeda, *Cibola*, p. 182: "Ils peuvent renfermer environ vingt mille hommes à en juger par l'apparence." The original has indeed "veinte mil hombres," but this evidently means, not men, but inhabitants, as the term "hombre" is also used in Spanish. This is clearly denoted by the passage above quoted from page 146. If only the largest towns had from 800 to 1,000 souls, there is no possibility of a population of 70,000, which 20,000 male Indians would imply. The contemporaneous reports on Coronado's expedition, also, when speaking of Cibola, for instance, assign to its villages but a moderate population. *Relacion Postrera de Sibola* (from the *Libro de Oro* of Fray Toribio de Paredes, alias Motolinia, MS.): "Son siete pueblos en esta provincia de Sibola en espacio de cinco leguas: el mayor sera de ducientas casas y otros dos de á ducientas, y los otros á sesenta y á cincuenta y á treinta casas." The term "casa" is to be taken in the sense of household, and not as an independent building. This results from *Relacion del Suceso*, p. 319: "Los pueblos son de á trescientas é ducientas, é de á cien cincuenta casas; algunos estan las casas de los pueblos todos juntos, aunque en algunos pueblos estan partidos en dos ó tres barrios; pero la mayor parte son juntos y dentro sus patios."

Antonio de Espejo has given a quite different idea of the former population of the New Mexican pueblos. If we sum up the number of souls attributed to them by him, we arrive at about a quarter of a million. Wherever we go into details, however, and compare his estimates for certain well known villages with the possibilities and the true conditions, or with other statements of older sources about them, it becomes clear how this otherwise acute observer was misled in his estimate of the numbers of the people. Thus, for instance, Acoma (*Relacion del Viage*, p. 179) is reckoned at "mas de seis mil ánimas,"—whereas Castañeda (*Cibola*, p. 69) says that it can place on foot about 200 warriors, and on the rock of Acoma there is, furthermore, not room for much over 1,000 people. The Pecos, or the Tamos, as he calls them, are credited with 40,000 (p. 185), but the pueblo of Tshi-quit-e, or the old Pecos village, shows that over 2,000 souls could never have lived in it. Indeed, Castañeda (p. 176) asserts that the people of Cicuye might place on foot 500 warriors all told. Such evidences of very gross exaggeration could be multiplied. Espejo has consistently exaggerated, but not intentionally. He was led astray by the appearance of the pueblos, most of which he saw at a distance, in the first place, and then still more by the custom of the Indians flocking to the place where strangers arrive, in great numbers, and remaining about these strangers so long as they are new and interesting visitors. Also out of suspicion. Wherever Espejo stopped, he found, not merely the inhabitants of that particular pueblo, but nearly the whole tribe, congregated, and, having once begun to form his estimates, he applied the same criterions to every place. His figures are therefore to be absolutely rejected,

The distribution of the linguistic stocks was as follows. Beginning at the extreme north of New Mexico, we meet

without invalidating thereby the exactitude of other parts of his valuable report.

I am not in possession of official data emanating from Oñate directly, and establishing the population of the pueblos about the year 1600, but the investigations into his administration, made at the instigation of the Viceroy Conde de Monterey, contain some information at least on the ideas then prevalent on the subject. The factor Don Francisco de Valverde examined five witnesses on the subject. *Memorial sobre el Descubrimiento del Nuevo México y sus Acontecimientos*, 1595 to 1602 (*Doc. de Indias*, vol. xvi. p. 210): "Uno dice que diez é seis mill indios; otro, doce mill, para guerra y trabajo; otro treinta mill ó cuarenta mill; y otro treinta mill; y todos dicen sin mugeres y niños al respeto." In regard to such statements the Viceroy very justly observes, *Discurso y Proposición que se hace á Vuestra Magestad de lo Tocante á los Descubrimientos del Nuevo México*, 1602 (*Doc. de Indias*, vol. xvi. p. 45): "Se colige que realmente para labranza y crianza hay tierras y pastos apropósito; y no es aquella tan esteril como la gente que se vino la pintaba, ni tan próspero como otros lo hacen y lo representó el Gobernador en las relaciones del año de noventa y nueve, que algo mejor informado con mas moderacion escribe de esto, y con la misma hablan los suyos: aquí por donde se dexa de entender, que debe de ser cosa corta lo de allí. . . . Colígrese tambien que hay razonable número de indios."

In 1630, Benavides gives an approximate enumeration of the Pueblos, and he figures their numbers at 70,000 about. Acoma appears in that list with 2,000. (*Memorial*, p. 32.) We know what to think of such an estimate; it is twice as much as the rock will hold conveniently. There are other equally glaring inaccuracies. On page 26, the Tehuas are credited with eight villages, whereas they had only seven. On page 33, the Zuñi pueblos are set down at "eleven or twelve," whereas there were only half that number. The population of Taos, given at 2,000, is also vastly exaggerated. In short, the Memorial is, in many respects, a "campaign document." Its purpose was to induce the King to favor the Missions, to create a better impression of the missionaries than the Spanish government had at that time, after their constant quarrels with the Governors of New Mexico, and to obtain the establishment of a bishopric at Santa Fé. The latter fact is very plainly established in the *Real Cédula* of May 19, 1631, MS., in which the King, among other matters touching the proposed establishment of an episcopal see, says: "Fray Franco de Sosa Comisario de Corte y Secreto General del orden de San Francisco se me ha hecho relacion, . . . y estan oy convertidos mas de quinientos mill Indios y de ellos bautizados mas de ochenta seis mill." This is said of New Mexico.

The earliest actual census of the Pueblos which I know dates back to 1660. Vetancurt (*Cronica*, p. 314): "Pues el año de 1660 se hizo padron general, en que se hallaron mas de veinticuatro mil personas, chicas y grandes, indios y españoles." There were then about 1,000 Spaniards in all New Mexico, so that

there the tribe of Taos, or Te-uat-ha, which, as far as ascertainable, lived then, as they do to-day, in a single large pueblo.<sup>1</sup> Southwest of them about twenty miles stood, and stands to-day nearly on the same spot, the pueblo of Picuries, the aboriginal names of which are both Ualana and Ping-ul-tha.<sup>2</sup> Both villages spoke the same idiom dialectically differentiated, the Tigua.<sup>3</sup>

A desert stretch of another thirty miles, about, separated Picuries from the next group of sedentary Indians, the Tehuas. Whereas both Taos and its neighbor, Picuries, are some distance away from the Rio Grande, in side valleys whose water-courses are tributaries of that stream, the *northern* Tehuas cluster near the great river. Their most northerly village, San Juan de los Caballeros, or Oj-ke, lies about thirty miles southwest of Picuries, on the left river-bank. Then followed, when the Spaniards first came among them in 1541, Yuge-uing-ge,<sup>4</sup> now in ruins and its site occupied by the little

the number of Pueblo Indians was a little over 23,000. This corresponds very well with the statements of Castañeda, one hundred and twenty years previously.

<sup>1</sup> Taos is the "Braba" of Castañeda (*Cibola*, p. 139). His description, taken from the reports of Francisco de Barrionuevo, is excellent, and can only apply to Taos: "Il était bâti sur les deux rives du fleuve, que l'on traversait sur des ponts construits en madriers de pins, très-bien équarris. L'on vit dans ce village les étuves les plus grandes et les plus extraordinaires de tout le pays." Further on, he says that Braba was the most northerly of all the pueblos (p. 182). No mention of Taos is found, as nobody visited it until 1598, when Oñate went there on the 14th of July (*Discurso*, p. 257). But in this document, as well as in the *Obediencia y Vasallaje, etc. de San Juan Baptista*, (p. 114,) Taos is called a Province. It is also named Tayberon. In 1630, Benavides speaks of only one pueblo at Taos, and thus it appears in all posterior documents.

<sup>2</sup> Oñate (*Discurso*, p. 257) mentions the "gran pueblo de los Picuries." Also Benavides. There was but one village of that tribe.

<sup>3</sup> Benavides, *Memorial*, p. 29.

<sup>4</sup> Yuge-uing-ge is the Yuque-yunque of Castañeda (*Cibola*, p. 138). The Tehuas occupied, says he, two pueblos on the Rio Grande, and four in the mountains. The four in the mountains may have included, in addition to the three mentioned further on, Cu-ya-mun-gue. The information is of course imperfect, as Barrionuevo had no intercourse with the people, who fled at his approach.

hamlet of Chamita, opposite San Juan ; on the right bank, Santa Clara, or Ka-po ; and a few miles lower down, San Ildefonso, or Po-juo-ge. Some six to nine miles eastward from the Rio Grande valley were three more Tehua villages : Pojuaque, or more properly Pozuang-ge ; Nambe, or Na-imbe ; and Tezuque, or Te-tzo-ge. The last named lay some eight miles north of the site where the settlement of Santa Fé was founded in 1605.<sup>1</sup>

<sup>1</sup> The date of the foundation of Santa Fé can as yet be but approximately determined, although it is certain that it cannot have taken place before April, 1605. Oñate returned to San Gabriel, or Chamita, where the Spaniards all resided, on the 25th of April, 1605, from his expedition to the Colorado of the West. The date is given by Zarate-Salmeron, *Relaciones*, par. 47. It is confirmed by the inscription on the Rock of the "Morro," or "Inscription Rock," which states that Oñate passed through there on the 16th of April of the year "del descubrimiento de la Mar del Sur." Consequently, there was no settlement at Santa Fé at that time. What has been said and published concerning the foundation of the present capital of New Mexico by Antonio de Espejo in 1583, or by Coronado in 1540, or by an unknown founder in 1550, is devoid of all historical basis. Espejo founded *no* colony, *could not* found any with his little band of fourteen, and the propositions he subsequently made to the Crown for the settlement of New Mexico had in view the establishment of a post at Acoma, whereas the country of the Tanos, in which the site of Santa Fé was situated, is treated by him merely as one of the many ranges of sedentary tribes which might be brought under Spanish sway in course of time. *Expediente sobre el Ofrecimiento que hace Francisco Diaz de Vargas, de ir al Nuevo México, y refiere la Historia de este Descubrimiento* (*Doc. de Indias*, vol. xv. pp. 156, 157) : "Y desde allí [from the Queres] irá á la provincia de Acoma, ques una peña alta que está hácia el Norueste y en ella, poblados, mas de seis mil indios á donde hará hacer un fuerte y casa Real, entre la dicha provincia y un rio pequeño, donde mas comodidad le pareciere ; y se pondrán allí los dichos cient hombres casados, y se hará de forma que aunque no sea necesario guerra, esten apercebidos para ello ; y á este fuerte han de venir las otras dos compañías." The date of this proposal to the King is 1584. It was never carried out, as Espejo died soon after. When Oñate came, in 1598, he moved directly to San Juan, established his camp there, and proceeded to found San Gabriel, on the opposite bank of the Rio Grande (*Discurso de las Jornadas*, pp. 256, 263). It is abundantly proved, by documentary evidence, that from San Gabriel the camp and seat of government were moved to Santa Fé, and this appears to have been done in 1605. Fray Alonzo de Posadas, *Informe al Rey* (MS.) : "La villa de Santa-Fé . . . descubrióla el año de 1605 el Adelantado D. Juan de Oñate, llevando en su compañía algunos soldados y religiosos de

That site was deserted in the sixteenth century, the two pueblos of Tehua Indians that stood there once having been abandoned long previous to this date. Consequently an interval or vacant space of some thirty miles separated the northern Tehuas from their southern kinsmen, the Ta-ge-uing-ge, or Tanos.<sup>1</sup> The nearest Tanos village to the locality of Santa Fé was then the Ciénéga, called by its inhabitants Tzi-gu-ma. It is twelve miles to the southwest. A few miles southeast of it was San Marcos, or Cua-ka. Both pueblos are in ruins. Twenty-two miles south of Santa Fé began the Galisteo group of Tanos villages, consisting of Galisteo or Ta-ge-uing-ge proper, of San Lazaro or I-pe-re, of San Cristóbal or Yam-p'-ham-ba, all of which clustered in a radius of ten miles on or about the Galisteo basin, and possibly the Pueblo Largo or Hishi. Whether any other of the ruins in that region were inhabited in the sixteenth century I am unable to decide. But west and south of it the Tanos still dwelt in the village of Tung-ke, on the northern spurs of the Sandia range; in one of the little pueblos whose site is known, but whose remains have disappeared, near the mining place called Golden; in the small pueblos of O-ja-na and Ki-pa-na, near the hamlet of Chimal; and finally at San Pedro, where the ruins of Ku-kua are still visible.<sup>2</sup>

Parallel with the Tanos settlements and skirting the course of the Rio Grande, the most easterly villages of the numerous (comparatively speaking, of course) Queres stock were scat-

mi seráfica religion, y por Presidente al padre predicador Fr. Francisco de Escobar." In 1606 Oñate was at Santa Fé. Therefore it must have been founded in 1605.

<sup>1</sup> There is nowhere any mention of a pueblo at Santa Fé. There had been one formerly, as the ruins attest, but when the Spaniards came it was in ruins. These ruins are now almost obliterated, and they are not those of the so-called "oldest house," opposite the chapel of San Miguel.

<sup>2</sup> Both Ojana and Quipana are mentioned in the *Obediencia de San Juan* *Batista*, p. 114.

tered on the banks of the river. Twenty-seven miles southwest of Santa Fé is Cochiti, or Ko-tyi-ti. Three miles east of the stream, on the dangerous Galisteo Creek, was the old pueblo of Santo Domingo, or Gui-pu-y, the predecessor of the village of to-day. On the same side, but directly on the river banks, stood Kat-ish-tya, the antecessor of the present San Felipe. This exhausts the list of the Rio Grande Queres, but farther west, along the Jemez River, the tribe inhabited several sites. There was the cluster of the Cia or Tzia towns, of which but one remains,<sup>1</sup> and old Santa Ana, or Ta-ma-ya.<sup>2</sup>

North of Cia began the range of another linguistic group, that of Jemez. Until the first half of the seventeenth century, the Jemez inhabited a number of pueblos along the upper course of their stream, and on the towering mesas which skirt its headwaters. There was Guin-se-ua, where the famous hot springs of San Diego issue from the rock, and the old church stands in its ruined and picturesque beauty. There was Amo-xium-qua, on the mesa above the mouth of the great gorge, Asht-ia-la-qua, on the very point of the table mountain overlooking the valley, and others besides. The number of these which were inhabited simultaneously in the sixteenth century is variously stated, but the probability is that there were ten, scattered along the

<sup>1</sup> The present village of Cia is surrounded by ruins of old pueblos formerly inhabited by the same stock. In 1540, Castañeda mentions but one village; but Espejo in 1582 says (*Relacion del Viage*, p. 178), "hallamos otra provincia que llaman los Punames, que son cinco pueblos, que la cabecera se dice Sia." Oñate, in *Obediencia de San Juan* (p. 115), mentions only "el gran pueblo de Tria." When the smaller villages were abandoned, I am unable to determine as yet.

<sup>2</sup> The first pueblo of Tamaya stood near the "Mesa del Cangelon," and far from the mouth of the Rio de Jemez. The historic pueblo, that was stormed by Pedro Reneros de Posada in 1687, was on the summit of what is called to-day the "Mesa de Santa Ana." This was the one, probably, which Oñate alludes to in his papers.

Jemez River from San Diego in the north to near Cia in the south.<sup>1</sup>

The Jemez group of villages is the most distant one west from the Rio Grande in the latitude of Santa Fé. In a straight line, it lies nearly thirty miles from the great New Mexican artery. Strange to say, another branch of the same linguistic stock, speaking the identical idiom, was met with about forty miles east of the Rio Grande, and southeast of the present capital. These were the Pecos, with their large pueblo, the most populous one in New Mexico or Arizona, whose ruins were described and figured in the first series of American papers published by the Institute.<sup>2</sup> Tshiquit-é, or Tzi-quit-é, according as the sounds are clearly or less clearly pronounced by the Indians of Jemez or the remaining Pecos, is the Ci-cuic, Ci-cui-ye, A-cuique, of Coronado and his chroniclers.<sup>3</sup> It was separated from its kinsmen in the west by two linguistic groups, distinct from each other and from the Jemez, — the Queres, and the Tanos, or southern Tehuas. This is an interesting fact in New Mexican ethnography, and even in pre-documentary

<sup>1</sup> Castañeda (*Cibola*, p. 138) speaks of seven Jemez villages. Espejo (p. 179) gives the same number. Oñate (*Discurso*, p. 261): "Á quatro, bajamos á otros pueblos de los emmes, que por todos dicen, son honce, vimos los ocho. . . . Á cinco, bajamos al húltimo pueblo de la dicho provincia, y vimos los maravillosos baños calientes que manan en muchas partes y tienen singulares maravillas de naturaleza, en aguas frias y muy calientes, y muchas minas de piedra azufre y de piedra alumbre." In 1626, Zárate (*Relaciones*, par. 111) mentions the pueblos of Amoxunque (Amo-shium-qua), and Quiumzique (Guinse-ua). The pueblos of the Jemez were abandoned after 1622, and resettled previously to 1627. Benavides, *Memorial*, p. 27. Vetancurt, *Menologio*, p. 76.

<sup>2</sup> *Report on the Aboriginal Ruins in the Valley of the Rio Pecos*, 1881.

<sup>3</sup> The name "Aquiú," or "Paequiú," which I heard given to the Pecos in the year 1880, is "Pae-quiua-la." It applies to the Pecos tribe, but the proper name of the great village that Coronado saw, and where the old church was in the beginning of the seventeenth century, is "Tshiquit-e," or "Tzi-quit-e." I have this information direct from the Pecos Indians living to-day at Jemez, some of whom dwelt in the old village up to 1840.



history. The Pecos declare that they came into their valley from the southeast, but that they originated in the north, and shifted across the Rio Grande. The Jemez say that their origin was in the northeast, whence they slowly drifted into the Jemez valley. Probably more than one village was inhabited by the Pecos three hundred years ago. It is not unlikely that the ruins at "Las Ruedas" (Rowe), and at "El Gusano" (Fulton), are those of smaller villages, possibly contemporaneous with the large pueblo of Pecos.<sup>1</sup>

It is certain that along the Pecos River, below its upper valley, there were no inhabited pueblos in the sixteenth century. In 1590, Gaspar Castaño de Sosa travelled up the whole length of the Rio Salado, as the Pecos was then called, to above Anton Chico, and he did not find the slightest traces of human occupancy on either bank. West of it, and south of both Galisteo and Pecos, a string of small villages, which extended from east to west over to the Rio Grande, were visited by the explorer. These appear to have been the Tanos villages already mentioned.<sup>2</sup> South of them, on the east side of the Cordillera which runs at some distance east of and parallel with the Rio Grande, began the settlements of the Tiguas, with their pueblos of Chilili, Ta-ji-que,

<sup>1</sup> The fact of their having been inhabited in 1540 is yet in doubt. The Pecos Indians assert that they were not, and that they had been abandoned previously to the "first conquest." But Espejo (*Relacion*, p. 185) mentions three pueblos of the Tamos. That the Tamos were the Pecos is proved by the same authority when he says (p. 186): "Y medio legua de un pueblo de la dicha provincia, llamado Cicuique, hallamos un rio, el cual nombré de las Vacas, respeto que caminando por él seis jornadas, como treinta leguas, hallamos gran cantidad de vacas de aquella tierra." Oñate (*Discurso*, p. 258) "Al gran pueblo de los Peccos, y es el que Espejo llama la provincia de Tamos." The aboriginal names of the villages at Rowe and Fulton are, respectively, the Pueblo de las Ruedas, or Kuuang Ua-la, and Se-yu Pae-la.

<sup>2</sup> It is very difficult at the present time to identify the numerous pueblos visited by Castaño. Compare *Memoria del Descubrimiento*, pp. 221-253. Some are of course easily recognized, like San Cristobal, San Marcos, etc. From these it may be possible to locate many of the others.

Manzano (of which I have not yet been able to find the aboriginal name), and Cua-ray. These towns ranged along the west and southwest of the salt marshes; it seems that they were not the only ones inhabited by the Tiguas in that vicinity, as their number is variously stated from "many" to a half-dozen. The latter number is probably correct.<sup>1</sup>

The same feature which I have noted in regard to the Jemez, namely, a division of the stock into two geographically distinct groups, repeats itself with the Tiguas. Not only do we find a northern, or Taos and Picuries cluster, and a southern one divided from the former by a distance of nearly one hundred and fifty miles and by the tribes of the Tehuas, Tanos, and Queres, but of the southern Tiguas there were also two clusters, those around the Salines, already mentioned, and on the Rio Grande, in the most fertile part of its valley, the series of Tigua pueblos called by Coronado "Tiguex" (which is the correct Indian pronunciation of the word, as it may still be heard to-day), beginning at Bernalillo in the north, and extending as far as the present village of Tshyaui-pa, or Isleta.<sup>2</sup> On this stretch there were, close by the

<sup>1</sup> I am only positive about three, Tajique, Chilili, and Cuaray. Of the Manzano, I have not as yet been able to find anything reliable. There are vestiges of Indian remains there, but I do not know if they belonged to the communal or to the small house type. During my stay at Manzano in 1883 the ground was covered with deep snow.

<sup>2</sup> This extent of territory, or this stretch, includes both the Tiguex and the Tutahaco of Castañeda; unless, indeed, the latter were the northern Piros, which extended certainly as far north as "La Joya," or Sevilleta. I have identified, in *Historical Studies among the Sedentary Inhabitants of New Mexico*, the location of Tiguex more properly and specially with the vicinity of Bernalillo. Notwithstanding adverse opinions, I am more than ever convinced of the correctness of this view. In addition to the evidence there adduced, I can quote the testimony of Espejo, *Relacion del Viage*, p. 175. Speaking of Puaray, where the two monks had just been killed, and which pueblo stood directly opposite the present town of Bernalillo, he states: "Á donde hallamos relacion muy verdadera; que estubo en esta provincia Francisco Vazquez Coronado y le mataron en ella nueve soldados y cuarenta caballos, y que por este respeto habia asolado

river-side, ten or twelve towns, mostly small, the most celebrated of which became the one called Pua-ray, or village of the worms or insects.<sup>1</sup> Where Bernalillo stands to-day, there were probably two; there was one called Na-fhi-ap,<sup>2</sup> which is the present aboriginal name of the pueblo of Sandia, another one near "Los Corrales," and several as far down as the vicinity of Isleta.<sup>3</sup> South of that place, and almost touching the lands of the Tiguas, began the range of the Piros, which reached as far south as San Marcial, and consisted of at least ten settlements in sight of the river bank. Conspicuous among them were Alamillo,<sup>4</sup> north of Socorro, Pil-a-bo, on the site of Socorro itself,<sup>5</sup> and Se-ne-cu, whose ruins are now covered by the village of San Antonio.<sup>6</sup> San

la gente de un pueblo desta provincia, y destes nos dieron razon los naturales destes pueblos por señas que entendimos." This corresponds exactly with what Castañeda (*Cibola*, vol. i. chap. xv.) relates concerning events at "Tiguex"

<sup>1</sup> The site of Puaray is well known to the Indians of Sandia. It is furthermore established by documentary evidence. Vetancurt (*Crónica*, p. 312) places it "cerca de una legua de Zandía, á la orilla del rio." *Venta real del Capitan Juan Gonzalez*, 1711 (MS.).

<sup>2</sup> Napeya, *Obediencia de San Juan*, p. 115.

<sup>3</sup> Near the Mesa de las Padillas. Where Albuquerque now stands, there appear to have been no villages; but farther south, on the right bank, there were several, like Hych Tu-ay on the Mesa de los Padillas, and Be-jui Tu-uy, or the village of the Rainbow, near Los Lunas.

<sup>4</sup> Alamillo was a conspicuous pueblo as late as 1650. It was then abandoned, the inhabitants scattering, and in part removing to El Paso with the Spaniards, on the latter's retreat from Santa Fé.

<sup>5</sup> The name of Pilabo, for the old pueblo on the site of the present town of Socorro, is taken from Benavides (*Memorial*, p. 16): "el otro en el Pueblo Pilabo, á la Virgen del Socorro." On the other side of the Rio Grande, nearly opposite Socorro, or probably at what is called "El Pueblito de la Parida," in front of "El Barro," there was a pueblo called "Tey-pana." Oñate (*Discurso*, p. 251): "Dormimos frontero de Teipana, pueblo que llamamos del Socorro." Oñate was travelling up the left bank of the Rio Grande.

<sup>6</sup> The village of San Antonio de Senecu was the first mission founded on the southern Rio Grande on New Mexican soil. According to Vetancurt (*Cronica*, p. 309), it was established in 1630. Its founder was the Capuchin Fray Antonio de Arteaga. Benavides (*Memorial*, p. 15) places the foundation of the mission as early as 1626. It was abandoned, and the pueblo destroyed, in the year

Marcial stands on or very near the place where the most southerly pueblo inhabited in the sixteenth century was found. It was the village of Tre-na-quel.<sup>1</sup> It is worthy of remark, that here the many-storied, honeycombed, large communal house reaches its meridional limits.

But the Piros also had crept up towards the coveted salt lagunes of the Manzano. The picturesque valley of A-bó, northeast of Socorro, contained at least two of their villages, A-bó proper, and Ten-a-bó, probably the ruin called to-day "El Pueblo de los Siete Arroyos." Lastly, still east of it, at the foot of the Mesa de los Jumanos, there was Ta-bir-a, now famous under the misleading surname of "La Gran Quivira." It lay very near the range of the New Mexican Jumanos, so that it is not unlikely that the Pueblo de los Jumanos, mentioned as a Piros village, is but another name given to Tabira.<sup>2</sup>

1675, on the 23d of January. The Apaches pounced upon it, killing the priest, Fray Alonzo Gil de Avila, and many of the people. The remainder fled to Socorro or to El Paso. Martin de Solis Miranda, *Parecer del Fiscal Real* (MS., 1676): "Y al Pe. Fr. Alonzo Gil de Avila, Ministro del Pueblo de Zennecu en el dia 23 de Enero del año pasado de 1675." Fray Juan Alvarez, *Carta al Gobernador Francisco Cuerdo y Valdes*, 28th April, 1705 (MS.): "Tambien el pueblo de Senecu, mattaron al Pe. Por Fr. Alonzo Gil de Avila, y destruyeron lo mas de la gentte indiana."

<sup>1</sup> Oñate (*Discurso*, p. 240) says that the second pueblo after passing the "mesilla de guinea, por ser de piedra negra," was Qualacu. This black mesa is that of San Marcial, a very conspicuous object in that region for any one coming up the river or through the "Jornada del Muerto." In *Obediencia de San Juan* (p. 115), he speaks of "Trenaquel de la mesilla, que es la primera poblacion de este Reyno, hácia la parte del Sur y Nueva España."

<sup>2</sup> Of these three, or four pueblos, it is only known that they were abandoned between 1670 and 1680, probably about 1675 or a little previously. The descendants of their inhabitants to-day live at Senecu in Chihuahua. Of the cause of their abandonment there is but one report, namely, that the Apaches compelled the people to leave. Fr. Juan Alvarez (*Carta*, MS.) places the loss of the six pueblos of the Salines immediately before the slaughter at Senecu, and after the massacre at Hauicu in 1672. Fray Silvestre Velez de Escalante (*Carta al Padre Morfi*, 1778, par. 2) mentions the event as follows: "Pocos años ántes de la dicha sublevacion, destruyeron los enemigos apaches con casi

West of the Rio Grande, and towards Arizona, we find but two groups of Pueblo Indians, isolated from the others, as well as from each other, by long distances. I have already named the celebrated rocky retreat of A-co, or Aco-ma, the Hacus of Fray Marcos and the Acuco of Coronado.<sup>1</sup> Impregnable to Indian assault, Acoma might well remain alone in the vast solitude surrounding the basin from which the rock arises, and its people need have no fear of the hostile Navajos so long as they did not descend from the stronghold to attend to their crops. The Acomas are Queres, and there was no other settlement of the same language nearer than Cia,<sup>2</sup> a distance of seventy miles. The same distance separ-

continuas invasiones, siete pueblos de los cuarenta y seis dichos: que fueron Chilili, Tañique y Quarac, de indios Tehuas; Abo, Jumancas y Tabira de Tumpiros, todos los cuales estaban en la falda oriental de la sierra de Sandia, menos dos que estaban distantes de dicha sierra hácia las Salinas." Of these, it seems that Cuaray or Quarac fell first. *Dilixencias practicadas sobre la Solizitud de el Cuerpo del venerable Padre Fray Gerónimo de la Llana*, 1759 (MS., fol. 2, 5). The people fled to Tajiue. Those of the Piros villages retired to Socorro and Alamillo, or to El Paso, for safety.

The chief interest, historically, centres in the ruins called "La Gran Quivira." There is no doubt that they simply are the remains of the pueblo of Tabira. The name of Quivira was given to them in the latter part of the past century in consequence of a misunderstanding. The mission at Tabira was founded, and the older and smaller of the two churches built, by Fray Francisco de Acevedo, between 1625 and 1644. Vetancurt, *Menologio*, p. 260. The large church and convent are posterior to that date, and were evidently never used, not even finished. There were Indians (Piros) from Tabira at El Paso in 1684. *Causa Criminal por Denunciacion de Andres Jopita* (MS., p. 4).

Whether the pueblo "de Jumanos" was the same as Tabira it is difficult to determine. I suspect it to have been the same. In the document entitled, *Confesiones y Declaraciones de varios Indios de los Pueblos del Nuevo México*, 1683, (MS. fol. 6,) there is the deposition of an Indian calling himself Juan, and "de nacion piro natural del pueblo de Jumanos en el Nuevo México." There was one Jumano village, if not more, but this particular one strikes me as being possibly a surname given to Tabira, owing to the latter being situated on the southern declivity of the "Mesa de los Jumanos."

<sup>1</sup> The origin of these two words is the Zuffi name for Acoma, Ha-ku Kue.

<sup>2</sup> The pueblo of Laguna was founded in 1699. See *Relacion de la Reconquista* (Sesto Cuaderno). That the site of the actual pueblo of Laguna was vacant previous to that date is amply proved.

rated them from Zuñi, and the latter spoke an idiom distinct from the Queres language.

Zuñi, as is well known by this time through the investigations of Mr. Cushing, was the Cibola of old. Until after 1680, the tribe inhabited several villages, whose inhabitants were finally concentrated into the actual pueblo called Halona by its people. The "seven cities of Cibola" were Halona, on the site of the present one; Kia-ki-ma, in a recess on the south of the gigantic mesa; the village where the negro Estevan was killed,<sup>1</sup> Ma-tza Ki, on the northern base of the same mesa; Pin-a-ua, three miles southwest of the actual Zuñi; Ha-ui-cu, or Aguas Calientes (Zuñi hot springs), fifteen miles southwest of Zuñi also; and Chan-a-hue, in the same vicinity. The name of the seventh I am as yet unable to give. That last village (so much appears to be certain) was abandoned between 1542 and 1580.<sup>2</sup> After 1604, and prior to 1680, three more pueblos of the Zuñi cluster were abandoned, and when the rebellion broke out the tribe was huddled together in three pueblos only; to wit, Halona, Matzaqui, and Kyakima.<sup>3</sup> After the reconquest, Halona alone remained.

<sup>1</sup> This tradition was recorded by Mr. F. H. Cushing.

<sup>2</sup> Since writing the above, I have made another trip to Zuñi, and, guided by Mr. Cushing, have again examined the question of the seven cities of Cibola. Mr. Cushing has elicited fresh information from the Indians, and has led me to other localities. The following pueblos appear now fully identified, Hauicu, Halona, Kyakima, Matzaqui, Chyanau. Pinaua and Quakyina appear both equally probable, but neither is absolutely certain as far as identity with the Aquinsa of Oñate, *Obediencia y Vasallaje por los Indios de la Provincia de Agucobi* (*Doc. de Indias*, vol. xvi. p. 133). As to the seventh, the Indians of Zuñi assert that there is a chapel in ruins at Ketchip-a-uan. In that case, the latter pueblo would have been occupied after 1629, when the Zuñi missions were founded, and Pinaua or Cuakyina would be the one that was abandoned between 1540 and 1580.

<sup>3</sup> Vetancurt, *Cronica*, p. 320. He includes Hauicu in his list also, and says it contained over one thousand souls, including the population of "other smaller villages." But Hauicu had been sacked by the Navajos in the year 1672, on

It has been the custom to give the name of "Old Zuñi" to a group of small and ruined pueblos which lie on the summit of the great mesa called by the Indians "Thunder Mountain" (To-yo-a-la-na). The idea has arisen, consequently, that the six villages on that formidable table height were the original ones of the Zuñis. This is an error, for the pueblos on the top of Toyoalana were built after 1680 and previous to 1692 during the interregnum succeeding the withdrawal of the Spaniards from New Mexico, and while the Pueblos, left to their fate, were often sorely pressed by the Navajos and Apaches. Thunder Mountain, thus much appears certain, besides being the site of important folk-lore and consequently the centre of many religious performances, was the place of refuge, the citadel or safety place, for the people of Zuñi. It was but little fortified, some parapets of rocks along the most accessible parts of its brink or rim being the only attempts at strengthening the naturally almost impregnable position. The Spaniards never took it by force of arms, never stormed it, as they did Acoma in 1599. Three times, according to the records within my reach, did the Zuñi flee to the plateau of the gigantic mesa within the course of two centuries, and each time they were induced to return to the basin below, in a peaceable manner.<sup>1</sup>

the 7th of October (Miranda, *Paracer*, MS.), and was not permanently occupied any longer.

<sup>1</sup> That Toyoalana was a point of refuge, a citadel, for the Zuñis in case of urgent necessity, is recognized as early as 1540. *Traslado de las Nuevas y Noticias que dieron sobre el Descubrimiento de una Ciudad que llamaron de Cibola situada en la Tierra Nueva* (*Doc. de Indias*, vol. xix. p. 532): "Y que á xix del mes de Julio pasado, fue quatro leguas de esta Ciudad á ver un peñol, donde le dixeron que los Yndios desta provincia se hacian fuertes." It is not stated whether the Zuñis retreated to Thunder Mountain at the time of Coronado, but they certainly did so about 1630, after they had murdered Fray Francisco Letrado and Fray Martin de Arvide. *Autos y Traslados de Autos sobre las Misiones de Zuñi*, 1636 (MS., fol. 1): "Por quanto los yndios del peñol de caquima de la prouca

Of the pueblos of the Moquis I have already spoken, but it may not be superfluous to return to them, their numbers and names, again. There were seven villages of Tusayan, five of Asay, five of Mohoce, and Oñate mentions by name only four in 1598, but found seven six years later. Up to 1680 the following can be recognized: A-hua-tu, Gualpi, Oraybi, and Mishongop-avi.<sup>1</sup> The names of the others are so distorted that I do not venture to mention them. In the year 1700, Ahuatu was destroyed by the Moquis of the other pueblos, who hated those of Ahuatu for their loyalty to the Spaniards. The Tehua village took its place in the list of the seven. In 1782, the names of the seven Moqui pueblos as given are very similar to those current to-day, and in most cases identical.<sup>2</sup>

The total number of pueblos, as stated in the sixteenth and in the seventeenth centuries, does not at all agree with that number as it stands at the present time. It is much larger, and varies from forty-six (Escalante, 'from reports at the time of the rebellion) to over one hundred (Oñate, in the Acts of Submission of 1598). The latter number is exaggerated, mainly from one cause. The names of the villages

de cuñi qe se abian alsado en tiempo del gen. don Franco de Silua los quales yndios, don Franco de la Mora qe susedio en el gouierno los dejó de paz, la qual siempre an conservado desde qe embió el dho don Franco de la Mora al mro de campo Thomas de Albisu y subieron los religiosos qe yvan con el dho mro de campo al peñol con algunos soldados." *Carta del Cabildo de Santa-Fé á Don Antonio de Otermin*, 5th October, 1680 (MS., in *Diario de la Salida de Otermin para El Paso del Norte*, p. 71).

Again they fled to the mesa after 1680, and Diego de Vargas found them there in 1692, and for the third time they took refuge on the inaccessible height in 1703, after having killed three Spanish soldiers.

<sup>1</sup> Vetancurt, *Cronica*, p. 321.

<sup>2</sup> Fr. Agustin Morfi (*Descripcion Geográfica*, fol. 112) mentions Moqui, Tanos, Gualpi, Mosasnabi, Xipaolabi, Xongopabi, and Oraybe. Fr. Francisco Garces (*Diario*, p. 352): "Los nombres de los pueblos del Moqui son (segun lengua de los yavipais) Sesepaulabe, Masagneve, Janogualpa, Muqui, Concabe y Muca á quien los Zuñis llaman Oraive."



are given, and frequently the same one is repeated in more than one idiom. This was a source of error against which it was impossible for the Spaniards to guard. Unacquainted with the native tongues, and having but one set of interpreters, they recorded every name given, and it was difficult for the Indians to make themselves understood in case when, as at Santo Domingo and at San Juan, there were three and four linguistical stocks represented at the council.<sup>1</sup> The list of Oñate must be considerably reduced, also, in view of the more accurate numbers of Castañeda, who gives the number of villages at seventy-one, exclusive of those of the Salines.<sup>2</sup> The average population of each did not exceed three hundred souls, a fact which derives additional confirmation from surveys of over three hundred ruins in the whole Southwest. In placing the original pueblo population at twenty-five thousand, we are near the limits of truth, and do not overstep them.<sup>3</sup>

Political autonomy of each pueblo — even complete independence from its nearest neighbor of the same stock, to

<sup>1</sup> *Obediencia y Vasallaje por los Indios de Santo Domingo*, p. 102. *Obed. de San Juan*, p. 109. In the former, we clearly recognize the Queres, Tiguas, Jemez, and possibly the Piros. In the latter, it is stated: "Ayunto los indios capitanes de las provincias de los Chiguas y Puaray de los Cherechos, de los Teguas, de los Pecos, de los Picuries y de los Taos."

<sup>2</sup> No mention is made of those villages. It was Chamuscado who, in 1581, first visited them. *Testimonio Dado*, p. 86: "Y allí tubieron nueva de unas salinas que estaban catorze leguas del dicho pueblo, las cuales fueron á ver y hallaron que estaban detras de una sierra, que llamaron Sierra Morena, las cuales son las mejores que se han descubierto hasta hoy, . . . y junto á estas salinas se vieron otros muchos pueblos y estuvieron en ellos, los cuales tenian la traza que los demas; y les dieron nuevas de otros tres pueblos que bigurficaban los naturales; estan cerca de las dichas salinas y ser muy grandes."

<sup>3</sup> In 1680, the Cabildo of Santa Fé (*Carta á Otermin*, MS., fol. 9) estimates the number of the Pueblo Indians in New Mexico who were implicated in the uprising at over 16,000: "Y el numero de todo el gentio de naturales que hoy se halla en el Nuevo México de los Apóstatas alzados, no es tan corto que no pase de 16 mil almas."

such a degree that it led not infrequently to hostilities — was the condition of the Pueblos when the Spaniards first visited them, and it remains thus to the present day, with the difference that intertribal warfare was not further tolerated as soon as the villagers became subjects of the King of Spain. The government of each village was vested in the council, and the execution of that council's decrees was intrusted to two sets of officers, civil and military, both elective. At the head of the former was the equivalent of the Governor of to-day, and there are traces of his assistants or lieutenants. Public crying was the manner in which everything of import was promulgated and made known. The Governor is called "Cacique" in the early reports, and is not to be confounded with that strange office to which the title of Cacique is now erroneously given.<sup>1</sup>

<sup>1</sup> Although there is no doubt about these facts, I will nevertheless give the authorities on which my statements are based. Too much of an antiquated terminology is still lingering in regard to the organization of the Pueblos, and I hold it proper to prove that I am not setting forth assumptions under the guise of facts. Beginning with the time of Coronado, we find in Castañeda (*Cibola*, p. 61), speaking of the Moquis and Zuñis: "Ces Indiens sont gouvernés, comme ceux de Cibola, par un conseil de vieillards. Ils ont des gouverneurs et des capitaines." On page 164, he partly contradicts himself in regard to Zuñi: "Il n'y a pas de caciques réguliers, comme à la Nouvelle Espagne, ni de conseils de vieillards. Ils ont des prêtres qui prêchent, ce sont des gens âgés; ils montent sur la terrasse la plus élevée du village et font un sermon au moment où le soleil se lève. Le peuple s'assied à l'entour et garde un profond silence; ces vieillards leur donnent des conseils sur leur manière de vivre; je crois même qu'ils ont des commandements qu'ils doivent observer." And on page 168, as to the other pueblos of New Mexico: "Toutes ces provinces ont les mêmes mœurs et les mêmes coutumes. . . . Elles sont gouvernées par un conseil de vieillards." Espejo, *Relacion del Viage*, p. 173: "Tienen en cada pueblo sus caciques conforme á la gente que hay en cada pueblo; así hay los caciques, y dichos caciques tienen su tequitatos que son como alguaciles que executan en el pueblo lo que estos caciques mandan, ni mas ni menos que la gente mexicana; y en pidiendo los españoles á los caciques de los pueblos cualquier cosa, llaman ellos á los tequitatos y los tequitatos publican por el pueblo, á voces, lo que piden y luego acuden con lo que se les manda, con mucha brevedad." Juan de Oñate, *Carta escrita al Virrey Conde de Monterrey*, March 2, 1599 (*Doc. de Indias*, vol. xvi.

War captains, also elective, and commanded by the council, to a certain limit and extent at least, formed the military executive.<sup>1</sup> There is no trace of military confederacies after the manner of the Iroquois and Nahuatl leagues, and there were no higher captaincies than those for each pueblo. If the tacit agreement that still to-day prevails among the

p. 308): "Su gobierno, behetria, que aunque tienen algunos capitancillos, obedecénles muy mal y en muy pocas cosas." Gaspar de Villagran, *Historia de la Nueva México*, 1610 (Canto xv. fol. 139):

"No tiene ley, ni Rey, ni conozemos,  
Que castiguen los vicios ni pecados.  
Es toda behetria no enseñada,  
A profesar justicia, ni tenerla."

Benavides, *Memorial*, p. 39: "Siempre ha sido gente de gouierno y republica, juntandose los viejos con el Capitan mayor, á conferir y dicernir las cosas que les conuenian, y despues de determinadas salia el Capitan mayor personalmente pregonando por el pueblo lo que se mandaua, y esta es aun oy accion de grande autoridad pregonar los Capitanes mayores lo que se ha de hazer en el pueblo." Thus far eyewitnesses of the early times of Spanish occupation or contact. But there is evidence from sources whose authors never visited the Pueblos, and who report from the statement of eyewitnesses.

Fray Juan de Torquemada, who wrote about 1612, says, in *Monarchia Indiana* (2d ed., 1723, lib. v. cap. xl. p. 681): "De los Oficios de la República, es el primero el Mandon, a quien dan mano, para que mande en lo que es Gobierno: Y despues de el, el que pregonar, y avisa las cosas, que son de República, y que se han de hazer en el Pueblo. Demas de estos dos, tienen Capitanes para la Pesca, para el Monte, para la Caça, y para las Obras; y á cada cosa que de nuevo les piden, o imponen, se juntan en vna Estufa grande, que tienen de Comunidad (como Sala de Cabildo) y de alli sale acordado lo que han de hazer, ó responder." A more accurate statement of affairs, and one more analogous to the present organization of the pueblos, could hardly be desired.

The term "Cacique" was applied in the beginning, as the preceding quotations show, indifferently to civil and military officers. At the present day it is misapplied to a religious functionary, of whose duties I shall treat in the course of this Report.

<sup>1</sup> Benavides (*Memorial*, p. 39) gives the following description of the manner of initiation of what he calls a captain: "Para hazer á vno Capitan se juntauan en vna plaça, y le amarrauan desnudo en vn pilar, y con vnos abrojos crueles le açotauan todos, y despues le entretenian con entremeses, y otros juguetes, y si á todo estaua muy sesgo, y no lloraua, ni hacía gestos á lo vno, ni se reia al otro, lo confirmauan por muy valiente Capitan." The Capitan Mayor corresponded to the war captain of to-day.

Pueblos is a reminiscence of olden times, as I have good reasons to suppose, then, in case any village begged of another military assistance, and it was granted, the war captain of the first one was *ex officio* commander in chief of the campaign. In case of absolute necessity, tribes of distinct idioms called upon each other for aid, and the instances are not rare where two villages of the same language quarrelled, and one turned to another of another stock to help him against their kinsmen.<sup>1</sup> Pueblo society was tribal society in

<sup>1</sup> I have already alluded to the fact of war being waged between the pueblos. This is further confirmed by Torquemada, *Monarchia*, p. 680: "Estos poblados han tenido tambien, entre sí, y vnos con otros, guerras." As to the manner in which the villages confederated and organized in case of joint warfare against an outsider, the same authority gives information, the case being that of assault by Apaches: "Conocen de mui lejos venir los enemigos, y para que les vengan á socorrer los Pueblos comarcanos, se suben las mugeres á lo mas alto de sus casas, y hechan ceniza en alto, y tras de esto hacen lumbre ahogada, para que hechando mas espeso humo, sea mas visto de los otros Pueblos (cuio favor piden): las mugeres, dando con las manos en las bocas abiertas, hacen vn grande clamor, que se oie mucho, y de mui lejos." In the various attempts at uprisings against the Spaniards which preceded the great revolt of 1680, the proposals for them issued mostly from one pueblo or from a certain group of pueblos. Thus, after the conspiracy formed during the administration of Governor Hernando Ugarte y la Concha had been discovered and the criminals punished (1650 about), another one sprang up and the appeal to the other villages was issued by the Taos and went as far as Moqui. *Interrogatorios y Declaraciones de varios Indios*, 1681 (MS., fol. 135): "Y despues de algun tiempo despacharon del pueblo de Taos dos gamuzas con algunas pinturas por los pueblos de la custodia, con señales de conjuracion á su modo, para convocar la gente á nuevo alzamiento, y que dichas gamuzas pasaron hasta la provincia de Moqui donde no quisieron admitirlos, y ceso el pacto por entonces." Another conspiracy was afterwards started at the pueblos of the Salines, and spread to all the others. *Ynterrogatorio de Preguntas hecho por don Antonio de Otermin*, 1681 (MS.). How the final conspiracy, which resulted in the outbreak of 1680, was organized, is well known. Also that it started from the village of Taos, although instigated by an Indian from San Juan, the famous Po-pe, who, however, after the war had begun, exercised but limited authority. He was a medicine-man, and no war chief. *Confesion y Declaracion de vn Yndio de Nacion Pecuri*, 1683 (fol. 22, MS.). In that year, the southern Indians (Queres, etc.) followed the lead of Catiti, (fol. 23,) and Luis Tupatu was regarded as leader of the northern Pueblos: "Que ya tiene declarado quel dho Don Luis Tupatu

its full meaning, with all its lack of consistency, and yet with those original ties that bind together clusters of that nature, and make of them such singularly solid and resisting bodies. Thus the gens or clan was fully developed among them. It is beyond a doubt that the gentes of the Pueblos are almost, if not absolutely alike. Along the Rio Grande, for instance, whether Tehua, Tigua, Queres, or even Piros, the same clans are met with such differences only as arise from the differences of language. The eagle, the bear, and especially the corn and water clans, are found from Taos to Isleta, from Tezuque to Zuñi. In older sources of information concerning the New Mexican villages, the existence of the gentile system is indicated, but not plainly. Thus descent in the female line, such as exists to-day, is hinted at. The custom of the women building and owning the dwellings, whereas the men tilled and owned the fields, is another trace of gentilism.<sup>1</sup> Among

gouierna las naciones que ai desde el pueblo de la Cienega hasta los Taos, y que Alonso Catiti gouierna lo demas del Reino." But when Otermin marched up the Rio Grande valley in 1681, and the Indians retreated into the mountain region called the "Cañada de Cochiti," they were commanded, so to say, by Catiti, who sent word to the Picuries to come to their assistance. The Teguas and Picuries came, but Catiti remained in command, and his counsels prevailed against those of Tupatu, who was in favor of peace. *Interrogatorios y Declaraciones* (fol. 129, 132, 140). Also, *Ynterrogatorio de Preguntas*. Catiti was an Indian from Santo Domingo, therefore one of the Queres, who were more directly threatened by the Spanish forces.

In regard to war having been waged by villages of one stock upon their kindred, and of having even confederated with other stocks for that purpose, there is the example of 1696, when the Queres of Cochiti, Santo Domingo, and Acoma confederated with the Jemez and Zuñis against the Queres of San Felipe, Santa Aña, and Cia. See *Autos de Guerra sobre el Alzamiento de 1696* (MS.).

<sup>1</sup> It is not to be wondered at if no direct mention is made in older sources of clanships among the Pueblos. The fact that the clans exist to-day is sufficient proof of their existence centuries ago, for the introduction of Christian rites of marriage and baptism, in place of strengthening gentilism, tended to destroy it. Notwithstanding, it exists, and is therefore a survival. In regard to the custom of the women building the houses in place of the men, it was noticed by Castañeda (*Cibola*, p. 168): "Les maisons se bâtissent en

the Pueblos, as well as among all sedentary tribes, the position of woman was not that of a slave. But marriage was rather an act of the clan, and therefore the parties stood to each other in relations of greater independence. Chastity was an act of penitence; to be chaste signified to do penance. Still, after a woman had once become linked to a man by the performance of certain simple rites, it was unsafe for her to be caught trespassing, and her accomplice also suffered a penalty.<sup>1</sup> But there was the utmost liberty, even license, as towards girls. Intercourse was almost promiscuous with

commun; ce sont les femmes qui gâchent le plâtre et qui élèvent les murailles. Les hommes apportent le bois et construisent les charpentés.” Still more explicit is Benavides (*Memorial*, p. 41): “Como lo testifican bien todas las iglesias y conuentos, que tienen hechos, los quales todos parecera encarecimiento el dezir, que siendo tan suntuosos y curiosos, los hã hecho tan solamête las mugeres, y los muchachos y muchachas de la dotrina; porque entre estos naciones se vsa hazer las mugeres las paredes, y los hombres hilan y texen sus mantas, y van á la guerra, y á la caza, y si obligamos á algũ hombre á hazer pared, se corre dello, y las mugeres se rien.”

<sup>1</sup> That the Pueblos were officially monogamous is generally affirmed by the older sources. I refer to Castañeda (*Cibola*, p. 164): “Un homme n'épouse jamais qu'une seule femme.” Mota-Padilla (*Historia de Nueva Galicia*, p. 160): “No tienen estos indios mas que una mujer.”

Marriage rites are variously described. Castañeda (*Cibola*, p. 170): “Quand un jeune homme se marie, c'est par l'ordre des vicillards qui gouvernement. Il doit. filer et tisser un manteau: on lui amène ensuite la jeune fille, il lui en couvre les épaules, et elle devient sa femme.” Mota-Padilla (*Historia*, p. 160): “En los casamientos hay costumbre, que quando un mozo da en servir á una doncella, la espera en la parte donde va á acarrear agua, y coge el cantaró, con cuya demostracion manifiesta á los deudos de ella la voluntad de casarse.” Villagran, *Historia de la Nueva México* (canto xv. fol. 135):

“Y tienen una cosa aquestas gentes,  
Que en saliendo las mozas de donzellas,  
Son á todos comunes, sin escusa,  
Con tal que se lo paguen, y sin paga;  
Es una vil bageza, tal delito,  
Mas luego que se casan viven estas,  
Contenta cada qual con su marido,  
Cuija costumbre, con la grande fuerça,  
Teniendo por certissimo nosotros,  
Seguimos tambien aquel camino,  
Juntaron muchas mantas bien pintadas,

members of the tribe. Towards outsiders the strictest abstinence was observed, and this fact, which has long been overlooked or misunderstood, explains the prevailing idea, that before the coming of the white man the Indians were both chaste and moral, while the contrary is the truth. Only, and this has been lost sight of, adoption into one of the clans was necessary in order to share the privileges which were considered essential for propagation.<sup>1</sup>

The Pueblo Indians had in fact no home life. Their dwellings have been so frequently described, and are therefore so

Para alcançar las damas Castellanas,  
Que mucho apetecian y quisieron."

Villagran is an execrable poet, but a reliable observer. What he states here occurred in one of the Piro villages near Socorro. Benavides (*Memorial*, p. 38): "Las mugeres que querian que los hombres las apeteciessen, salian al campo gordas, y buenas, y alçauan vna piedra, ó algun palillo sobre algun cerrillo, y allí le ofrecian harina, y en ocho días, ó los que podian, no comian, sino cosa que las inquietasse los estómagos y prouocasse á trocar, y se açotauan cruelmente, y quando ya no podian mas, y que de gordas se auian puesto flacas, y figuras del demonio, se venian muy confiadas en que el primer hombre que las viesse, las apeteceria, y les daria mantas q̄ es su principal fin." Finally, there is the proof as furnished by the Indians themselves after the departure of the Spaniards from New Mexico in 1680. The first measure taken by the Pueblos was a return to the customs of the "olden times." This is plainly expressed in the depositions of the Indians themselves, in 1681. *Interrogatorios y Declaraciones* (fol. 116): "Y las mugeres que tenian de santo matrimonio las devasen, y cogiesen las que ellos quisiessen." Even later there are from time to time evidences of a design of "returning to first principles." *Causa Criminal contra Gerónimo Dirucaca Indio del Pueblo de Picuries*, 1713 (MS.). This Indian was accused by his own people of living in concubinage with several women, at the same time being legitimately married. Several witnesses declared that he had publicly told the people, "que no creiesen lo que el R. P. les dezia sino lo que les auian enseñado sus antepasados, que eso lexitimamente era lo que deuián guardar y no otra cosa, y que para que ha de ser uerdad, y ser buena uida tenian el exemplar en la mano en el pues no ignorauan de la manera que el auia uiuido amancebado siempre."

<sup>1</sup> In order to marry into a tribe, adoption into a clan is essential. There are, of course, in many pueblos, females who will not hesitate to yield. But this is a transgression of older rules, when the concession is made to a stranger, whereas, among the Rio Grande villages at least, cohabitation often precedes marriage, and promiscuity, as in favor of the "village boys," is an established fact.

well and widely known, that a fresh description of them is needless. Specimens of them can be seen to-day in at least twenty-four pueblos of New Mexico and Arizona. Their architecture has been correctly called communal. The village in its original form was a bee-hive. But one feature of its life, and an interesting one, no longer exists, at least in New Mexico. This is the separation by sexes. At present the Indian dwells with his wife and children, and a number of families occupy one large, mostly two or more storied house. When the Spaniards came, they found that the women and their offspring occupied the cells and the houses, whereas the men, even after marriage, spent the nights in those singular constructions of a public nature which are now known under the name of "Estufas." It is commonly supposed that an estufa is always round, and at least partly subterranean, but this is not the case. Where the estufa could be dug out, it was so made, and then it was natural that it should be circular; but where this was impossible, as is the case to-day at Acoma, Laguna, and at Zuñi, an inner room, well secluded and easily guarded, served instead. It may be said that there are to-day two kinds of estufas, the official or public estufa, and the private one, which often is temporary. When the Pueblos were in their primitive condition, the estufa was not only the place of abode for the males,<sup>1</sup> but it also served the purpose of the Mexican Tel-

<sup>1</sup> Castañeda (*Cibola*, p. 170): "Les maisons appartiennent aux femmes, et les étuves aux hommes. Il est défendu aux femmes d'y coucher et même d'y entrer, autrement que pour porter à manger à leurs maris ou à leurs fils." Speaking of the young men (*Ibid.*, p. 169): "Ils habitent les étuves, qui sont sous terre dans les cours de village. Il y en a de carrées et de rondes." Zárate-Salmeron (*Relaciones* par. 74): "La última, en que duermen las mugeres y sus hijos. Los hombres duermen en la estufa, en cuyo medio encienden lumbre, y con los pies hacia ella." As late as 1704, this custom certainly prevailed among the Tehuas Diego de Vargas, *Autos Formados sobre la Llegada de unos Indios Moquis al Pueblo de Tuos* (MS., fol. 2): "Q̄ē vn yndio del Pueblo de los



puch Calli, or house of education for the boys.<sup>1</sup> It is probable that, as in Mexico, there were in each pueblo as many estufas as there were clans. This explains the great number of these constructions among many of the ruins. There the boys slept, ate, and whiled away their time when not strolling; there the men gathered also, and generally the women brought them their meals into that "House of the Males." The estufa was of necessity the council-house, for the "business" of the clans as well as of the tribe was in charge of the men, not so much as a right as a duty. That many religious rites were performed there is evident, but the estufa was not, as has been supposed, the permanent "temple" of the Pueblos. There were places of worship and conventional places of sacrifice, sacred spots and rooms, distinct from the estufas.<sup>2</sup> A reminiscence of this state of

taos ñe no conoze vino al Pueblo de thezuque y selo dijo así á este declarante como á otros yndios del Pueblo de thezuque estando en la estufa unos trauajando y otros platicando y otros jugando á los patoles."

<sup>1</sup> Compare *On the Social Organization and Mode of Government of the Ancient Mexicans*, p. 616.

<sup>2</sup> Torquemada (*Monarchia*, vol. i. p. 681) gives a description of one of these permanent places of worship, as he calls it, although it is by no means certain that it was permanent: "Su templo es vn aposento alto, de diez piés de ancho, y veinte de largo, todo pintado, y vnos arquillos tambien pintados. El ídolo es de piedra, ó de barro, y está asentado á la mano derecha de el Templo, con vna xicara, con tres huevos de gallina de la tierra; y tiene á la otra mano izquierda otra xicara, con elotes (ó macorcas de maiz) y delante de si tiene vna olla llena de agua." This looks very much like the outfit of a temporary or occasional "place of worship." Another description of a similar locality is given by Villagran, *Historia* (Canto xv. fol. 135):

"Y á nuestro General ouedecieron,  
Alojándole dentro de su pueblo,  
En cuias casas luego reparamos,  
En una gran suma que tenian,  
De soberuios demonios retratados,  
Ferozes, y terribles por extremo,  
Que claro nos mostrauan ser sus dioses,  
Porque el dios del agua, junto al agua,  
Estaua bien pintado, y figurado,  
Tambien el dios del monte, junto al monte,

affairs is found to-day in the private estufas (of the medicine-men, etc.), and it is still fully developed in the customs of outside worship in the desert timber, or on secluded meass, as practised by the Rio Grande villagers; it is especially well exemplified among the Zuñi Indians in every branch of their religious life. Religious practices in vogue to-day are more or less exactly described by authors of the seventeenth, and even of the sixteenth century, although not with their full de-

Y junto á pezes, siembras, y batallas,  
 A todos los demas que respetauan,  
 Por dioses de las cosas que tenian."

Espejo says (*Relacion*, p. 174): "Tienen en cada uno destes pueblos una casa donde llevan de comer al demonio, y tienen ídolos de piedra pequeños donde idolatran; y como los españoles tienen cruces en los caminos, ellos tienen en medio de un pueblo á otro, en medio del camino, unos cuizillos á manera de humilladeros hecho de piedras donde ponen palos pintados y plumas, diciendo va allí á reposar el demonio y hablar con ellos."

From the time of Coronado we have some statements in regard to places of worship. *Relacion del Suceso*, p. 320: "Los ritos é sacrificios que tienen son algunos ídolos; pero á lo que mas husan es á la agua, á la qual ofrecen unos palillos pintados, é plumas, é polvos amarillos de flores, y esto es lo mas ordinario en las fuentes. Tambien ofrecen algunas turquesas que las tienen, aunque ruines."

Oñate, *Carta escrita al Virrey*, p. 308: "Su religion es adorar ídolos que tienen muchos, y en sus templos á su modo los reverencian con fuego, cañas pintadas, plumas y ofrenda universal, casi de todas las cosas que alcanzan, animalejos, aves, legumbres," etc.

But the principal object of the estufa seems to have been, not worship, but a home for the males recalling the time when only sexual distinctions formed the basis of society. During the Spanish occupation of the country the aboriginal worship was largely suppressed, but as soon as the Pueblos felt themselves once again independent they at once re-established the estufas; and together with the estufa, the outside places of worship, the shrines, reappeared. This results from the proceedings following the expulsion of Otermin. *Interrogatorios y Declaraciones*, fol. 130: "Y pusieron por sus Iglesias á los quatro vientos y en medio de la plaza unos cercadillos de piedra amontonada, donde iban á ofrecer arina, plumas, y la semilla del meague, del maiz, tabaco, y otras supersticiones, . . . mandaron leuantar todas las estufas, que son sus casas de idolatría." *Ibid.*, fol. 139: "Que mandaron de orden del dicho Pope, Alonso Catite, Gobernador y cabeza de la nacion Queres, que pusiesen en el pueblo, y sus alrededores montones de piedra, para que allí ofreciesen maiz quebrado y otras semillas, . . . hicieron muchas estufas en los pueblos."

tails. Sometimes they are erroneously explained, but enough is stated concerning them to prove that recent discoveries about the pueblos rest on solid fact, and are not the product of imagination.

The idea of one supreme being is not mentioned as existing among the New Mexican villagers. But the strongly fetichistic nature of their creeds, beliefs, and rites struck the early missionaries very forcibly. This is graphically expressed in the statements that they worshipped the devil and demons in general, and that witchcraft and adoration of the elements, etc. were their chief religious practices. Idols of stone and of wood were found among them in great numbers, and some of the Spanish authors made not incorrect guesses at the signification of some of them.<sup>1</sup> The practice of performing sacrifices outside of the villages, at small heaps of stones and near to springs or other places marked by their natural features, is often emphasized, and the prayer plumes, or sacrificial plume-sticks, are frequently referred to.<sup>2</sup> The custom of doing penance, of fasting and

<sup>1</sup> I refer again to Villagran, *Historia*, fol. 135. Idols of stone are frequently mentioned. In addition to the sources already quoted, see Gaspar Castaño de Sosa, *Memoria del Descubrimiento*, p. 244: "Porque tienen muchos ídolos que atrás nos olvidaba de declarar; y en el primer pueblo, donde esto sucedió, al maese de campo el susso, había muy gran cantidad, é los tienen todos." Oñate, *Discurso*, p. 252: "Donde había gran cantidad de maíz, y muchos ídolos pintados, tantos, que en solas dos piezas, conte sesenta." This is a confirmation of Villagran. *Ynterrogatorio de Preguntas*, MS., 1681: "Y habiendo descubierto esta traición ahorcaron el dicho yndio Estevan, y sosegaron á los demás, y en los bienes que se sequestraron del dicho yndio se halló dentro de su casa cantidad de ídolos."

<sup>2</sup> *Relacion del Suceso*, p. 320. Espejo, *Relacion*, p. 174. Oñate, *Carta*, p. 308. *Ynterrogatorio de Preguntas*: "Y ollas enteros de polvos de yerbas idolátricas, plumas y otras porquerías." Benavides, *Memorial*, p. 38: "Su Religion, aunque no era idolatría formal, casi lo era, porque para qualquiera accion ofrecían, como era al tiempo que iban á pelear con sus enemigos, ofrecían harina, y otras cosas á las cabelleras de los que auian muerto de la nacion enemiga. Si iban á caçar, ofrecían harina á cabeças de venados, liebres, conejos, y otras animales muertos; si á pescar ofrecían al río." *Ibid.*, p. 39. Torquemada, *Monarchia*, vol. i. p. 681:

abstinence, is insisted upon as common, and resorted to for various purposes.<sup>1</sup> Even the strange religious organization that Mr. Cushing has re-discovered did not escape the notice of writers in the seventeenth century.

It is true that this religious organization, which at the present day is kept as much as possible secret from the outsider, was then public property in so far that every member of a tribe knew of its existence, and belonged more or less to a certain branch of it. The workings of the system were plain to every one, and they would have remained plain to this day had it not been for its baneful effects, which more than anything else contributed to retard the advance of the Indian on the path of progress. It caused a constant clash with the European element, and created the absolute necessity of suppressing customs so directly opposed to the ideas of civilization as understood by the whites. Witchcraft was one of the principal weapons used by the leaders of Indian faith ere they resorted to force of arms, and, while the formulas and magic means employed were of course harmless, the intention of doing injury was manifest, and it required, when persuasion failed to check it, the strong hand of force; just as a child, when teachings and reprimands are no longer effective, must be convinced by the corrective rod. But the system was so strongly rooted, it had taken such a powerful hold on every thought and action of Indian life, that, upon suppressing its public manifestations, it continued to prevail as an occult affair, secret from all who did not believe in it. Of this religious organization, which now takes an esoteric form, at least three

“Luego de mañana, van las mugeres con harina y plumas, á vnas piedras toscas, que tienen levantadas, y les hechan vn poco de la harina que llevan, y de aquellas plumas, porque las guarden aquel dia, para que no calgan de las escaleras, y tambien para que les den mantas.”

<sup>1</sup> Benavides, *Memorial*, p. 39.

components are plainly mentioned as early as 1630; namely, the warriors, the medicine-men, and the highest Shamans or priests of the tribe. Their influence was then so prominent, that intertribal dissensions are attributed to their mutual antagonism.<sup>1</sup> We may infer that the power which they then

<sup>1</sup> Even in the first years after Oñate's settlement of New Mexico, secrecy about religious matters became noticeable among the Pueblos. Torquemada, *Monarchía*, vol. i. p. 601: "Esta Gente es sagaz, y de mucho secreto; y por esta causa no se han podido ver mas cosas, ni saberlas, acerca de su falsa religion." Allusion to the esoteric orders is found in Benavides, *Memorial*, p. 37: "Toda esta gente y naciones en su gentilidad estaua diuidida en dos parcialidades, guerreros, y hechizeros, procurando los guerreros reducir á su imperio y mando, en oposicion de los hechizeros, toda la gente; y los hechizeros con la misma oposicion persuadian á todos á que ellos hazian llouer, y dar la tierra buenas sementeras, y otras cosas de que mofauan los guerreros, por lo qual auia entre ellos continuas guerras ciuiles, tan grandes, que se matauan, y asolauan los pueblos enteros."

Witchcraft is one of those features of Indian creed and worship which most strongly attracted the attention of early writers, and whose operations were directly felt; not that the incantations themselves could produce any effect, but they were a sign of hostility which could be but a prelude to more effective action. Besides, witchcraft was then regarded as a fact, as a real and substantial crime, and liable to punishment. Therefore, as I have already observed, when speaking of other tribes, witchcraft embodied in the eyes of the European new-comers the substance of Indian creed and of Indian cult. Among the Pueblos, the sorcerers attracted most attention; idolatry appeared practically only in the background.

The mentions of witchcraft are frequent, and we meet them at an early day. They abound in the documents of the period preceding the revolution of 1680. It was indeed a case of witchcraft which brought into prominence the notorious Po-pe, and which caused that Indian, already a medicine-man of repute to assume a leading position among his people. Castañeda does not mention sorcerers. He only says (*Cibola*, p. 172), "Ils ont des prédicateurs." Mota-Padilla (*Historia*, p. 160) says of their religious practices: "No se vió templo alguno, ni se les conoció ídolos, por lo que se tuvo entendido adoraban al sol y á la luna, lo que se confirmó, porque una noche que habó un eclipse, alzaron todos mucha gritería." What are usually called "sorcerers" in the older sources are the members of the secret orders, the medicine-men or "priests" of each tribe. I cannot here give a detailed explanation of these organizations, — this must be reserved for the next section, — but the practical working of them, as towards the Spaniards, is instructive. Benavides is probably the first who has given a clear notice of these strained relations. He says (*Memorial*, p. 34): "Es costumbre general entre todos los Indios infieles, recibir al principio muy

wielded over the social public as well as private life of their tribes was larger than it is to-day, for it had full sway over the imagination of the people. Among its leading exterior tokens were the numerous dances which occupied part of the time of the public, and many of which are easily recognized as still practised now. Thus Antonio de Espejo describes a festival at Acoma during which live snakes were handled by the dancers, after the manner of the snake dance that is still danced among the Moquis.<sup>1</sup> Several other performances of a similar nature are occasionally described,<sup>2</sup> although, on the

bien al religioso en sus pueblos, y reducirse luego al bautismo, y viendo quando les catequizan, que han de dexar sus idolatrias, y hechizerías, sientenlo tanto los hechizeros, que inquietan á todos, y los diuieren, para que no sean Christianos, y no solo esto, sino que echen al religion ó del pueblo, y sino que le maten." In these performances of witchcraft, poison was not unfrequently employed against the Spaniards, as well as against the missionaries. I shall have to treat of these facts at length in the next section of the present Report, and therefore limit myself to one single quotation in regard to the existence of sorcerers among the Pueblos at the time of Oñate. Villagran, *Historia* (canto xv. fol. 139):

“Y en sus prestigiosos hechizeros,  
Idólatras perdidos.”

<sup>1</sup> It is with no small personal gratification that I quote here as old an eye-witness as Antonio de Espejo in favor of the veracity of my friend Captain J. G. Bourke, U. S. Army, in regard to the snake dance still practised among the Moqui Indians. It has, besides, been not unfrequently stated to me by Indians from the Rio Grande pueblos, that they also had that dance at one time. But Espejo saw performances with live snakes on the rock and in the pueblo of Acoma in 1582, during a solemn dance. He says (*Relacion*, p. 180): “Hicieron nos un mitote y baile muy solemne, saliendo la gente muy galana y haciendo muchos juegos de manos, algunos dellos artificios con viveras vivas, que era cosa de ver lo uno y le otro.”

<sup>2</sup> Villagran (*Historia*, fol. 222) describes a nocturnal dance at Acoma, which was danced as a preliminary to the fight with Juan de Zaldivar, in 1599:

“Y ellos empezaron luego el baile,  
Y entraron tan briosos y gallardos,  
Cual suelen los cauallos que tascando  
Los espumosos freños van hiriendo,  
Con las herradas manos lebantadas,  
Los duros empedrados, y así bravos,  
Hollándose ligeros, mil pedazos,

whole, the student will regret to find that the Spanish authorities fail to give us ample descriptions of what to-day is "the greatest curiosity" among the Pueblos for tourists and ethnologists. This apparent lack of due attention is misinterpreted if it be attributed to carelessness, or even to obtuseness created by prejudice. Its causes are different. The Spaniards came from Mexico, and had mostly lived in Mexico at a time when idolatrous dances were performed with an amount of display in costumes and ornaments with which the modest paraphernalia of the Pueblos not only could not compete, but in comparison with which they dwindled into insignificance. Not that the dress and decorations worn by the Nahuatl, the Maya, etc. bore testimony to any great advance in art or industry over the culture of the New Mexicans. The costumes were similar in many particulars, but tropical nature afforded to the southern tribes so much more richly colored and showy material, that the appearance to the eye was incomparably superior. There was a like sim-

Canosos de arrancar se van haziendo,  
 Assí los bravos baruaros soberuios,  
 Haziendo mil lindezas y saltando,  
 Heriendo aquel penasco á puros golpes,  
 De las valientes plantas que assentauan,  
 Y con fuerza de gritos y alaridos,  
 Un infernal clamor allí subian,  
 Tan horrendo y grimoso que las almas  
 De todos los dañados parecian,  
 Que allí su triste suerte lamentauan,  
 Este baile turó hasta el alua."

Torquemada, *Monarchía* (vol. i. p. 681): "Vistense galanos para hacer sus mitotes y bailes, cada barrio por sí; salen a ellos vestidos, así hombres, como mugeres, con mantas pintadas y bordadas; lo qual todo pintan, y bordan los hombres, porque las mugeres no lo aprenden, y así no lo hacen. Quando piden agua á sus dioses, andan los indios desnudos junto á las casas, y las indias desde los corredores, les hechan agua con ollas, y jarros, con que los bañan bien, y tambien bailan en las estufas, y açotan á vn indio cruelmente, y lo arañan, y rasguñan con vnos como peines; de manera, que lo dexan todo desolado y rasgado, y todo esto hacen porque llueva."

ilarity in the music, in the custom of wearing masks, and in the general order and motions of the dances.<sup>1</sup> The dances of the Pueblos were therefore no surprise to the whites; they had seen far more striking displays of the same nature, and unless a calisthenic feast showed features which farther south they had not seen, it was passed over in silence or slightly noticed. Nevertheless, there was one class which became soon very prominent in the eyes especially of the clergy, and to which great attention was paid, not for ethnological purposes, since ethnology was not yet a branch of knowledge, but owing to their signification and their practical bearing upon the religious and social life of the Indian. These dances have been handed down to us under the common designation of "Ca-chi-nas." The origin of the word is found in the Tehua language, where "Ka-tzin-a" signifies the spirits of the fetiches of game.<sup>2</sup> To dance a Katzina was therefore to perform some animal dance with the object of performing an incantation, either for purposes of the hunt, or of war, or some other work of public utility. The deer dance, when

<sup>1</sup> Espejo, *Relacion*, p. 174: "Tienen todas las pinturas de sus casas y otras cosas que tienen para bailar y danzar, así en la música como en lo demas, muy al natural de los mexicanos."

<sup>2</sup> Torquemada (*Monarchia*, vol. i. p. 681) mentions these deities, three in number, and it is clear from the context that he particularly refers to idols of the Tehuas. Other similar deities are mentioned on occasion of the uprising of 1680. *Interrogatorios y Declaraciones*, fol. 135. While Po-pe was concealing himself in the estufas of Taos three "demons" are said to have appeared to him, and these demons or deities are called, respectively, Caudi or Cadi, Tilim, and Heune. In the same document mention is also made of the sacred lagune whence the Pueblos claim to have issued, and this lagune, the Tehua name for which was Cibobe, is called Colela and Copiala, — "porque siempre deseaban viuir como salieron de la laguna de Colela."

The Cachina, as the name of a particular class of idolatrous dances, appears in the middle of the seventeenth century. The dance was early prohibited, but was never completely suppressed, and the Spaniards soon found out that, whenever a Cachina was preparing, it meant surely some mischief. One of the first things the Pueblos did after the expulsion of Otermin from New Mexico was to re-establish the Cachinas.



performed with a religious intent, and not merely for the entertainment of visitors, the dance of the mountain sheep, the much discredited snake dance, in fact, all animal dances, are the original Cachinas. But the name was very soon extended to all idolatrous dances in general, and as a number of them were very obscene, it was necessary to prohibit them. Obscenity and public immorality enter into Indian belief and creed as symbolism. With the Indian, form and shape appear so intimately connected with substance that they are inseparable, and the surest way, in the Indian's mind, to make a prayer effective, is to symbolize the matter prayed for by a close imitation thereof.

To the numerous rites of a religious nature, whose performances strike the eye even of the most inattentive, belongs one which consists in the representation of particularly obscene rites. It is variously called, according to the idiom of the tribe to which it belongs, and a description of the ritual dress as well as paint has been handed down to us from as early a date as 1599. At that date it was performed in connection with warlike operations.<sup>1</sup>

<sup>1</sup> It is easy for one who has seen the so-called *Ko-sha-re* or *Entremeseros* act the part of clowns at some of the Pueblo dances to recognize these obscene and disgusting personages in the graphic description furnished by Villagran of the manner in which the *Acomas* received the Spaniards when *Vicente de Zaldivar* approached their inexpugnable rock, in January, 1599 (*Historia*, fol. 226):

“Tambien entre varones y mugeres,  
Andauan muchos baruaros desnudos,  
Los torpes miembros todos descubiertos,  
Tiznados, y embijados de unas rayas,  
Tan espantables negras y grimosas,  
Cual si demonios brauos del infierno.  
Fueran con sus meleñas desgrenadas,  
Y colas arrastrando, y unos cuernos,  
Desmesurados, gruesos y crecidos,  
Con estos trajes todos sin verguenca,  
Saltauan como corços por los riscos,  
Diziéndonos palabras bien infames.”

Information as to the burial rites of the Pueblos is exceedingly meagre and unsatisfactory. It points to cremation, but in presence of the pre-Hispanic burial grounds discovered lately, which contain complete skeletons, cremation cannot be asserted to have been a general custom.<sup>1</sup>

Religion, or rather magic, was essential to warfare. Many of its details, important as well as unimportant, were connected with articles of Indian faith. Such, for instance, was, and is yet, the act of scalping. In securing the scalp of the dead, the captor secures the faculties, mental as well as physical, of him whom he has slain, and renders them so to say tributary to himself and to his tribe. The Pueblos scalped, they danced with the scalp, and honored it.<sup>2</sup> The scalp dance also was therefore a Cachina. Fasts preceded a campaign, as well as among other tribes. The warrior before and immediately after his military enterprise was almost a sacred being. The mode of warfare of the Pueblos did not differ from that of other Indians. Its tactics were ambush and surprise, its weapons those of the savage. The Pueblos carried the shield, the bow and arrows in their respective

<sup>1</sup> Castañeda (*Cibola*, p. 165) says of the Indians of Zuni-Cibola: "Ils brûlent les morts, et avec eux les instruments qui leur ont servi à exercer leur métier." Mota-Padilla (*Historia*, p. 160) describes a cremation witnessed by Coronado's men: "Y en una ocasion vieron los españoles, que habiendo muerto un indio, armaron una grande balsa ó luminaria de leña, sobre que pusieron el cuerpo cubierto con una manta, y luego todos los del pueblo, hombres y mujeres, fueron poniendo sobre la cama de leña, pinole, calabazas, frijoles, atole, maiz tostado, y de lo demas que usaban comer, y dieron fuego por todas partes, de suerte que en breve todo se convirtió en cenizas con el cuerpo." Mota-Padilla had access to sources extant at Guadalajara in the past century which are unknown to me.

<sup>2</sup> The custom of scalping the dead seems to have been an ancient one among the Pueblos. Benavides, *Memorial*, p. 38: "Como era al tiempo que ivan á pelear con sus enemigos, ofrecian harina y otras cosas á las cabelleras de los que auian muerto de la nacion enemiga." The taking of scalps is mentioned in documents of a posterior date, but always in a manner that leads to suppose that it was an ancient custom.

quivers, and the war-club; whether the lance was in use is still undetermined. But in addition he wore a sort of helmet; it was a close-fitting cap made of buffalo hide, strong enough to resist an arrow at long range. This military garment has now gone out of use, and the shield of buffalo hide is little more than a mere ornament or keepsake. Both have shared, or are bound to share, the fate of the flint-tipped arrow and of the war-club with a massive head of stone.<sup>1</sup> The question whether slings were used for hurling stones is not certain. Pebbles and rocks were largely resorted to for defensive purposes. The flat roofs contained accumulations of such material.<sup>2</sup> The villages were defended from the

<sup>1</sup> The helmet or cap of buffalo hide is mentioned by Castañeda, *Cibola*, p. 67. Indians from Pecos (Cicuye) came to visit those of Zuyi, and they offered to Coronado "des casques." The helmet was well known to the Zuñis and used by them, according to Mr. Cushing. As to the shields of buffalo hide, they are so frequently mentioned by the oldest authors that it is superfluous to quote. The same is the case with the other weapons mentioned. I merely quote one author, Villagran, who when he describes the people of Acoma arming themselves against the Spaniards, gives the following inventory of the weapons used by the tribe (*Historia de la Nueva México*, canto xviii. fol. 157):

" Los unos con gran priesa descolgando,  
Del alto techo la formida maça,  
Otros el grueso leño bien labrado,  
Qual la rodela y hasta bien tostada,  
El arco, y el carcax de agudas puntos,  
Con otras muchas armas que á su modo,  
Han conserbado siempre, y han guardado."

In regard to the macanes or war-clubs, it seems that the club of to-day, a short stick with a heavy notch at one end, was in use three centuries ago. Espejo (*Relacion*, p. 175): "Y las macanas son un palo de media vara de largo, y al cabo del muy gordo." One and a half vara, or about eighteen inches, is the customary size of the war-club of to-day. That the arrows were tipped with flint or stone scarcely needs proof, still I shall quote here Espejo (p. 174): "Que las flechas son de varas tostadas y la puntas dellas de padernal esquinadas, que con ellas facilmente pasan una cota."

<sup>2</sup> When Coronado had to storm the village of Hauicu of the Zuñi group of pueblos, he was himself hurt by rocks thrown from the houses. *Traslado de las Nuevas y Noticias*, fol. 532: "Dieronle en la cabeza y hombros y piernas muchos polpes de piedra." Castañeda, *Cibola*, p. 43: "Le général fut renversé d'un

house-tops;<sup>1</sup> in a few rare instances, as at Pecos, a rude stone wall encompassed the place.<sup>2</sup> In case of dire necessity the pueblo was temporarily abandoned, and the tribe retired to the nearest convenient rock or plateau for a time. If in the interval the village had been sacked or burnt, it was rebuilt, but seldom on the same site. As a general rule, changes of location were common and easy; hence the great number of ruins to-day. They indicate, and I cannot enough insist upon this fact, numerous shiftings, and not a large simultaneous population.<sup>3</sup>

There is nothing in the natural resources of New Mexico that could maintain a large number of people whose mechanical and industrial means of support were those of what has been called the "stone age." The water supply of the territory is remarkably scant, and, while the Indian knew and used springs which the present settler is sometimes unacquainted with, the value of such springs was not very great. They might suffice for the wants of one or a few families, sometimes for a small village. To such watering places the Indian was limited, outside of the river bottoms of larger

coup de pierre en montant à l'assaut; et il aurait été tué sans Garci-Lopez, etc. qui se jetèrent devant lui et reçurent les pierres qui lui étaient destinées et qui n'étaient pas en petit nombre." As to the custom of storing pebbles on the house-tops, it is abundantly proved. Gaspar Castaño de Sosa (*Memoria del Descubrimiento*, p. 230) also mentions "hondas."

<sup>1</sup> Almost every engagement with the Pueblos proves this. Already the *Relacion Postrera de Sivola* (MS.) says: "Es gente que defiende bien su capa, y desde sus casas, que no curan de salir fuera."

<sup>2</sup> This stone wall is still visible at Pecos. It existed in 1540. Castañeda, p. 177.

<sup>3</sup> The changes that have occurred in the sites of the various pueblos within three centuries are considerable. It required the dispositions taken by the Governor Don Domingo Gironza Petriz de Cruzate in 1689 to compel the Indian to remain within a certain circuit at least. The so-called Pueblo Grants are not grants, they are limitations placed to the erratic tendencies of the sedentary, or rather land-tilling aborigines. Previously the villages were moved about within the range at will, and upon the slightest provocation.

streams. But the larger streams are few and far between, and only portions of their course suitable for cultivation. Only the Rio Grande, the San Juan, the Chama, parts of the Pecos, Jemez, Puerco, and Upper Gila, irrigate large valleys.

True it is, the Indian did not need to irrigate everywhere. His domestic plants did not all require artificial watering. Corn, for instance, grows by means of summer rain and winter snows alone, provided both come at the right time. Wheat the Pueblo Indian knew only after the advent of the Spaniard. Squashes, or calabashes, and beans required irrigation. But corn was the great staple, and corn may grow on elevated table mountains or plateaus that are many hundreds, nay thousands, of feet above a spring or a brook. In such cases, the village Indian subsisted on a scanty crop and on game: he sacrificed to security of living the comforts of a more productive location.<sup>1</sup>

The Tanos of the Galisteo basin had no watercourses from which to derive channels for the wants of their crops.<sup>2</sup> The Piros of Tabira, and the Tiguas of Cuaray, subsisted from corn watered only by rain. Nor was it indispensable that the precipitation should be very abundant; but only that the rain or snow should come in season. The Pueblo had no stock to water, the turkey was his only fowl.<sup>3</sup> Mammals he did not

<sup>1</sup> The testimony in favor of the assertion, that the Pueblos irrigated previous to the advent of the Spaniards, whenever the water-courses gave a sufficient supply, are abundant and conclusive. I only refer to those from the earliest times, and in regard to which there can be no suspicion of reporting features introduced by Europeans. Espejo, *Relacion*, p. 174: "Y de todo esto hay sembrereros de riego y de temporal con muy buenas sacas de agua y que lo labran como los Mexicanos." Old irrigating ditches are quite common in New Mexico.

<sup>2</sup> Espejo, p. 176.

<sup>3</sup> Turkeys, as a domestic fowl, are frequently mentioned. Castañeda, *Cibola*, p. 171. *Relacion del Suceso*, p. 320. Hernando de Alvarado, *Relacion de lo que descubrieron en Demanda de la Mar del Sur*, p. 512: "Tienen mucha comida de maiz e frisoles y melones y gallinas en grande abundancia." *Relacion Postrera*:

know how to domesticate and to raise. If, therefore, necessity compelled him to retire into regions where running water or springs did not exist, a tank or simple artificial cistern was sufficient for his needs. Thus, the village of Tabira (Gran Quivira) had four large artificial pools from which the people derived drinking water. The pueblo of Acoma subsists to-day upon the water collected in a picturesque basin on the top of the rock, three hundred and fifty feet above the utterly dry valley. To such and similar devices the New Mexican villager had to resort, and it was a relief to him when he could nestle by the side of a permanent river, and raise beans and calabashes with the aid of primitive channels of irrigation. The tribes on the Rio Grande, and the people of Taos and Pecos, enjoyed such privileges more than any of the other tribes. With them irrigation was easy, and frequent mention is made of it by the older writers.

As far north as the village of Santo Domingo, or Cochiti, that is, in the latitude of Santa Fé, cotton was raised by the Pueblo Indians. The introduction of sheep has, in this colder climate, caused wool to supersede cotton among the natives; but previously to the seventeenth century the aboriginal dress consisted largely of cotton sheets, or rather simple wrappers, tied either around the neck or on the shoulder, or converted into sleeveless jackets. This was the custom especially in the cotton-raising villages, but the others also, like Zuñi, Acoma, and the Tanos, used cotton, obtaining it by barter.<sup>1</sup> Beside cotton, the materials used for the dress of the Pueblos were deer skins and buffalo

"Tienen algunas gallinas, las cuales guardan para hacer mantas de la pluma." Espejo, *Relacion*, p. 175.

<sup>1</sup> The fact that cotton was raised along the Rio Grande is so universally stated by older authors, that I refrain from quoting. In regard to Zuñi, it is doubtful, although I believe that it was not the case. The Moquis, however, did raise cotton.

robes, rabbit hair or skin (particularly at Zuñi and at Moqui), and leaves of *Yucca bacata* and *Y. angustifolia*. Of the fibre of the Yucca, the Zuñi Indians made skirts and kilts; of rabbit skins, very heavy blankets were made.<sup>1</sup> The northern Pueblos, the Tehuas, Taos, and also the Pecos and Tanos, dressed in buckskin in preference to anything else.<sup>2</sup> But still, even when cotton was unobtainable for whole garments, they sought to secure cotton scarfs and girdles woven in bright colors, which were used for belts as well as for garters, etc. The dress was more simple than that of to-day. Leggings of buckskin were worn in winter only, and then mostly by the northern Pueblos. The moccason, or "tegua," protected the feet. It is explicitly stated that, while the "uppers" of this shoe without heel were of deer-skin, the soles were frequently of buffalo hide.<sup>3</sup> The Pueblos,

<sup>1</sup> Skirts made from Yucca leaves are frequently mentioned. At Zuñi, for instance, *Relacion del Suceso*, p. 320: "se visten de mantas de Henegrien," that is, I presume, of Hennequen, a species of the Agave. *Relacion Postrera*: "Andan las mugeres vestidas de mantas de maguey hasta los piés." Zarate, *Relaciones*, par. 44: "Vistense de mantas de Yztli texidas de cardoncillo." As for the robes of rabbit skins, they are mentioned by Fray Marcos de Nizza, *Descubrimiento*, p. 338; Don Antonio de Mendoza, *Deuxième Lettre à l'Empereur*, 17th April, 1540; Cibola, Appendix, p. 294, after the statements of Melchior Diaz, *Relacion Postrera*: "Tambien hacen mantas de pellejos de liebres y de conejos, con que se cubren."

<sup>2</sup> Hernando de Alvarado, *Relacion*, p. 513. Espejo, *Relacion*, p. 177. *Relacion Postrera. Relacion del Suceso*, p. 325.

<sup>3</sup> Descriptions of the Pueblo costume are very frequent in older sources. Of Zuñi, Castañeda (*Cibola*, p. 163) says: "Les Indiens de ce pays sont très-intelligents, ils se couvrent les parties naturelles et tout le milieu du corps avec des pièces d'étoffes qui ressemblent à des serviettes; elles sont garnies de houpes et d'une broderie aux coins; ils les attachent autour des reins. Ces naturels ont aussi des espèces de pelisses en plumes ou en peaux de lièvres, et des étoffes en coton. Les femmes portent sur les épaules une espèce de mante qu'elles nouent autour de cou en les passant sous le bras droit; elles se font aussi des vêtements de peaux très-bien préparées, et retroussent leurs cheveux derrière les oreilles en forme de roue, ce qui ressemble aux anses d'une coupe." I omit the descriptions furnished by Fray Marcos and by Melchior Diaz, since neither of them saw the costume, and they report from hearsay merely. Juan

as well as the roaming Indians, knew the art of tanning, and the astringent qualities of the "Caña agria" (*Rumex venosus*) were not unknown to them, but the plant came into use for tanning only under the Spanish régime.

Thus both agriculture and the hunt furnished to the villagers not only food, but dress also. The turkey, which was kept around the houses of the pueblo, was domesticated, not so much for its meat as for its feathers. Feather mantles were a part of the wearing apparel, and afforded both protection and ornament.<sup>1</sup> We meet among the New Mexicans the two elements which, farther south, consti-

Jaramillo, *Relacion hecha de la Jornada que habia hecho á la Tierra Nueva*, p. 308: "El vestido de los indios es de cueros de venados, estrenadísimo el adobo, alcanzan ya algunos cueros de vacas adobado con que se cobijan, que son á manera de bernias y de mucho abrigo; tienen mantas de algodón cuadradas, unas mayores que otras, como de vara y media en largo; las indias las traen puestas por el hombre á manera de gitanas y ceñidas una vuelta sobre otra por su cintura con una cinta del mismo algodón." *Relacion Postrera*: "Andan cernidas: traen los cabellos cogidos encima de las orejas como rodaxas." *Testimonio Dado en México*, pp. 84, 90: "Y la gente vestida de mantas de algodón y camisas de lo propio." Espejo, *Relacion de Viage*, p. 173: "En esta provincia se visten algunos de los naturales, de mantas de algodón y cueros de las vacas, y de gamuzas aderezadas; y las mantas de algodón y cueros de las vacas las traen puestas al uso Mexicano, eceto que debajo de partes vergonzosas traen unos paños de algodón pintados, y algunos dellos traen camisas, y las mugeres traen naguas de algodón y muchas dellas bordadas con hilo de colores, y encima una manta como la traen los indios Mexicanos, y atada con un paño de manos como tohalla labrada, y se lo atan por la cintura con sus borlas, y las naguas son que sirven de faldas de camisa á raiz de las carnes, y esto cada una lo trae con la mas ventaja que puede; y todos, así hombres como mujeres, andan calzados con zapatos y botas, las suelas de cuero de vacas, y lo de encima de cuero de venado aderezado; las mugeres traen el cabello muy peinado y bien puesto y con sus moldes que traen en la cabeza uno de una parte y otro de otra, á donde ponen el cabello con curiosidad sin traer nengun tocado en la cabeza."

<sup>1</sup> The manner of making these feather mantles is described as follows by Juan Jaramillo (*Relacion hecha de la Jornada*, p. 309): "Cueros unos pellones de plumas que las tuercen, acompañando la pluma con unos hilos, y despues las hacen á manera de tegido raro con que hacen las mantas con que se abrigan." Alvarado (*Relacion*, p. 512) also mentions the "pellones de la pluma de las gallinas."



tuted the fine robes of the Mexican Indians, the feather or plume, and the rabbit skin or hair. In Mexico, the two were combined in a garment that astonished the Spaniards by the beauty of its color and its intricacy of design. Farther north, each material was used by itself: the Pueblos had not yet advanced to the idea of a combination.

The hunt as well as fishing was mostly communal. What in Peru has been described as the "Cha-cu," or great hunting expeditions of the Incas, could be witnessed in New Mexico even as late as this century. It was nothing else than a wholesale slaughter, in the most cruel and sometimes wanton manner, of all the game within a circle encompassed by a large number of people. Such communal hunts were under the special direction of the war captains, and not unfrequently several villages associated for the purpose. The meat was distributed among the households, and it would seem that a portion was reserved for rainy days.<sup>1</sup> For the Pueblo was not as improvident as the roaming Indian, who has the resource of changing his abode in case the local supply is exhausted. The Pueblo laid in communal stores; certain small tracts were cultivated for that purpose, and the crops were housed in advance of the individual ones. There is still one remnant left of the ancient custom of communal hunting. These are the periodical rabbit hunts, made ostensibly for the benefit of the Cacique. I merely mention them here because they were accurately observed and described as early as the last years of the sixteenth century.<sup>2</sup> There is of

<sup>1</sup> This custom is reported by the Pueblo Indians as being an ancient one: it is now falling into disuse.

<sup>2</sup> The communal hunts are described, or at least noticed, by Torquemada, *Monarchía*, vol. i. p. 680: "Para ir á caça, hechan vando, y lo pregonan tres dias continuas; pasados los tres dias, salen á los campo y á la caça, que ya está pregonada." An excellent description of it, particularly of the rabbit hunt still practised to-day, is found in Villagran, (*Historia*, canto xvii. fol. 163.) but it is too long to be copied here.

course a great deal of superstitious practice connected with all these performances, for the Indian is so fettered to his complicated creed that his most insignificant actions are associated with some ritualistic performance.

Landed tenure was simple, and had not risen to the conception of individual ownership. The tribe or village claimed a range, the limits of which were ill defined. Within this range each male was at liberty to till a plot or tract, and since he it was who did the work on it, to him, and not to any female, was the right conceded of controlling the field. But he could not alienate it except to members of the tribe or of the clan. To such he could barter away and exchange his field, his crop even, so long as it was not housed. After housing, the crop belonged to the family, for the house was its abode, and the house had been built by the woman. There is consequently truth in the broad assertion, that the land belonged to the men and the dwellings to the women, with the restriction, however, that such possession was subject to the claims of social organization; it was a possessory right rather than an absolute title. The fields, after the father's demise, might descend to his male children, or one of them; but any young man had the opportunity to obtain a plot of his own, and strict rules of inheritance cannot be said to have existed. With articles of personal use, the brothers seem to have stood nearer than the children: the Pueblos were approaching a state of transition from mother right to descent in the male line.<sup>1</sup>

It is almost superfluous to enter into any details about the agricultural and household implements of the Pueblos. To say that these Indians knew no metal of any kind, that

<sup>1</sup> These facts have been told me by a number of old Indians, belonging to the esoteric groups among which traditions are preserved with the utmost care. They refer more particularly to the Rio Grande Pueblos.

consequently basalt, flint, obsidian, granite, bone, and wood were the materials out of which they manufactured their instruments, designates their average type. To the student of details many interesting local variations will appear, but it suffices for our purpose to establish the degree of culture in general. I must, however, observe that the use of stone implements does not imply absolute imperfection and rudeness of work. By means of a simple pebble or fragment of stone, the Pueblo Indian could perform sometimes as much as many of us can to-day with an implement of steel. Only the native, who had no idea of the value of time, supplemented the imperfection of the instrument by a degree of patience which we cannot afford to practise. It is well known that every principal tool of modern times had its prototype in the so called stone age, and this fact is illustrated by the ancient Pueblo implements. The plough they of course did not have, because they had no beasts of draught; a planting stick and stone knives took its place. Bone saws have been found; the fire drill was their auger and their gimlet. The axe, the hatchet, the hammer and maul, as well as the club-head, are all represented in basalt, in granite, and similar material. The Pueblo, as we have seen, spun and wove; he made wicker-ware and pottery, the latter without the potter's wheel.

In the main, the pottery of pre-Spanish times appears better made and more handsomely decorated than the modern pottery of the Pueblos. But the patterns are similar, and the symbols used are identical. There are of course many local differences, but they can be explained by local resources or lack of resources. Where mineral paints were abundant, and varied in shades, the colors of the designs show brighter hues; where good clay was not accessible, the pottery suffered in durability. The Pueblo, however, knew how to impart a certain lustre or glaze to some of the decorations on his earthen-

ware, and this art is lost. How the decadence in ceramics is to be accounted for, I shall state further on.

Divided into petty communities, the Pueblo traded with his neighbor, or fought with him, as circumstances might dictate. Trading was simple exchange, for there was no money. The solemn dances served often as marts, where the people came to enjoy themselves and to barter. But the village Indian also made longer trips for commercial purposes. In 1540, the Pecos Indians came to Zuñi with buffalo hides. The two extremes, west and east, possessed distinct commodities, which gave rise to commerce.<sup>1</sup> Again, certain groups of villages in the very heart of New Mexico controlled natural resources coveted by others, and for their possession they bartered or wrangled. The Tanos held the veins of turquoise, or kalaite, at the Cerrillos, about twenty miles southwest of the present Santa Fé. A branch of the Tiguas and another of the Piros were settled in the neighborhood of the salt marshes. The Zuñis enjoyed a similar privilege in being within a short distance of the Salines of the Carrizo. The Queres of San Felipe had in front of their village large veins of mineral paint, valuable to the Indian for his pottery. Such and other natural "treasures" were guarded as jealously as the limited power of their possessors permitted; they both divided the pueblos from one another at times, and held them together by the great tie of commercial intercourse.

Although never clearly defined, a certain solidarity existed between all the villages, of whatever language or geographical position. The tie was very nearly unconscious, and it made

<sup>1</sup> Such commerce is frequently alluded to. Thus Pecos occasionally traded buffalo hides with the Zuñis. Castañeda, *Cibola*, p. 68. Salt was an important article of commerce; not that the people of the villages situated near the Salines "exported" the coveted condiment, but those of the other pueblos had to submit to the conditions which those who held the marshes exacted.

itself felt only in the hours of greatest need, at what might be termed supreme moments. It originated from community of customs, organization, and creed. It did not prevent intertribal squabbles, it was not formulated by any compact of the nature of league or confederacy. The Spaniards felt its force several times, and for the last time in 1680. This tie, which acknowledged the beliefs of all the Pueblos to be one, and which hinted at a community of origin too, was quite as much a product of necessity as of anything else. It was also the result of contrast in condition between the village Indians and the roving tribes surrounding them, and constantly threatening more or less their existence.

The relation between these two classes of natives, the agricultural and the nomad, were peculiar. In general there was war between them, war to the knife, a war of extermination. Nevertheless commerce existed. The people of Acoma exchanged cotton mantles against deer-skins with the Navajos;<sup>1</sup> the Yutas traded at Taos, the Apaches of the plains came to Pecos with their buffalo robes. But on such occasions the people of Pecos did not allow them to enter the village, because, says Castañeda, "they are people who cannot be trusted. They receive them kindly, trade with them, without however allowing them to spend the night in their village. They even keep watch with trumpets, the sentinels calling out to each other as is done in Spain."<sup>2</sup> This applies to the Pueblos in general, and expresses the true relations between them and the nomads. The latter could "never be trusted"; they might trade peaceably to-day, and

<sup>1</sup> Espejo, *Relacion*, p. 180: "Los serranos acuden á servir á los de las poblaciones, y los de las poblaciones les llaman á estos, querechos; tratan y contratan con los de las poblaciones, llevándoles sal y caza, venados, conejos y liebres y gamuzas aderezadas y otros géneros de cosas, á trueque de mantas de algodón y otras cosas con que les satisfacen la paga el gobierno."

<sup>2</sup> Castañeda, *Cibola*, p. 179.

murder to-morrow those with whom they bartered. The Pueblos had always to be on the *qui vive*.

Ere I speak of the tribes called savages, I must refer to two clusters which were included under that denomination in part, but which still may not have deserved the name, since they showed a more docile spirit and a greater tendency to assume stability of abode than have been found in the others, the Navajos excepted. These two tribes are the Mansos and the Jumanos. Both of them I have already enumerated among the Indians of Chihuahua.

The Mansos also are called Lanos and Gorretas, but the name which they themselves recognize is not ascertained as yet. It is certain that they formerly lived on the Rio Grande in New Mexico, some fifty-five miles north of El Paso del Norte.<sup>1</sup> Their dwellings were made of branches and boughs, and they tilled the soil to a limited extent, but in dress they were like the Apaches and other Indians of the plains. Towards the Spaniards they showed themselves hostile in a small way, or rather distant and intractable for a while, until in the middle of the sixteenth century they were reduced to a permanent colony at the Pass and definitively settled.<sup>2</sup> Their numbers originally cannot have been more

<sup>1</sup> The place is indicated by Pedro de Rivera, *Diario y Derrotero*, p. 26. He places it twenty-one leagues north of El Paso del Norte, or in the vicinity of the present railroad station and military post of Fort Selden. That the Mansos did not live at El Paso originally is clearly proved. Benavides, *Memorial*, p. 9. That they were settled at the Pass by Fray Garcia de San Francisco in 1639 has been mentioned already.

<sup>2</sup> Fray Garcia de San Francisco, *Auto de Fundacion*, 1659 (MS.). The most detailed description at my command is the one by Benavides, *Memorial*, p. 9: "q̄ comunmente llamanos, Mansos, ó Gorretas; porque de tal suerte se afeitan el cabello, que parece traen puesta vna gorreta en la cabeça; y asimismo, escarmentados de que nuestros perros los han mordido algunas vezes, quando ellos nos reciben de guerra; y quando vienen de paz y mansos, dezimos á los perros, sal ai, porque no los mucrden, suelen ellos también preuenirse, que les atagenos los perros diziéndones, sal ai, sac ai, manso; y por este nõbre de Man-

than from five hundred to a thousand souls.<sup>1</sup> About their idiom no studies have as yet been made. They have to-day the same officers as the Pueblos, and, although reduced to a dozen families, maintain their organization, and some of their rites and dances, which are very similar to those of the New Mexican villagers. They acknowledge having come from the north; the clans that are still extant are the same as the clans of the Pueblos, and they confess that, while they lack at present the medicine-men or shamans, the need might be supplied by applying for the necessary idols and paraphernalia to any of the northern Pueblos. This confession is important, since it proves that the Mansos also recognize that tacit solidarity which binds together the sedentary Indians of New Mexico. I call particular attention to the Mansos, for they are fast disappearing, and ought to be studied while it is yet time.<sup>2</sup>

sos son conocidos comunmente entre nosotros. Tambien esta es gente que no tiene casa, sino ranchos de ramas, ni siembran, ni se visten ellos en particular, sino todos desnudos; y solamente se cubren las mugeres de la cinta á baxo, con dos pellejos de venado, vno adelante, y otro atras. Tambien son de la condicion de los antecedentes, que si ven la suya hazen todo el mal que pueden; pero no pudiendo, se vienen todos de paz á buscárnos, para que los demos de comer que este es su principal fin, y se comen entre pocos vna baca cruda, no dexando nada de la pança, pues aun para limpiarla de la vascosidad no reparan en tragársela assí, como perros, cogiendola con la boca, y cortandola con cuchillos de pecernal, y tragando sin mascar. Estos Mansos pues, como estan en el passo del rio, es fuerça topar siempre con ellos, y suelen lleuarnos á sus propias rancherías para que les demos de comer á sus mugeres, y hijos, y tambien nos suelen regalar con lo que tienen, que es pescado y ratones. Es gente muy dispuesta, bien agestada y fornida." Of the creed and beliefs of the Mansos I have not been able to find anything reliable.

<sup>1</sup> Vetancurt, *Crónica*, p. 308, speaks of over one thousand previous to 1680. But in this number are manifestly included the Sumas and other Indians (Piros, Jumanos, etc.) who had intermarried with the Mansos or were living among them. In 1749 the number of Indians at El Paso is estimated at one thousand, which comprises Mansos, Tiguas, and Piros. *Relacion de las Misiones del Nuevo México* (MS.). According to Father Agustin Morfi, *Descripcion*, fol. 114, there were fifty Indian families in 1744, and two hundred and ninety-four Indians in all in 1765.

<sup>2</sup> I shall refer to these details in the third part of this Report.

The Jumanos have disappeared from the surface, and, strange to say, although mentioned as an important and even numerous tribe in the sixteenth and seventeenth centuries, I have not as yet been able to trace any description of the customs, manners, etc. of that northern branch of them which belonged to New Mexico proper. They ranged in the southeastern part of the territory, south and southeast of the salt lagunes of the Manzano, where the name of "Mesa de los Jumanos" still commemorates their former presence.<sup>1</sup> About their abodes, their mode of dress, their rites and creed, we know as little as of their language,—nothing. Still it is certain that a vocabulary of the latter was made in 1684 by Fray Nicolas Lopez, but it has disappeared. Benavides states that the Jumanos of New Mexico subsisted on the

<sup>1</sup> In 1598, Oñate visited the three great villages of the Jumanos, or "Rayados," in the vicinity of the Salines and of Abo, consequently on or near the Mesa de los Jumanos of to-day. *Discurso de las Jornadas*, p. 266: "Uno muy grande." In the *Obediencia de San Juan Baptista* (p. 114) are mentioned "Los tres Pueblos grandes de Xumanas ó Rayados, llamados en su lengua, Atripuy, Genobey, Quelotetreny, Pataotrey con sus subgetos." This would make four instead of three. The *Obediencia y Vasallaje á su Magestad por los Indios del Pueblo de Cudloce* (*Doc. de Indias*, vol. xvi. p. 126) mentions the pueblo of Cuéloce as "que llaman de los rayados." Cuéloce may be another version of Cuelotetrey. In the same document Xenopué is mentioned, and Patascé. The former is most likely the same as Genobey, and the latter may stand for Pataotrey. I place some stress on these local names, as they may be authentic remains of the language. Oñate (*Carta escripta* 1599, p. 306) mentions the Xumanas as the second tribe encountered in New Mexico, coming to that country from the south. In 1630, Benavides (*Memorial*, p. 77) locates the Jumanos 112 leagues east of Santa Fé. Fray Alonzo de Posadas (*Informe al Rey*, 1686) locates them on the Upper Rio Nueces, in Texas, 80 leagues east or northeast of the Junta de los Rios, or mouth of the Conchos. Dominguez Mendoza (*Diario*, 1684, fol. 12) also places them in that vicinity. In connection with the location of the Jumanos I may be permitted here to recall the mention made of the Teyas, a tribe of the plains, which tribe Coronado met on his adventurous trip to Quivira, *Carta á su Magestad*, 20th of October, 1541, old style (*Doc. de Indias*, vol. xiii. p. 263): "Y otra nacion de gente que se llaman los teyas, todos lobrados los cuerpos y rostros." The fact that the Teyas tattooed their faces and bodies might possibly indicate that they were the Jumanos, who, in quest of the buffalo, had gone as far north as eastern or northeastern New Mexico.



buffalo almost exclusively, and I have not been able to find any documentary evidence that they cultivated the soil.<sup>1</sup> And yet Espejo found their kindred in Chihuahua living in permanent abodes, and raising the same crops as the Pueblo Indians. It is not unlikely that the northern branch of the tribe succumbed to the remarkable influence which the great quadruped exerted over the aborigines, who attached themselves to its immense hordes, and, becoming accustomed to the life which the following of the buffalo required, discarded permanence of abode, exchanging it for vagrancy with its con-

<sup>1</sup> The only peculiarity which is attributed to the Jumanos in the sources at my disposal is the custom of striating the face. From the word used, "rayado," it is not quite certain whether this was done merely with paint, or whether it was done by incising. It may be the latter. It is certain that, as late as 1697, a Jumano Indian, a female described as "a striated one of the Jumano nation," was sold at Santa Fé for a house containing three rooms and a small tract of land besides. This woman had been sold to the Spaniards by other Indians, who had captured her. *Escrittura de Uentta de una Casa de las Hijas de Fco Luzero que isieron al Sarjento Mayor Fco de Anaya Almazan* (MS.): "Por una india rrayada de nazon Jumana auida y comprada de los amigos christianos." In regard to the habitations of the Jumanos I can find nothing precise; that is, so far as the New Mexican Jumanos are concerned. From the statements of Benavides it might be inferred that they had no fixed abodes, but lived almost exclusively on the buffalo. *Memorial*, p. 79: "Viendo el demonio, enemigo de las almas, que aquellos Religiosos ivan á librar de sus vñas las que allí gozaua, quisó defenderse, y vsó de vn ardid de los que suele, y fué, que secó las lagunas del agua que bebian, á cuya causa tambien se auyentó el mucho ganado de Sibola que por allí auia, de que todas estas naciones se sustentauan, y luego, por medio de los Indios hechizeros, echó la voz, que mudassen puesto, para buscar de comer." This intimates an erratic life. On the other hand, however, Oñate, as I have shown above, mentions at least three large villages. In 1700, a village of the Jumanos reappears, and that village cannot have been situated outside of New Mexico, as the news of its destruction (by the French) was carried to Taos in the most northerly part of the territory by the Jicarilla Apaches. *Relacion Anónima de la Reconquista* (MS., Sesto Cuaderno): "El año de 1700 refirió un apache de los llanos, que los franceses habian destruido el pueblo de los Jumanos, y esta noticia, que el alcalde mayor del pueblo de Taos comunicó á Cubero, hizó temer á todos los del reino que los franceses podian hacer suya esta tierra." The village of Jumanos here mentioned cannot have had any connection with the pueblo of Jumanos, which had been abandoned previously to 1680.

sequences. The Jumanos were lost sight of after the great convulsions of 1680 and succeeding years, and their ultimate fate is as unknown as their original numbers.

Tribes properly belonging to the area of Texas also roamed occasionally over southeastern New Mexico. Such were the Ayjaos, the Utacas, and others.<sup>1</sup> It is not improbable even that stray bands of Indians from Chihuahua, crossing the Rio Grande in quest of the buffalo, may have grazed at least the southern parts of the territory. In 1590, Gaspar Castaño de Sosa met Tepehuanes on the Lower Rio Pecos.<sup>2</sup> The steppes formed a vast expanse of territory, on which representatives of all the stocks living or roaming in their vicinity could be met. Among these are named the Pananas, or Pawnees,<sup>3</sup> a northern tribe, and another group, from the north also, the Quiviras, or Tindanes.

The name "Quivira" has played a very remarkable part in the events of Spanish colonization of the Southwest. I say the name, for there is no substance to the pictures associated with it. The origin of the name is not known; it is not a Spanish fabrication, but in all probability some word of an Indian tongue, misunderstood or misapplied, as so frequently happened and yet happens.<sup>4</sup> We must divest our-

<sup>1</sup> As these tribes apparently belonged to Texas rather than to New Mexico, I forbear referring to them otherwise than in a passing manner. The Ayjados of Ayjados appear already in the documents touching the expeditions of Oñate, or about the year 1600. They roamed over the eastern plains, along the borders of New Mexico, the Indian Territory, and Texas.

<sup>2</sup> *Memoria del Descubrimiento*, p. 207. He calls them "Despeguanes."

<sup>3</sup> That the Pananas are the Pawnees needs no proof. They sometimes made their appearance in northeastern New Mexico, and were found among the Indian captives which the Spaniards purchased from the Apaches or Cumanches or Yutas. The Pananas are frequently mentioned.

<sup>4</sup> The word Quivira was first heard by the Spaniards either at Pecos or among the Tiguas at Bernalillo, and from an Indian who was not a native of New Mexico, but who seems to have belonged to one of the tribes of the Indian Territory who frequented the plains, where this Indian was taken prisoner by the Pecos. *Rela*

selves totally of the notion of Quivira being anything else than a name given to a roving band of Indians, — a name which has become famous through a series of misstatements and misunderstandings, as well as involuntary and intentional deceptions. Here, I have to deal only with the tribe of Quivira. From the itineraries in my possession it appears that in 1541 Coronado found the Quivira Indians in Northeastern Kansas, beyond the Arkansas River, and more than one hundred miles northeast of Great Bend. They were a tribe of nomads, who depended for livelihood principally on buffalo hunting, but also cultivated some corn. Their dwellings were mere huts, of the kind now termed "Typees" or "Wickeeps," made of tree branches and covered with reeds or grass. Not a trace of metal was found in their country, and the only piece of it in their possession was a lump of native copper which one of their chiefs carried on a string of leather around his neck. I must reiterate that they are positively stated to have been a wandering tribe, who shifted with the buffalo herds, and were by no means of the Pueblo type.<sup>1</sup> But it is strange,

*cion del Suceso*, p. 325: "El indio que daba tanta razon de lo que decia como si fuera verdad é lo ubiera visto era de trescientas leguas deste rio al levante de un pueblo que llamaba Harall." This Indian was the notorious "Turk." His plan was evidently to lead the Spaniards into the plains, with the expectation that there they would perish.

<sup>1</sup> The descriptions furnished of Quivira and its inhabitants by Coronado and all the other eyewitnesses or their companions are precise, and it is a mystery to me that modern writers have still continued to treat of Quivira as a large town, or of its people as a powerful tribe considerably advanced in civilization. Although the quotations are long, I feel compelled to refer to the sources here, and in full, to show what Coronado and his men saw, and what they said of Quivira. I begin with the commander's own report to the Emperor, *Carta á su Magestad*, 1541, p. 264: "Al cabo de aber caminado por aquellos desiertos setenta y siete dias, llegue á la provincia que llaman Quivira, donde me llevavan los guías, y me abian señalado casas de piedra y de muchos altos, y no solo no las ay de piedra sino de paja, pero la gente dellas es tan barbara como toda la que he visto y pasado hasta aqui, que no tienen mantas ni algodon de que las

although not without many parallels in the annals of the Southwest, both ancient and modern, that the majority of

hacer, sino cueros que adovan de las vacas que matan, porque estan pobladas entrellas, en un rio bien grande ; comen la carne cruda como los querechos y teyas ; son enemigos unos de otros, pero toda es gente de una manera, y estos de Quivira hacen á los otros bentajas en las casas que tienen y en sembrar maiz en esta provincia, de donde son naturales los guías que me llevaron ; me recibieron de paz, y aunque quando partí para ella me dixeron que en dos meses no la acabaria de ver toda, no ay en ella y en todo lo demas que yo ví y supé mas de veinte y cinco pueblos de casas de paja. . . . La gente dellos es crecida y algunos indios hize medir, y hallé que tenían diez palmos de estatura ; las mujeres son de buena disposicion, tienen los rostros mas á manera de moriscas que de indias ; allí me dieron los naturales un pedazo de cobre que un indio principal traya colgado del quello ; embiolo al Visorey de la Nueva España, porque no he visto en estas partes otro metal sino aquel, y ciertos cascabeles de cobre que lo embio, y un poquito de metal que parecia oro, que no he sabido de donde sale, mas de que creo que los indios que me lo dieron le hubieron de los que yo aquí traigo de servicio, porque de otra parte yo no le puedo hallar el nascimiento, ni de donde sea." Ibid., p. 266: " Porque los guías que llevaba me avian dado noticia de otras provincias adelante de ella, y la que puede aver es que no abia oro ni otro metal en toda aquella tierra, y las demas de que me dieron relacion no son sino pueblos pequeños y en muchos dellos no siembran ni tienen casas, sino de queros y cañas, y andan mudándose con las vacas, por manera que la relacion que me dieron fué falsa porque me mobiese á ir allá con toda la gente, creyendo que, por ser el camino de tantos desiertos y despoblados y falto de aguas, nos metieran en partes donde nuestros caballos y nosotros murieramos de hambre, y así lo confesaron los guías." After this plain statement from Coronado himself, I will turn to the report of one of his officers, Juan Jaramillo (*Relacion hecha*, p. 315): " Las casas que estos indios tenían eran de paxa y muchas dellas redondas, y la paxa llegaba hasta el suelo como pared que no tenía la proporcion de las de acá ; por de fuera y encima desto, tenían una manera como capilla ó garita, con una entrada donde se asomaban los indios sentados ó echados."

The anonymous *Relacion del Suceso*, written in New Mexico in 1541, therefore by one of Coronado's companions, says (p. 326): " Lo que en Quibira hay es una gente muy bestial sin policia ninguna en las casas, ni en otra cosa, las cuales son de paja á manera de ranchos tarascos, en algunos pueblos juntas las casas, de á docientas casas ; tienen maiz é frisoles é calabazas, no tienen algodón, ni gallinas, ni hacen pan que se cueza, sino debajo de la ceniza."

The *Relacion Postrera* was written before Coronado's return from Quivira, and does not, therefore, contain anything on the subject.

Castañeda, *Cibola*, p. 194 : " Leurs mœurs et leurs coutumes sont les mêmes que celles des Teyas, et leurs villages ressemblent à ceux de la Nouvelle Espagne. Les maisons sont rondes, n'ont pas de murailles ; les étages sont semblables à

people rejected the testimony of Coronado, and of those who went with him to Quivira.<sup>1</sup> Quivira became a golden vision in theory; practically, it was a delusive spectre.

In 1541 and 1542, we find the Quiviras in northeastern Kansas. About 1600, they were in southwestern Kansas or southeastern Colorado.<sup>2</sup> Thirty years later, they roamed

des soupentes. Les habitants couchent sous le toit; c'est là qu'ils conservent ce qu'ils possèdent : ces toits sont en paille."

The agreement of all these witnesses on the condition of the tribe of Quivira is striking. They concur in picturing the Quiviras as a people of nomads, following the buffalo, planting some little corn wherever they stayed for any number of years, — in short, as Plains Indians of the purest type. These reports were reproduced in standard works of the time, and it shows that contemporaries placed full confidence in them. Francisco Lopez de Gomara, *Historia General de las Indias*, Primera Parte, edition of Vedia, in *Historiadores primitivos de Indias*, vol. i. p. 278: "Vista por los españoles la burla de tan famosa riqueza, se volvieron, etc. No hay algodón y vesten cueros de vacas y venados." Gomara's work was published in 1554.

Antonio de Herrera was not a contemporary, but he compiled his great work from the most authentic sources. He gives a description of Quivira that is manifestly taken from Coronado's or Jaramillo's writings, probably compiled from both. *Historia General*, vol. ii. p. 206. As his work was published under the special sanction of the Crown, about 1610, it shows that there were no extravagant notions about Quivira current in governmental circles at the time.

Torquemada was Herrera's contemporary. He says in his *Monarchia* (vol. i. p. 610): "En el interim, que llevó consigo, y en todo quanto anduvó, no halló ninguna gente congregada, y en esto se detuvo tiempo de seis Meses; y cien leguas adelante de donde estaba alojada el ejército." The document called *Demarcacion y Division de las Indias* (*Doc. de Indias*, vol. xv. p. 461), of the sixteenth century, says of Quivira: "Dozientas [leguas] de Cibola, al oriente aunque de esto se tiene poca certidumbre, ni de la qualidad de la tierra, mas de set fria por estar en mucha altura y por esto pobre." Until Oñate's reports, and especially the inflated descriptions of Fray Geronimo de Zarate-Salmeron and Fray Alonzo Benavides, which directed the attention of the public to imaginary riches and supposed numerous populations, to which the name Quivira was applied.

<sup>1</sup> Even the soldiers of Coronado disbelieved at first the reports about Quivira which their commander and his companions made. Castañeda, *Cibola*, p. 142.

<sup>2</sup> According to Zárate-Salmeron (*Relaciones*, par. 37), the Indian Jusepe, who had accompanied Humaña and Leyva-Bonilla on their disastrous journey to the unknown North about 1585, led Oñate first into the plains, and then to the

along the boundary line of New Mexico and the Indian Territory of to-day.<sup>1</sup> From 1684 to the beginning of the eighteenth century they were looked for farther south yet, about the northern frontier of Texas.<sup>2</sup> Lastly, in 1719, "the Cancey, whose principal village is that of the Quirireches," were located on the head-waters of Red River.<sup>3</sup>

northeast, in all about 200 leagues, or approximately 540 miles. This must have carried them into Colorado or Kansas. There they met the "Escanxaques," or Kansas, and finally the Quiviras. The reports about the condition of the latter are so vague and conflicting, that it is not worth while to discuss them. The same authority (par. 43) states that when the Quiviras sent to Oñate a messenger or ambassador, that delegate remarked: "Que les Españoles habian rodeado mucho por el camino que fueron, que si salieran al Norte llegaran en breve, de suerte que segun lo que dijeron se ha de ir por los Taos, y por tierras del gran capitan Guima por aquellos llanos." This points clearly towards southern Colorado. The investigations made officially and by order of the crown in regard to Oñate's undertakings and administration prove the same. See *Informacion que por Comision del Visrey hizó en México el Factor Don Francisco de Valverde con cinco Testigos* (*Doc. de Indias*, vol. xvi. p. 210), and *Informacion hecha en la Audiencia de México por parte del Adelantado Don Joan de Oñate en Abril* (*Ibid.*, p. 214).

<sup>1</sup> Benavides, *Memorial*, p. 85: "Qvando estos dos Religiosos estuierõ obrando aquellas marauillas en la nacion Xumana. . . . Llegó tâbiẽ esta voz al Reyno de Quivira, y al de los Aixaos, q̄ estaua de allí 30 ó 40 leguas al mismo rumbo del Oriente." The Jumanos were then, as I have shown, in eastern or southeastern New Mexico. *Ibid.*, p. 86: "Siendo pues assí, q̄ la villa de Sãta Fé está en treinta y siete grados, yendode allí al Leste ciẽto y cinquẽta leguas dase en este Reyno, y assí está en la misma altura."

Fr. Alonso de Posadas, *Informe* (MS.). In 1634, Alonso Vaca found the Quiviras due east of Santa Fé.

<sup>2</sup> I omit here the pretended reports of Diego de Peñalosa. It is not probable that that adventurous officer made an expedition into the plains, but what he has attributed to Fray Nicolas de Fleytas (not Freytas) on this point is most likely a forgery perpetrated by Peñalosa himself. But in 1684, Juan Dominguez de Mendoza made his journey to the Rio Nueces in Texas, and he heard of the Quiviras in that vicinity. *Memorial informando acerca de las Naciones del Oriente* (MS.). Everything points to a confirmation of the statements made by Coronado and his people, namely, that the Quiviras were a band of nomadic Indians, and that they were gradually pushed southward by other tribes, like all the Indians of the plains.

<sup>3</sup> *Journal Historique de l'Établissement des Français à la Louisiane*, pp. 200 and 211.

The Quiviras had another name, by which they became known to the Spaniards of New Mexico as early as 1600, or a little afterwards. It is the name Tindan. This word has an analogy with Thinthonha, as the Teton Sioux were called by Hennepin.<sup>1</sup> There is nothing unlikely in the supposition that the Quiviras were a band of southern Dacotas, who penetrated farther south in pursuit of the buffalo, and finally disappeared among the Indians of Arkansas and Texas.

That the Yutas occasionally impinged upon the northern sections of New Mexico is a well known fact. They were the neighbors, therefore also the enemies, of the most northerly Pueblos, the Taos and Picuries.<sup>2</sup> Of their congeners, the Comanches, I shall treat briefly hereafter. The Comanches are the latest of the aborigines of the Southwest.

It remains for me now to consider the most numerous of all linguistic groups in New Mexico and in Arizona, and one that has played a conspicuous part in its history, past and present. These are the southern Tinnehs, — the Navajos and the Apaches.

That the Navajos and Apaches are a branch of the Tinnah family is unquestionable. But the usual custom of treating

<sup>1</sup> *Description of Louisiana*, by Father Louis Hennepin, published by Mr. Shea in 1880. On the map accompanying the work, and which bears date 1683, there is, at the head-waters of the Mississippi, in lat. 50° N., "Thinthonna ou gens des prairies." (p. 200.) "They merely told me that twenty or thirty leagues below there is a second fall, at the foot of which are some villages of the prairie people, called Thinthonha, who live there a part of the year." Also *Journal Historique de l'Établissement des Français* (p. 70). Among the western Sioux, "Tintangaoughiatons . . . Village de la grande cabane."

<sup>2</sup> *Declaracion de un Indio Pecuri*, fol. 23. *Relacion Anónima de la Reconquista* (MS.). In the first half of the past century, the Yutas troubled the settlers at Abiquiu greatly. They even caused its temporary abandonment. See *Declaracion de Bentura Yndio Genizaro Christiano, sobre el Estado en que oy se halla la Provincia de Nabajo y sus Naturales*, 1748 (MS.); *Providencias y Mandamiento sobre el Repueblo del Parage de Abiquiu*, 1750 (MS.).

the Navajos as a part of the Apaches is incorrect. It is the Apaches that are ramifications, degenerated and vagrant, of the Navajos. The Navajos are, and always have been, the main body. They have also preserved their original tribal name with greater purity, calling themselves Din-ne, while the Apaches have perverted it into N'day. Their relative numbers also indicate that the Navajos constitute the majority. The proportion to-day is as three to one, the latter counting 21,000, the Apaches hardly more than 6,000 to 7,000 souls. That nearly the same proportion existed in the beginning of the seventeenth century can be gathered from the enormously exaggerated estimates of Benavides.<sup>1</sup> Lastly, the state of culture of the Navajos is not so widely different from that of the northern Tinnehs as are the social condition and the habits of life of the Apaches.

When first met with, the Navajos occupied the same range of country they now inhabit, namely, northwestern New Mexico and northern Arizona. They were then, as they are to-day, land-tillers to a certain extent, and while not so stationary as the Pueblos, yet they lived in dwellings, partly underground, and more substantial than those of the Apaches, and they erected special storehouses for their crops.<sup>2</sup> Had the Navajos possessed a central organization, they would have been a very formidable power, and the Pueblos, scattered and widely distributed, could not long have held their own against them. But clanship so predominated among them that no tribe or association of tribes became possible. This also worked unfavorably for permanence of abode. Their bands, consisting of a clan, or fragment of a clan,

<sup>1</sup> *Memorial*, p. 70. He estimates the Navajos alone at over 200,000.

<sup>2</sup> *Ibid.*, p. 57: "Y estos de nauajo son muy grandes labradores, q̄ esso significa Nauajo, sementeras grandes." *Ibid.*, p. 58: "Tienen su modo de viuienda debaxo de tierra, y cierto modo de xacales para recoger sus sementeras, y siempre habitan en aquel puesto."



moved hither and thither, according to circumstances and superstitious indications. Their country, in many portions of it, fostered separation into small bands; for its deep valleys are long rather than broad, and the arable and irrigable spots lie in nooks, corners, and bay-like openings. There was therefore little cohesion between the clusters, and, as Dr. Washington Mathews has most correctly observed, a democracy prevailed that forbade all idea of central will and force. The Navajos fought the Pueblos nearly every year at one or more points, and the villages of the Jemez, for instance, were brought by them to the verge of utter ruin.<sup>1</sup> But this did not preclude commercial intercourse, and the desultory warfare never grew into any attack on a larger scale,—at least not in past centuries.<sup>2</sup> The Navajos irrigated at places, and raised corn, as well as the other vegetables common to the Indian. Cotton, it seems, they did not grow, and their dress consequently was of skins and hides, perhaps also of yucca.<sup>3</sup> Their implements and weapons were the same as those of all the others. Of their house life and social customs in general the authors of the past tell us hardly anything, and they are equally silent about their rites and beliefs. What has been ascertained concerning the cult and religious customs of the tribe is due almost exclusively to the efforts of investigators of the present generation, and

<sup>1</sup> Benavides, *Memorial*, p. 27. Vetancurt, *Crónica*, p. 319. *Menologio*, p. 76.

<sup>2</sup> Their trading with the Pueblos, so far as Acoma is concerned, is mentioned by Espejo, *Relacion*, p. 180. There is no evidence of any concerted attack upon the Pueblos; such an attack they could scarcely have withstood, as they were hardly so numerous as the Navajos, and were much more widely scattered. Had there been concerted action on the part of the Navajos, they could, at any time previously to 1700, have wiped out both the Pueblos and the Spaniards.

<sup>3</sup> The famous Navajo blankets are nowhere mentioned. On the contrary, Espejo positively states that they obtained cotton mantles from the Pueblos by barter. The art of weaving appears to have been learned by the Navajos from the Pueblos.

of Anglo-American origin. It may be that the Spanish civil or ecclesiastical archives still contain unknown documents with valuable information on the subject, but the sources so far accessible to me are as good as silent. Benavides speaks, in terms general and vague, of idolatry among the Apaches, — consequently among the Navajos by inference. He mentions sun-worship, for instance.<sup>1</sup> But details in regard to these matters, which are comparatively numerous in regard to the Pueblos, are sought for in vain in his pages, though he bestowed much and intelligent attention on the Apaches and their kindred.<sup>2</sup>

The Apaches proper have played such an important part in the history of the Southwest, that we might expect to find them a tribe of considerable numbers. Indeed, if we accept the wild statements of the honest but over enthusiastic Benavides, such would appear to have been the case. But Benavides judged from appearances only. He found the Apaches everywhere, on the plains, in the mountains, all around the villages, — north, south, east, and west, — and he concluded that they must be exceedingly numerous. He estimated their numbers from the bands which came in to treat with the Spaniards, not knowing that these bands were all, or nearly all, that there were of the tribes.

The earliest notice of the Apaches was certainly in 1541, by members of Coronado's expedition and by Coronado himself. A report on that exploration, written about thirty years after the event by one of the soldiers, Castañeda, is the only known document of that time which speaks of the Apaches in Arizona. Speaking of the country around the so-called "Red House," — a ruin situated where now is Fort

<sup>1</sup> *Memorial*, p. 55.

<sup>2</sup> Benavides says, that to him are due the first successful efforts to reduce the Apaches to Christianity. How far this may be true, I am unable to decide.

Grant, on the south of the Rio Gila, near the Arivaypa, — he mentions its inhabitants as follows : “ These Indians dwell in isolated huts, and subsist on the chase alone.” Previously, he says of them that they “ are the most barbarous people thus far found in these parts.”<sup>1</sup> Still they opposed no obstacles to the passage of the Spaniards, even when they travelled in groups of a few men only.<sup>2</sup>

The Apaches of the eastern plains, those who supported themselves exclusively by following the herds of buffalo and almost living in company with them, attracted the attention of the Spaniards in a greater degree. Coronado fell in with them in 1541, about two weeks after he had left the Pecos village on his adventurous journey to the northeast in search of Quivira. It was consequently about due east of the present settlement of Mora, on the great plains.<sup>3</sup> He, and all the other chroniclers of his expedition, describe them as being taller than the Pueblos, and as living exclusively upon and with the American bison. This animal gave them meat, clothing, fuel, shelter, and to a great extent the material for their implements and weapons. They dressed in its hides, and made their tents from them ; they burned its manure, drank its blood, and made awls, arrow-points, needles, and other instruments out of its bones.

<sup>1</sup> *Cibola*, p. 162. Speaking of the Red House, or “ Chichiltic-Calli,” he says : “ Il paraît qu'elle fut détruite anciennement par les habitants, qui forment la nation la plus barbare que l'on ait encore trouvée dans ces parages. Ces Indiens habitent dans des cabanes isolées, et ne vivent que de chasse.”

<sup>2</sup> The chroniclers of Coronado are unanimous in declaring that no opposition was offered to the Spaniards between Culiacan, in Sinaloa, and Zuffi. *Relacion del Suceso*, p. 319 : “ Todo este camino hallamos los naturales de paz.” Castañeda, *Cibola*, p. 40 : “ Le général et ses compagnons traversèrent tranquillement le pays qu'ils trouvèrent entièrement pacifié ; car tous les Indiens connaissaient Frère Marcos, et quelques-uns d'entr'eux avaient accompagné Melchior Diaz et Juan de Saldibar dans leur voyage de découverte.”

<sup>3</sup> As Coronado travelled to the northeast after leaving Pecos, he struck the plains in the vicinity of Mora, to the east of it.

The name given to these Apaches at that time was Querechos. Of their numbers no adequate conception can be obtained, for they were roving, constantly changing about, and the same band might be counted often. But they frequently, in winter, came into the neighborhood of the Pueblos, in order to trade with their inhabitants.<sup>1</sup> It was noticed as a peculiarity of theirs that they used the dog as a beast of burden.<sup>2</sup> This fact alone, were there no other reasons for identifying the Querechos with the Apaches of the plains, would be an important indication.<sup>3</sup> The Querechos, however, were not the only Indians of the great plains who thus employed dogs: a tribe which roamed in the same region, and farther east, called the Teyas, and which I am unable to identify so far, used them for the same purpose.

<sup>1</sup> Castañeda, *Cibola*, p. 179. Espejo, *Relacion*, p. 180.

<sup>2</sup> *Cibola*, p. 190: "Ils ont de grands troupeaux de chiens qui portent leurs bagage; ils l'attachent sur le dos de ces animaux au moyen d'une sangle et d'un petit bat. Quand la charge se dérange les chiens se mettent à hurler, pour avertir leur maître de l'arranger." *Relacion del Suceso*, p. 328: "Y quando van de una parte á otra, las llevan en unos perros que tienen, de los quales tienen muchos, y los cargan con las tiendas y palos y otras cosas; por ser la tierra tan llana que se aprovechan en esto, como digo, porque llevan los palos arrastrando." Coronado, *Carta*, p. 263: "Tiene perros que cargan en que llevan sus tiendas y palos y menudencias." *Relacion Postrera*. "Esta gente tiene perros como los de esta tierra, salvo que son algo mayores, los quales perros cargan como á bestias, y les hagen sus ensalmas como albardillas, y las cinchan con sus correas, y andan matados como bestias en cruces. Cuando van á caça cargánlos de mantenimientos, y cuando se mueven estos indios, porque no estan de asiento en una parte, que se andan donde andan las vacas para se mantener, estos perros les llevan las casas, y llevan los palos de las casas arrastrando atados á las albardas, allende de la carga que llevan encima; podra ser la carga segund el perro arroba y media y dos." I omit the testimony of authors who were not eyewitnesses.

<sup>3</sup> In 1630, the "Apaches Vaqueros," or the Apaches of the plains, used dogs in great numbers. Benavides, *Memorial*, p. 74: "Y las tiendas las lleuan cargadas en reguas de perros aparejados cõ sus enxalmillas, y son los perros medianos, y suele lleuar quiniotos perros en vna requa vno delante de otro, y la gente lleua cargada su mercadería, que trueca por ropa de algodón, y por otras cosas de que carecen."

In 1583, the name Querechos is applied by Espejo to the Navajos who haunted the mountains in the vicinity of Acoma. The term Apaches is first met with in the documents concerning Oñate's colonization of New Mexico, in 1598.<sup>1</sup> From that time on, these Indians are associated with every period of the history of the Southwest.

Different groups are mentioned from time to time, but the present appellatives of the Apache fractions, such as Mescaleros, Jicarrillas, Chiricahuas, and "White Mountain Apaches," appear but gradually, and subsequent to 1630. The first two of these groups are the remainder of what were then known as Vaqueros and "Apaches del Perrillo." These two divisions became afterwards subdivided into many fractions, to each of which a name was given, not so much by the Indians themselves as by the Spaniards, who gathered the designations from various sources.<sup>2</sup> The Apaches recog-

<sup>1</sup> It occurs in two documents, and is misspelt or misprinted in one. *Obediencia de San Juan Baptista* (p. 114) has Apaches. Oñate, *Carta Escripta* (p. 308), "es infinita gente los Apiches, de que tambien hemos visto algunos."

<sup>2</sup> The changes in the names of Apache tribes, as found in Spanish authors, are to be accounted for by the fact that the Spaniards, according to the shiftings of the bands, applied to them fresh designations. So, in 1630, Benavides distinguishes the following groups (*Memorial*, p. 13): on the Rio Grande and in the Jornada del Muerto, the "Apaches del Perrillo"; to the west and into present Arizona, "Apaches de Xila" (p. 53); the "Apaches de Navajo," where the Navajos are to-day (p. 57); in the eastern plains (p. 71), the "Apaches Vaqueros." At the time of the Reconquest, and in the first quarter of the eighteenth century, the "Faraones" and "Jicarrillas" became very prominent. It seems that they were subdivisions of the "Vaqueros" of Benavides. The Jicarrillas were the northern, the Faraones the southern branch. Compare on the subject *Autos de Guerra dela Primera Campaña que el Sr. Marq' de la Nava de Brazinas, etc., en Persona sale á hazer la Guerra ofensiba á los Apaches Faraones desde la Sierra de Sandia y Carnue, etc.* (1704, MS.); *Autto y Junta de Guera sobre si sele deve azer la Guera alos Yndios Jentiles de la Nasion Faraona* (1714, MS.); *Testimonio delas Juntas de Guerra que se formaron para hazer la Campaña á la Sierra de los Ladrones, etc.* (1715, MS.). The Jicarrillas were generally friendly, or at least much less hostile than the other bands. Haunted by the Comanches, they finally sought shelter with the

nized properly but their generic name of N-de, and each band was known to itself and its neighbors (if any) of the same stock by appellatives akin to gentile terms. Nearly every such name ended with the termination n-de also.<sup>1</sup> Thus the word "Lipanes" is a corruption of Ipa-nde.<sup>2</sup> Sometimes the personal name of a prominent leader was applied by the Spaniards to the horde which he directed, rather than commanded, for the Apaches were always loth to bow, except on special occasion, to any authority, including even that of their shamans. Constant success could alone secure lasting

Indians of Taos and of Pecos. *Testimonio sobre lo Acaesido en el Pueblo de Pecos* (1748, MS., fol. 6).

The Lipanes appear in Texas, in the middle of the past century, whence the Comanches drove them into Coahuila and Chihuahua. In 1705, an attempt at confederacy of the Apaches, Navajos, and Yutas against the Spaniards and the Pueblos was discovered, and the following subdivisions are mentioned. Juan Paez Hurtado, *Diligencias sobre haver contraydo Amistad los Yndios Xptianos con los Yujies* (MS.): "Que lo que saue es que toda la apachería de Nauajo de su nacion se hauian combocado con todas las demas naciones Apaches como son los de la Xicarilla, Trementino, Acho, Faraones, y Xilas." The Chiricahuis appear in the first half of the eighteenth century. Finally, in 1796, Lieutenant-Colonel Don Antonio Cordero, in his *Noticias Relativas á la Nacion Apache*, etc (MS.), establishes the following groups: Tontos, Chiricahuis, Gileños, Mimbrenos, Faraones, Mescaleros, Llaneros, Lipanes, and Navajos. Most of these names are those of bands whose duration was more or less ephemeral. It would be useless, or at least superfluous, to enter into details concerning each one of them. Other fractions are also mentioned, as, for instance, the "Natajees," the "Apaches del Cuartelejo," etc. These two groups were Apaches of the plains. Those who mostly infested Sonora and Chihuahua in early times were the Apaches of the Gila, of whom the Chiricahuis are but an outgrowth. Villa-Señor y Sanchez (*Teatro Americano*, vol. ii. p. 348) says of the Chiricahui Mountains: "Corónala la naturaleza de muchas peñas que le sirven de antemural y defensa á los Indios Apaches, que es la Nacion recogida en ella y en la que hacen sus destacamentos para los puertos y entrada de los caminos, con el destino de robos, y muertes . . . tiene esta Sierra mucho Mescal."

<sup>1</sup> Cordero, *Noticias relativas á la Nacion Apache*, 1796.

<sup>2</sup> Arricivita, *Crónica Seráfica y Apostolica*, p. 346: "Son los Apaches llamados Ipandes y Natages." *Ibid*, p. 349: "Por no baxar todavia el Capitan grande Ipandi." This seems to indicate that the word Ipande is derived from a personal name. On p. 383, we finally read "Ipandes"!

influence; the unlucky sorcerer was as quickly discarded as the unsuccessful war captain.<sup>1</sup>

Scattered over an immense territory, abiding nowhere permanently, often penetrating into the ranges of the Pueblos and trespassing upon them, while at the same time they roamed all around the territory at will, except where their kindred, the Navajos, held them at bay, the Apaches created the impression of being powerful in numbers, while in fact they were but outlying bands of the Navajos, long separated or outcast from the mother stock, and dangerous alike through their great mobility and the superior skill in waylaying and hiding which their roving life imparted. They knew the country more thoroughly than the Pueblos, were better acquainted with all its resources, and were a hardier, that is, a tougher stock, since exposure and hardship were their only school. The Apaches and the Navajos are sometimes declared to be superior to the sedentary Indians in intelligence, as well as in physical characteristics. On the whole, the Navajos are taller and stronger built than the Pueblos: so are the northern bands of the Apaches. They are quick of perception, — cunning rather than bright, — and this cunning and a certain practical turn of mind captivate easily the sympathies of a civilized people. But while quicker, they are not so persistent as the Pueblos, and while the latter may learn more slowly, they will profit more from what they learn. That the Apaches should appear more intelligent than the village Indian is natural: the difference between them is like that between the much travelled man and the one who has always remained within the boundaries of a small territory.

No tribe in the Southwest has exercised such a powerful influence on the fate of its inhabitants as the Apaches.

<sup>1</sup> Cordero, *Noticias*, etc.

They were the most formidable barrier to an extension of the Pueblo stocks. To their constant harassing it is due that the Pueblos receded from their eastern advanced limit. Nothing worries and disheartens so much as permanent insecurity, and for centuries no group of Indians, the Iroquois excepted, understood so thoroughly the art of keeping people on the *qui vive* as the Apaches. Their sudden appearance might always be expected, and their sudden disappearance promised no permanent relief. They stood towards the land-tilling Indians in the relation of a man-eating tiger to East Indian communities. Nobody knew, even if there was but a single enemy in the neighborhood, where he might strike next. One Apache could keep a pueblo of several hundred souls on the alert, and hamper them in their daily work. He had nothing to attend to but his purposes of murder, rapine, and theft, which were his means of subsistence, whereas the others had their modest fields to till, and in the performance of such duties danger was lurking unseen, always likely to display itself when and where it was least expected.

The hostility between the Apaches and the Pueblos was rather traditional than hereditary. From the Pueblos it was transmitted to the Spaniards, with whom the Apaches had remained on good terms until the Spaniards were forced to protect the villagers, who had become vassals of the Crown, against the untiring aggressions of the nomads. This is not the place to sketch the history of the Apaches under Spanish rule. It is enough to say here, that the tribe played a very important part in the history of Spanish domination. It may be affirmed that during that period they completely changed the ethnography of the Southwest.

Of their creed and belief almost nothing can be gathered from older sources beyond the fact that their idolatry was not as complicated and thoroughly systematized as that of the



sedentary Indians. Sun-worship of course existed;<sup>1</sup> but the true position of the sun in their mythology has been misunderstood. It is not the orb proper which the Indian worships, it is some personal deity with whom the sun is connected, either as his abode, or as an ornament. Such is the case among the Navajos. It is quite clear to the Indian that the sun is a created object, and not a spiritual being;<sup>2</sup> the same is true of the moon. Among the Pueblos, the moon is the abode of a celestial mother, the sun the home of a celestial father.

Of the warlike customs of the Apaches not much is to be said here. It would require a series of monographs to do justice to them. That cruelty to prisoners which has rendered the tribe so terrible, even during the present generation, was early noticed.<sup>3</sup> Scalping was sometimes practised by them, but not so generally as by the Pueblos. Their weapons were in the main the same as those of their seden-

<sup>1</sup> Whenever no well defined system of idolatry could be found, sun-worship is always taken for granted by the older authors. It stands for worship of the elements in general. Benavides quotes what he asserts to have been the words of an Apache (a chief, of course) to himself (p. 55): "Padre, hasta aora no auíamos conocido otro bienhechor tan grande como el Sol y la Luna, porque el Sol nos calienta y alumbra de dia y nos cria las plantas, y la Luna nos alumbra de noche; y así adorauamos á estos dos, como á quien tanto bien nos hazia, y no sabíamos que auia otra cosa mejor." On page 52 he asserts: "No tienē otra idolatria que la del sol, y aun no es general en todos y se rien mucho de las demas naciones que tienen idolos."

<sup>2</sup> In the part next following, I shall have occasion to treat more extensively of this matter, and to quote the remarkable information derived from my friends Messrs. Cushing and Mathews on the subject.

<sup>3</sup> Not only among the Apaches, but even among the Pueblos, were the captives sometimes tortured, if Torquemada was correctly informed. *Monarchia*, vol. i. p. 680: "Al que cautivan y llevan preso, le matan despues con grandes crueldades." Instances of torture of prisoners by Apaches are not unfrequently related in older sources; and it would be as unfair and unreasonable to attribute such atrocities to simple retaliation for alleged "Spanish cruelties" as it would be to charge the English and French with the burnings at the stake of the Iroquois and other Eastern tribes. The custom of tormenting prisoners was an old Indian custom, and partly of a religious nature.

tary neighbors; but their tactics were rather more desultory, and consequently they appeared more formidable. They rarely attacked in large numbers; worrying, slow wearing out by persistent harassing, was their mode of warfare, and against it the Pueblo was, in the long run, almost defenceless.

While the Apache of the plains lived in tents of buffalo skins, the mountain hordes erected frail huts of tree branches and leaves. Neither made pottery, and only the women, whose social position was rather inferior, in some instances tilled small patches of Indian corn. But their chief support was game; they subsisted on meat; vegetable food was limited mostly to wild fruits like that of the Yucca, to the stalks of the Maguey baked into a sweet conserve called Mezcal, to roots and the beans of the Mezquite in the southern steppes. Even to-day the Pueblo Indian attributes the physical vigor of the Apache to the fact that he has more opportunity of being exclusively carnivorous than the house-dweller. There is in this belief as much superstition, in all likelihood, as reality.<sup>1</sup>

With this brief mention of the Apaches, the sketch of the ethnography of the Southwest at the time of the first discovery by Europeans must terminate. It presents the region as sparsely inhabited on the whole, and separates its population into two divisions, — land-tilling Indians with a tendency

<sup>1</sup> That the Querechos, or Apaches of the plains, dwelt in tents of buffalo hides is frequently stated by Coronado, and by the other chroniclers of his journeyings. It is needless to refer to them in detail. Oñate says of the "Apiches" (*Carta*, p. 309): "Y aunque tobe noticia, vivian en rancherías; de pocos dias á esta parte he averiguado viven como estos en pueblos." Torquemada (*Monarchia*, vol. i. p. 679): "Estos no siembran, ni tienen casas, comen yervas, y raíces, y vacas, y otras caças, que matan con arco, y flechas." Benavides (*Memorial*, p. 51): "No viuen en poblados, ni en casas, sino en tiendas, y rancherías, por lo que se mudan de serranía en serranía, buscando caça que es su sustento."

to permanence of abode, and wandering tribes. The latter are found mostly in the eastern half, on or near the plains, and the question involuntarily arises whether unsteadiness of abode has not been the result of causes of a physical order. In point of numbers the sedentary tribes exceeded the others by far, (if we do not include the Navajos with the latter,) just as the herbivorous mammals outnumbered the carnivorous who still preyed upon them. Among the village Indians, there were variations in culture, but these variations appear due to physical causes and influences. Even the difference between the arts of the savage and those of the Pueblo is slight, and marked only in degree, according as the mode of life exacted from man a peculiar development under altered circumstances. The religious system, the general character of creeds and beliefs, appear analogous, if not uniform. So were the system of government and the social institutions. It was language that separated the various groups, and kept them apart.

In respect to their language I can but follow the results of the investigations of others. These investigations have established that of those languages which have been studied two groups can be formed, both of which are radically connected with stocks now existing in the Northwest. Mr. A. Gatschet, than whom there is no better authority, holds that the Yutas, the Moquis, the Pimas of Arizona, as well as the Nebomes of southern Sonora, the Opatas, the Yaquis and Mayos, the Tepehuanes and Tarahumares of Chihuahua, all belong to the same linguistic stock as the Snakes of Oregon and the Shoshonis of Wyoming, Utah, and Nevada. On the other hand, the Yumas and their kindred of the Colorado River country, as well as the Seris of Sonora, are linguistically allied among themselves, as well as with the tribes of

the Californian peninsula.<sup>1</sup> The Navajos and Apaches are of Tinneh stock. The majority of the inhabitants of the Southwest, therefore, spoke languages affiliated to others on the Northwest Coast. The Pueblos still await their classification. If the late Orozco y Berra is right, the Concho and Julime of Chihuahua should also be classified among the Numa languages to which the Yuta, Moqui, etc., belong.<sup>2</sup> This still further increases the majority with Northwestern affinities. Of the remaining idioms, several are to-day unknown, but I would most earnestly suggest that the vicinity of El Paso del Norte be searched for traces of them. I positively know that the Manso and Piro are still preserved there, at least in fragments. It is not altogether impossible that traces of the Jano and of the important Jumano may be found among the indigenous population of that region.

What may be the true position of those idioms designated latterly as "Pueblo" *par excellence*, is yet to be established. The Zuñi is stated to be allied to the Moqui. The Tehua and the Jemez are closely related to each other.<sup>3</sup> To these Pueblo languages the Piro must be added, as it was only in 1681 that the tribe was transported to its present location. There has been a change in some of the Pueblo idioms in the course of the past three centuries. Many words have been imported from the Spanish, the Nahuatl of Mexico, the Apache of Navajo, the Yute, the Comanche, and even the Opata. This tends to obscure the proper affiliations of these languages, and to impart to them the strange character of isolation which they now exhibit.

<sup>1</sup> Gatschet, *Ueber die Yuma-Sprachen*.

<sup>2</sup> As already stated, Orozco classifies the said idioms, but gives no evidence in support of his classification.

<sup>3</sup> Also with the southern Tigua of Isleta. Gatschet, *Zwölf Sprachen aus dem Südwesten*, etc., pp. 48 and 49.

## III.

## PRESENT CONDITION OF THE INDIAN TRIBES.

## I. INTRODUCTION.

THE Indian of to-day is in many respects different from the Indian found by the first Europeans who visited the American continent. This truth holds good in all parts of America, more or less. Even tribes that came but indirectly in contact with the Europeans were affected, through their neighbors, by means of the slow vehicle of primitive commerce, etc., in their arts, their industry, and especially in their religious notions. I cannot sufficiently insist upon the marked influence that "news from the outside world," or the sight of objects carried for long distances from tribe to tribe, have exercised upon the mythological ideas of primitive man in America, — probably of primitive man in every quarter of the globe.

To understand the present condition of the Indian it is therefore indispensable to know, first, his condition at the time when he first came in contact with people from the eastern continents; and, secondly, the nature and manner of working of the influence which those people could and did bring to bear upon him. In the preceding pages of this Report I have attempted to give, as far as able, a picture of the condition of the tribes of the North American Southwest while yet in a pristine state. Ere I can presume to speak of these tribes as they appear to-day, I must therefore cast a glance at the policy pursued towards them by the Europeans who occupied the territories in which these In-

dians lived, or over which they roamed. These Europeans were the Spaniards, — for Anglo-American influence has been felt but very lately, — and whatever change has been wrought among the Southwestern Indians within the last three centuries is attributable to the Indian policy of Spain. The term “Indian policy” includes also the action of the Catholic Church; for while the Church strove to maintain, and in fact mostly maintained, a certain independence of the political power, nevertheless Church and State were so intimately connected, so closely interwoven, that they generally had a common policy.

The effects of contact between the Indians and the Spaniards may, in a general manner, be considered under three heads:—

1. Changes in customs wrought through Spanish legislation and administration.
2. Changes in art and industry, — agriculture of course included.
3. Changes in the religious condition. This last class embraces modifications of the constitution of the family, which of necessity had to be attempted at least, especially in regard to education and the transformation of matrimonial customs.

Simple personal contact alone, without the systematic processes indicated by the action of law and of religion, would have produced results different from those obtained in the course of Spanish domination. Still the effects of this personal intercourse cannot be overlooked, and I shall refer to it wherever it appears to have produced results not attributable to any of the three classes mentioned.

The manner in which Spain obtained its hold in America was, as is well known, different from that of other nations. While England and France, but more especially the former, advanced with comparative slowness and timidity, — perhaps

resulting as much from indifference at home as from other causes, — Spain spread its domination, nominally at least, over the new continent with amazing rapidity. One hundred and six years only had elapsed since Columbus planted the Spanish banner, figuratively speaking, on the shores of Watling Island, when that banner actually floated from the thirty-sixth parallel of latitude north to the extreme end of South America. And not the coasts alone, the very heart of both continental sections had been searched, explored, and partly occupied by Spaniards. This gigantic performance was far in excess of the legitimate powers of so small a nation as Spain in reality was ; it became an element of the weakness and ultimate decay of that nation itself. “ Qui trop embrasse, mal étreint.” This popular adage of the French tells better than the most elaborate specifications the weak points and unavoidable fate of Spanish sway in both Americas. In those regions most remote from the coast and of most difficult access, like our Southwest, the intrinsic weakness of Spanish domination largely determined the character of its relations with the aboriginal inhabitants.

To describe Spanish domination in the New World as a mere system of brutal plunder and mercenary rapine, is a kind of so called historical appreciation the time for which is happily past. The popular and religious passions kindled in the sixteenth century, flaming with greatest vehemence in the seventeenth, and adroitly nursed by England, are out of season now, and we no longer admit that a people could have achieved great things without at least some great and noble motives ; still less, that it could have maintained its hold at such great disadvantages as the Spaniards labored under, without manifest ability, wisdom, and some humanity in its directing power. Even the conquerors themselves, as historic *science* turns its attention to their deeds in a

light uncolored by passion, appear of more modest abilities, but of more humane motives and actions. The better also we become acquainted with the character of the Indian by direct intercourse with him, the more we become convinced that military necessities dictated often, if not nearly always, deeds which have hitherto been considered as wanton barbarities. That the periods of first conquest entailed extreme measures there is no doubt; but after the three great Spanish footholds in America, the Antilles, the Isthmus including Mexico, and Peru, had been gained, further conquests did not require many striking instances of display of martial power, unless called forth by the Indians themselves.<sup>1</sup> The conquistatorial period is the most attractive, the most romantic part of Spanish American history, but we must look to subsequent times for the agencies that have determined the true influence of Spain upon the American aborigines,—in other words, the establishment of regulated administration and the framing of special legislation for the Indian. They are the criterion by which to judge the part played by Spain on American soil.

Close upon the heels of the conquerors, the organizers and

<sup>1</sup> There is no doubt that many of the most bloody occurrences in Spanish American history, which have been charged to the Spaniards as acts of wanton cruelty, will yet be explained and justified as legitimate measures of war. What I have said of the occurrences at Cholula in regard to Cortes (see *Archæological Tour*, p. 164, note 1) will eventually prove to have been the position in which Pizarro found himself at Caxamarca. That excesses were committed is beyond a doubt, but these excesses were the *exceptions*, and not the rule, and furthermore they were punished. See, for instance, the ultimate career of Nuño de Guzman, and the punishment awarded to Hernando de Bazan, and to many others. Spanish justice was slow, but it was sure, and no official, however exalted his position, escaped the dreaded "Residencia," or the still more dangerous "Visita." On such occasions a functionary had his misdeeds charged against him, and, if nobody else would accuse him of cruelty against the natives, there was surely some priest ready to drag him to trial for misconduct of that sort. It was not easy to escape punishment for cruelty to Indians under Spanish régime.



administrators were wont to follow. After the Conquistadores had subdued the Indian, the Spanish Crown promptly attended to the task of subduing these Conquistadores themselves to the law of the land to which they owed allegiance. Thus Antonio de Mendoza followed, in Mexico, upon Nuño de Guzman, who had been used to check the plans of Cortés for secession and independence. After the organizers and administrators were firmly established, special legislation began, and it continued uninterrupted — though with declining vigor in the latter half of the eighteenth century — as long as Spain had a foothold on the American continent. The “declining vigor” was manifest, not by a decrease in solicitude, but by the inability to put good intentions into execution which marked the general decline of the nation.

The Spanish government recognized at an early day, not merely that the Indian was a human being, but that he was, after all, the chief resource which the New World presented to its new owners. The tendency of Spanish legislation is therefore very marked towards insuring the preservation and progress of the natives. The first great step in this direction was the promulgation of the celebrated “New Laws and Ordinances for the Government of the Indies,” finally established in 1543, by which the aborigines were declared direct vassals of the Crown. Stipulations in their favor, as, for instance, enfranchisement from personal servitude and from compulsory labor, became the subject of subsequent modifications and local changes, but the disposition first enounced, that of direct vassalage, remained a fixed dogma in Spanish American law.

It may not be amiss here to glance at the great question of Indian servitude and compulsory labor. The question was one of utmost vitality, for the obvious reason that upon its solution depended the future prosperity of the colonies. We

must not forget that, as I have already stated, Spain was a small nation, that it had overrun a territory enormous in extent, extremely varied in resources as well as in natural obstacles, and that Spanish immigration could in no manner suffice for the imperative demand for labor which the resources of the land presented. In order to improve the Indies, the Indian must work, and work was as distasteful to him then as it is to-day. Furthermore, he had to be taught to perform this work with implements the mere material of which was to him a mystery, and therefore a source of mistrust and superstitious fear. The reluctance on the part of the native to work was therefore for reasons paramount to him, but utterly incomprehensible to the Spaniard, or to any other European of the time. Hence the Crown decrees in regard to compulsory labor changed in tone frequently, and finally measures were adopted which, if properly executed, would have responded to all the demands of humanity and statesmanship combined.<sup>1</sup> As regards the Southwest, we must

<sup>1</sup> I cannot go into the details which would be necessary in order fully to illustrate the development and progress of Spanish legislation on this point. They all appear but a gradual fulfilment of the celebrated clause in the last will and testament of Queen Isabella of Spain. See Vasco de Puga, *Cedulario* (1878, 2d ed.), vol. i. p. 11: "Suplico al Rey mi señor muy efectuosamente, y mando á la dicha Princesa mi hija, y al dicho Príncipe su marido, que ansí lo hagan y cumplan; y que este sea su principal fin: y que en ello pongan mucha diligencia, y no consientan ni den lugar á que los yndios vezinos y moradores de las dichas yndias y tierra firme, ganadas y por ganar, reciban agrauio alguno en sus personas y bienes; mas manden que sean bien y justamente tratados; y si algun agrauio han recibido, lo remedien y preuean, por manera que no se exceda cosa alguna lo que por las letras apostólicas de la dicha concesion nos es injungido y mandado." The concession herein referred to is the famous Bull of Pope Alexander VI. The royal decree of the 9th of November, 1526, (*Ibid.*, p. 29,) provided that no Indians of New Spain should be enslaved without a preceding information conducted in presence of the Governors and their officials. The pretext then used for obtaining slaves was: "Socolor que dicen que los tienen los naturales entre sí por esclauos cautiuados en las guerras que han tenido y tienen vnos con otros." This decree was repeated in 1529 (p. 36). Stronger yet is the *Cédula* of January 10, 1528, reiterated on

bear in mind that only Sonora and a part of Chihuahua contained mines actively worked.<sup>1</sup> In New Mexico, there were

August 2, 1530 (pp. 230, 231). Severe punishment was enjoined against such as might ill treat the natives. *Cédula* of March 20, 1532 (p. 254). Further decrees for the protection of the Indians of New Spain are those of January 7, 1549, April 16, 1550, August 28, 1552, etc. A detailed statement concerning legislation on the treatment and personal service of the Indians is found in Juan de Solorzano-Pereyra, *Política Indiana* (ed. of 1703, lib. ii. cap. 1-4). It would take too long to copy all he says on the subject. The famous decree of May 26, 1609, bears exclusively on the good treatment of the aborigines. See Francisco de Montemayor, *Sumarios de las Cédulas, Órdenes, y Provisiones Reales*, 1678, (sum. 48, fol. 216,) which contains the complete text. This decree authorized the employment of Indians in the mines, provided they were specially cared for and remunerated for the work they performed. The principle of remuneration of mining work was rather a local measure. The Indians attached to "Encomiendas" were compelled to labor in the mines in early days. Mining was regarded as a public work, and as such the Indians were called upon to perform it, but every precaution was taken by the law for their welfare. Hospitals were required to be established for their special benefit. Still, in a long decree directed to the Conde del Villar (predecessor in the Viceroyalty of New Castile, or Peru, to Don Francisco de Toledo), the King writes as follows (Solorzano, *Política Indiana*, p. 76): "E porque aviendose platicado sobre este, ha parecido, que sin embargo de lo proveido por cédulas antiguas; cerca de que no fuesen compelidos á este trabajo contra su voluntad, se les podría mandar, que vayan á ellas, lo haren de aquí adelante, no mudando temple de que se les siga daño en la salud, é teniendo dotrina, é justicia que les ampare, é comida con que se sustenten, é buena paga de sus jornales, y hospital donde se curen, y sean bien tratados los que enfermaren." The expense of these arrangements was at the cost of the miner.

<sup>1</sup> Mining began in Chihuahua much earlier than in Sonora. The mines of Santa Barbara (now Allende) and of the valley of San Bartholomé or of Parral were discovered by Francisco de Ibarra about 1556. *Relacion de los Descubrimientos Conquistas y Poblaciones hechas por el Gobernador Francisco de Ybarra en las Provincias de Copala, Nueva Vizcaya y Chiametta (Documentos de Indias, vol. xiv. p. 478)*: "Y por su mandado descubrió las dichas minas de Santa Bárbola y San Juan, y las pobló; de las cuales se ha sacado gran cantidad de plata, porque los metales déllas han sido muy ricos." *Informe al Rey por el Cabildo Eclesiástico de Guadalajara (Docum. para la Historia de México, Ycazbalceta, vol. ii. p. 494)*. The date of this document is January 20th, 1570. Arlegui, *Crónica de Zacatécas* (p. 64). In Sonora, no mines were worked prior to the seventeenth century. Most of the Sonora mines, however, date from the eighteenth. The Indians of Sinaloa and western Durango were not adverse to mining, says Ribas, *Historia de los Triunfos* (lib. viii. cap. iii. p. 476). Speaking of the famous mines of Topia, the historian of the Jesuit Missions in Sinaloa

no mines until after 1725,<sup>1</sup> and compulsory labor on the part of Indians even after that date was limited to service in the

says: "Despues de descubiertas las minas de plata, donde trabajauan, auia vez que llegaua el valor de vestidos, ó presecas que apostauan, á quinientos pesos ó reales de á ocho: que bien los saben ellos sacar de las que llamã Pепенas. Y declararé aquí lo que significa essa palabra: porque se entienda la grande ganancia que tienen en la labor de minas los Indios trabajadores, principalmente los ladinos en ellas, y que conocen los metales, y son barreteros, que con barretas rompen la veta. Porque estos, demas de la paga del salario de cada dia, que es de quatro reales de plata por lo menos, pero fuera de esso, los principales trabajadores tienen facultad y licencia de escoger, para si vna de las espuertas de metal que saca, al Indio le suele valer quatro, seis, y tal vez diez y mas reales de á ocho." These Indians were the Acaxees of Durango, and their work in the mines was obligatory. Still they were paid for it. The Yaquis even went to the mines of their own free will, owing to the wages paid to them. (Ibid., p. 340): "Otros se hazen á la vida con los Españoles . . . ó en reales de minas, donde los jornales son mas crecidos." Spain did everything in its power to induce the Indian to mine for his own account.

<sup>1</sup> The current notions of rich Spanish mines in New Mexico, and of great metallic wealth which the Spaniards derived from that territory, are the purest myths and fables. The opinion in which New Mexico was held in Spain as well as in Mexico is expressed by A. von Humboldt, *Essai Politique sur la Nouvelle Espagne* (ed. of 1827, vol. ii. p. 246): "Plusieurs géographes paraissent confondre le Nouveau Mexique avec les Provincias Internas: ils en parlent comme d'un pays riche en mines, et d'une vaste étendue. . . . Ce qu'il appelle l'empire du Nouveau Mexique n'est qu'un rivage habité par de pauvres colons. Cest un terrain fertile, mais dépeuplé, dépourvu, à ce que l'on croit jusqu'ici, de toutes richesses métalliques." The earliest explorers and settlers collected samples of ore which proved to be rich, but as early as 1602 the chief authorities at Mexico became rather sceptical concerning the mineral wealth of the territory. The Count of Monterey says, in his *Discurso y Proposicion que se hace á Vuestra Magestad*, etc. (*Doc. de Indias*, vol. xvi. p. 45): "Y no es aquello tan esteril como la gente que se vinó la pintaba, ni tan prospero como otros lo hacen, y lo representó el Gobernador en las relaciones del año de noventa y nueve." Ibid., p. 50: "Y cierto que no tengo perdida esperanza de que se haya de verificar lo que el Gobernador todavía afirma, de que hay plata en algunos cerros de aquella comarca en que está." In 1626, great complaints are made by Fray Gerónimo de Zárate over the apathy of the Spaniards about mining in New Mexico. *Relaciones*, art. 34: "De todo esto se rien los Españoles que allá

Missions, and, by abuse of authority, to personal attendance upon higher magistrates. The latter was time and again severely checked, and strong penalties threatened the Governor who ventured to infringe the royal decrees prohibiting personal service to him and to his assistants.<sup>1</sup> The solicitude

estan. como tengan buena cosecha de tabaco para chupar, estan mui contentos, y no quieren mas riquezas, que parece han echo voto de pobreza, que es mucho para ser Españoles, pues por codicia de plata y oro entraran en el mismo Ynfierno á sacarlas." So great was the apparent indifference of the Spanish settlers concerning mines, that, according to the same author (art. 35), they burnt the machinery that had been carried to Santa Fé in the time of Governor Peralta, rather than allow mining to go on. After the rebellion of 1680, several so-called mines were entered by prospecters. For instance, one in the Jornada del Muerto in 1685 (*Registro de una Mina de Pedro de Abalos*, MS.), and several in 1713. But in 1725 we are officially informed by the Brigadier Don Pedro de Rivera, — who was commissioned to inspect all the military posts or Presidios of the North and the districts thereto pertaining, — that up to that date no mines had been worked in New Mexico, owing to the low grade of the ore. I give the words from his *Diario y Derrotero* (p. 32): "Hanse encontrado en dicho Reyno, algunos Minerales, sin dar su metal mas ley, que la de Alquimia, y Cobre: y como no se ha podido costear el beneficio que necessita, las han dejado abandonadas." These citations ought to be conclusive, and to dispose of the myths about Spanish treasure taken from New Mexico, as also of the other not less ridiculous tale, that the uprising of 1680 was produced chiefly by the hard labor to which the Pueblo Indians were compelled in mines in New Mexico.

<sup>1</sup> Very stringent are the laws promulgated on that score by King Philip II. in 1571. See *Código de Leyes y Ordenanzas nuevamente hechas por su Magestad para la Governacion de las Yndias*, etc., September 24, 1571 (*Doc. de Indias*, vol. xvi.). In regard to New Mexico, a very instructive case occurred in 1709. The Viceroy of New Spain, having been secretly informed that the Governor of New Mexico (at that time the Marques de la Peñuela) was making liberal use of the personal services of the Indians for his own benefit, wrote at once to that functionary, enjoining him from further abuse of this sort, and threatening him with a fine of two thousand pesos, and damages to the Indians, in case of disobedience to the royal edicts on that point. See Fray Juan de la Peña, *Carta Patente*, May 18, 1709 (MS.). It gives the order of the Viceroy to the custodian of the Franciscans, in which the Duke of Albuquerque states: "Se despacho esta en este dia ordenando al Gov<sup>r</sup> de aquellas partes y Prov<sup>as</sup> q<sup>e</sup> pena de dos mil pesos q<sup>e</sup> he aplicado á mi distribucion, demas de lo q<sup>e</sup> importaren los daños q<sup>e</sup> se causaren á los Yndios se contengan, y mando contener a los Maiores p<sup>a</sup> q<sup>e</sup> no executen ni hagan semejantes extorsiones." Another case occurred in 1784. A bitter strife prevailed between the Governor Juan Bautista de Anza

of royal officers went so far as to abolish, in 1784, any and all personal services for church matters ; a measure that called forth well grounded and effective protests.<sup>1</sup>

Slavery was considered in the light of a punishment, and as war against Spain was a crime against the state and its subjects, prisoners of war made in campaigns against hostile tribes could be sold as slaves. The immediate result of this custom was, in New Mexico, frequent intermixture of the different aboriginal stocks, and hence a gradual modification of physical type.<sup>2</sup> Previously to the advent of the Spaniards, intermarriages between distinct tribes were rare ; afterwards, the distribution of captives among the Pueblos, and the formation of villages of so called " Genizaros " (captives bought from roaming Indians or rescued from them) worked a change that may have affected anthropological features in course of time.<sup>3</sup>

By declaring the Indian to be a crown vassal, the laws placed him on an equal footing with the native of Spain in one sense, and yet, practically, he enjoyed a much more favorable position. He became a special ward of the royal government, and the complaint by Spanish settlers is very

and the Franciscans, and the commander in chief at Arizpe had to intervene. He sent peremptory orders that all personal services of Indians to the Governor and his lieutenants should cease. Fray Santiago Fernandez de Sierra, *Memorial presentado al Señor Comandante General en Arizpe* (MS., 1784).

<sup>1</sup> Fray Santiago Fernandez de Sierra, *Memorial*, MS.

<sup>2</sup> And yet Philip II. had ordained in 1571 (*Código*, art. 26): " Item: Ordenamos y mandamos que de aquí adelante por ninguna causa de guerra ni otra alguna aunque sea so titulo de reuelion ni por rescate, ni de otra manera no se pueda hacer esclauo yndio alguno ; y queremos que sean tratados como basallos nuestros de la Corona de Castilla, pues lo son." But this did not include the Indians who, after having been approached peaceably, remained in a state of persistent hostility against the Spaniards.

<sup>3</sup> The " Pueblos de Genizaros " were an institution rather peculiar. Even before 1748 there existed such a settlement of rescued captives at Abiquiu. Another was subsequently established at Tomé, on the lower Rio Grande.

well grounded, that everything was done for the Indian, and but little for them.<sup>1</sup> The Spanish government recognized at an early day that the Indian was a big child, who should be elevated very gradually, and nursed very carefully, in order not to warp his nature, or ruin it.<sup>2</sup> The wide gap between Indian culture and European civilization could not be filled; the aborigines had to be led across it gradually. It was impossible to press them at once into the mould of Spanish organization; therefore their own original form of government was maintained, and only such modifications made as became necessary to assure the supremacy of Spain in case of need.<sup>3</sup> This policy perpetuated among the sedentary Indians the communal system known as the Pueblo type in New Mexico. Under this order of things each tribe retained its jurisdiction, and became responsible for the misdeeds of the individual. The Pueblos have disappeared, as such, in the Mexican part of the Southwest, among the

<sup>1</sup> This complaint is uttered as late as 1793. See Fernando de la Concha (Governor of New Mexico), *Orden al Alcalde Mayor de Santa Cruz de la Cañada, para que castigue á los Indios Tehuas que hicieron Juntas Secretas*, 1793 (MS.): "Emanadas, presisamente de la abundancia, comodidad, y ventajas que logran estos Yndios mui superiores en ellas á los Españoles que se hallan establecidos en sus ymediaciones."

<sup>2</sup> This is forcibly expressed by Solorzano-Pereyra, *Política*, (lib. ii. cap. 28, p. 119). In this chapter he maintains: "Que los Indios son, y deben ser contados entre las personas, que el derecho llama Miserables." On page 109, the same author copies textually the recommendation made by the Third Council of Lima (act 5, cap. 4, p. 104): "Que mal pueden ser enseñados á ser Christianos, si primero no los enseñamos á que sepan ser hombres, y vivir como tales." Very clear and logical too is the dissertation on the "Encomiendas," in Antonio de Leon y Pinelo, *Tratado de Confirmaciones Reales*, 1629 (part i. cap. 18, 19). It is too long to be copied, and I only refer the student to it. He will find there the real grounds on which the so much condemned system of Encomiendas was based.

<sup>3</sup> This resulted from the form of Encomiendas. Not a certain number of Indians, but a certain range with its Indian population, was assigned to the Encomendero. By the *Cédula* of April, 1546, the King reserved, however, the civil and criminal jurisdiction. Vasco de Puga, *Cedulario*, vol. i. p. 169.

Opatas and Pimas of Sonora and the christianized Tarahumares of Chihuahua. The old organization still prevails with the Yaquis, the wild Tarahumares of Chihuahua, and the Mansos and Piros of El Paso del Norte. The so called "Reform Laws" of 1857 nominally abolished the ancient system in Mexico, much to the regret of the Indian, and even of some of the prominent originators and fosterers of the measure. That the Pueblo system still rules the New Mexican village Indians, and the Pimas and Maricopas of Arizona, is well known.

Under the supposition that monarchical ideas prevailed among the Indians of Mexico, and that there existed an hereditary aristocracy, some authors have attributed the measure adopted by Spain, at an early day, of making the leading offices of each tribe elective at stated periods, to an intention of breaking a supposed aristocratic power.<sup>1</sup>

<sup>1</sup> This is presented, in a very interesting and instructive manner, in the document entitled, *Real Ejecutoria de S. M. sobre Tierras y Reservas de Pechos y Paga, perteneciente á los Caciques de Axapusco de la Jurisdiccion de Otumba* (*Doc. para la Hist. de México*, Ycazbalceta, vol. ii.). The grant therein executed is probably the oldest one in Mexico, bearing date 1519. As early as 1540, (p. 23.) an order was issued by the Royal Audiencia to remove one governor of the pueblo of Axapusco and put another in his place. In regard to this measure, Don José Fernando Ramirez wrote as follows (*Noticia de la Pimas*, etc., p. 12): "La diestra política del gobierno español comprendió los riesgos de este sistema, que en su principio fué muy general [referring to the fact that the descendants of the original chiefs remained in possession of the landed titles of the village] y lo minó empleando sus propios medios. Procuró dar todo el conveniente desarrollo á la institucion municipal, y poniendo así en accion el elemento democrático, pusó tambien en oposicion á los caciques con sus antiguos subditos, destruyendo su influjo y su poder. En el caso que nos ocupa, el Virey autorizó los mencionados pueblos para hacer eleccion de autoridades municipales." Señor Ramirez had not been among the New Mexican Pueblos, and consequently overlooked the fact that the sons of former governors, etc. frequently hold valuable papers, with the consent of the tribe, and for the benefit of the entire community. The democratic element was not imported by Spain, it was only respected and preserved as the most appropriate form for the conservation of the Indians, and most suitable to their low degree of culture.



This measure was in fact adopted for the purpose of asserting the supremacy of the government at regular and often repeated intervals, through the formality of confirmation and investiture. No other idea actuated the King of Spain in his decree of 1620 to the Custodian of New Mexico, in which he notified that prelate that he had ordained that annually, on the first day of January; an election should be held in every New Mexican Indian village of "a governor, alcaldes, fiscales, and other ministers of the Republic, without that my Governor or any other officer of mine, or you, or any ecclesiastic, being present at the said elections, in order that the Indians may enjoy the necessary freedom, and that after the election they shall be reported to the Governor for his confirmation."<sup>1</sup> This royal order introduced among sedentary Indians the democratic idea of rotation in office, and, while this was but imperfectly understood and practised (for reasons which will be hereafter explained), it still contributed towards fostering individualism, in contradistinction from communistic socialism, which is the leading characteristic of Indian society, and the great exterior stumbling-block in the path of the Indian towards civilization.

To force this idea of individualism upon the Indian tended toward the ruin of the Indian himself. It happened then, as it would happen to-day were he free to act, with noth-

<sup>1</sup> *Real Cédula dirigida al Padre Custodio Fray Estevan de Perca, 1620 (MS.)*: "Embié mandamiento al dho mi Gou<sup>r</sup> para que dé orden como cada vno de los Pue<sup>os</sup> de estas prouincias el primero dia de Henero de cada vn año sus elecciones de Gou<sup>r</sup>, alcaldes topiles y fiscales y demas ministros de República sin que el dho mi Gou<sup>r</sup> ni otra mi Justicia, bos ni otro relixioso de br<sup>a</sup> Custodia se hallen presentes en las dhas elecciones, porque en ellas los dhos Yndios tengan la libertad que combenga, y que las que en esta forma hicieren las lleben al dho mi Gou<sup>r</sup> para que los confirme estando echas." The custom among the New Mexican Pueblos of electing their officers annually on the first of January is therefore a Spanish modification, and dates from the year 1620.

ing but the law of the land between his rights and the superior faculties and aspirations of his white neighbor. First the Indian's property, next he himself, was wrecked for the benefit of the white man. While, therefore, in matters of government, Spain imposed a progressive measure, in matters of landed property it enforced conservatism. The communal system of land tenure was legally established by the granting of community lands to each settled tribe, — lands inalienable except through consent of the whole tribe and with permission of a set of authorities specially intrusted with the care of the Indian's interests.<sup>1</sup> This perpetuated communism of land-holding, but did not exclude individual tenure, within the limits and under the restrictions of communal rights. It impressed upon the Indian the notion of land measure, and limited him also to a definite space for abode as well as subsistence; and, since space and time are inseparable ideas, it created in his mind the first feeble rudiments of economy in both, of which he had until then not the least conception. These rudiments are, indeed, very feeble at this day.

In the Southwest, the establishment of community grants

<sup>1</sup> These were the so called "Protectores de los Indios." Their chief duty was to defend legally the rights of the Indians. It was considered that the Indian, although a vassal, was a vassal under age, a minor, and needed somebody to represent him and assist him in law. Compare Solorzano, *Politica*, p. 121 *et seq.* The Protectors of the Indians were established at an early date. At first, the prelates of the Indies (archbishops and bishops) were the protectors. See Cédula of March 26, 1546, in Montemayor, *Sumarios*, fol. 211. Philip II. re-established special official protectors. *Recopilacion de Leyes de los Reynos de las Indias*, lib. vi. tit. vi., *Ley primera*. The date of the Cédula is January 10, 1589. The protectors were in a manner similar to our agents of to-day, with the difference that they had less power and were far better controlled, and their duties were well defined. They had no jurisdiction over the Indian, and no right nor power to meddle in the interior affairs of the tribes. Each Indian of New Spain had to pay one half-real towards defraying expenses of defence of the Indians in case of necessity. *Recopilacion*, vol. ii. fol. 218, Cédula of June 13, 1623, Philip IV.

is of comparatively recent date. A peremptory order of the King, dated 1682, laid the foundation of the so called Pueblo grants of New Mexico.<sup>1</sup> In Sonora, the papers and deeds of the Opatas date back to the beginning of the seventeenth century.<sup>2</sup> As long as the Jesuits were almost the sole white occupants of that State, it was superfluous to execute the royal dispositions in regard to Indian lands, as nobody was near or far who could encroach upon the native's possessions. In Chihuahua, El Paso del Norte excepted, the unsettled nature of the aborigines rendered the community system impracticable except in the shape of "reductions," that is, aggregations, sometimes of several stocks, around a mission, as centre and pivot of life. To such reductions an area of communal land was assigned.<sup>3</sup>

At the bottom of these changes rested an idea entirely novel to the Indians, that of ownership of the country by a power whose head remained invisible to them. They saw his representatives, felt the effects of his decrees, but saw

<sup>1</sup> *Real Cédula nombrando á Don Domingo Gironza Petris de Cruzate por Gobernador del Nuevo México*, MS., 1682.

<sup>2</sup> For instance, the grants of the Pueblos of Sinoquipe and Banamichi.

<sup>3</sup> The "Reducciones" are defined by Solorzano as follows (p. 107): "De lo qual descende, que podriamos, no sin causa, equiparar estas reducciones ó agregaciones de los Indios á los Metoecios de los Romanos, y llamarlas con este nombre. Pero todavía entiendo, que les quadra mejor, y mas en comun, el de los Pueblos que los mesmos Romanos llamaban Municipios, o Metrocómias. Municipios eran unos lugares pequeños, adonde por razon de la labrança, ó por otras conveniencias, hazian agregar algunas gentes, y que allí assentassen sus casas y domicilios, y repartiessen entre sí los cargos de ellos, por lo qual se llamaron Municipices, como lo dizen los textos y doctores que de ellos tratan: las Metrocómias eran como villas, ó pueblos mayores, que tomaron este nombre, como que fuesen madres ó cabeças de los menores. . . . Y uno y otro responde al modo y forma de los de nuestros Indios, que se ponen los mayores en cabecera de cada provincia, y á su abrigo otros, que no son tan grandes, para que todos se ayuden assí comunmente dezimos, los pueblos, y repartimientos de Indios, y sus cabeceras." The earliest Cédula I can find establishing these Reducciones bears date 21 March, 1551. *Recopilacion*, vol. ii. lib. vi. tit. iii. The whole section treats of them.

him not. More perhaps than anything else, this opened their eyes to consciousness that the little world of their own, of which each pueblo appeared to be the centre, formed but a portion of a grand uncomprehended total. The idea was crushing to them in one sense. It humbled the childish pride which isolation and ignorance beget and foster. In another sense it was comforting, for that unseen power not merely exacted obedience and tribute, it promised protection, it brought facilities for living, means of improving the mode of existence.

The latter consideration, for instance, acted strongly upon the minds of the Pueblo Indians of New Mexico, when, in 1598, they voluntarily submitted to Spanish sway. It cannot be alleged that the acts of submission of the Pueblos were not understood by them. Every precaution was taken to make them realize perfectly what these acts implied,<sup>1</sup> and, having assumed the position of vassals of Spain of their free will and consent, a withdrawal from it entailed, especially if carried on with violence, the same consequences and legal necessities as rebellion.<sup>2</sup> It was different in Sonora and in

<sup>1</sup> There are seven of these *Obediencias y Vasallajes á su Magestad*, all of which are contained in vol. xvi. of the *Documentos de Indias*. They bear date respectively, *Santo Domingo*, July 7, 1598; *Sau Juan*, September 9, 1598; *Acolocú*, October 12, 1598; *Cuñloce*, October 17, 1598; *Acoma*, October 27, 1598; *Aguscobi* (*Zuñi*), November 9, 1598; *Mohoqui*, November 15, 1598. In each case there were interpreters. The conditions of submission were read, and afterwards interpreted, and the question asked, "Y que así viesen si querian dar la obediencia como está dicho." Invariably follows the reply: "Los quales dichos . . . habiendo oydo entendido y conferido entrellos todo lo sobre dicho, con muestras de contento respondieron de un acuerdo y deliberacion y expontánea voluntad, que querian ser vasallos del dicho Christianísimo Rey Nuestro Señor, y como tales, desde luego le queriã dar y daban la obidencia y vasallaje por si y en nombre de sus Repúblicas."

<sup>2</sup> *Ibid.*: "Y el dicho Señor Gobernador les replicó, que mirasen y entendiesen que el dar la obidencia y vasallaje al Rey Nuestro Señor, era sujetarse á su voluntad y á sus mandamientos y leyes, que si no los guardasen, serian castigados como trangresores á los mandamientos de su Rey y Señor natural;

Chihuahua. There, the Indian submitted to the government locally; to the Church, and in particular to the Jesuit order, at large.<sup>1</sup> This produced results not always beneficial to the native.

That the Indian, once incorporated in the royal domain, should contribute to the expenses of the governmental machine, was but imperfectly understood by him. He never saw the head of the institution, and what he contributed went manifestly, and before his own eyes, to the support of minor functionaries. Tribute was a well established custom in Mexico, especially in the central and southern parts; in the Southwest it was unknown, and remuneration for governmental work had but a few very faint analogies among Indian customs. The tribute exacted from the Pueblos was a peculiar one. It consisted mainly of cotton cloth and of maize.<sup>2</sup> Against the amount of tribute no reasonable com-

y que así viesen lo que querian y respondian á esto; á lo qual dixieron los dichos capitanes, que querian dar y daban la dicha obidencia y vasallaxe, como ántes habian dicho, por sí y en nombre de sus Repúblicas."

<sup>1</sup> The Jesuits actually went in advance of the establishment of civil authority in Chihuahua and Sonora. They were really pioneers, whereas in New Mexico the Franciscans, although pioneers too in a certain sense, established their missions more directly with the aid of the temporal power, and furthermore in closer proximity and more immediate contact with the resident civil authorities.

<sup>2</sup> The general rules laid down for the levy of tribute are contained, as far as the Southwest is concerned, in the *Código de Leyes y Ordenanzas* of King Philip II. (*Documentos de Indias*, vol. xvi. p. 394): "Y de mas de lo susodicho, mandamos á las dichas personas que por nuestro mandado estan descubriendo, que en lo descubiertto hagan la tasacion de los tributos y seruios que los yndios deuen dar como basallos nuestros, y el tal tributo sea moderado, de manera que los puedan sufrir, teniendo atencion á la conservacion de los dichos yndios, y con el tal tributo se acuda al comendero donde lo quiere." In art. 49 (p. 200) the King ordains: "Proueyemos y mandamos que ante todas cosas se hiciese la tasacion de lo que los dichos yndios de ay adelante deuan pagar, así de los que estan en nuestra caueça y corona Real, como de los que estan encomendados á otras personas particulares. . . . Por endé encargamos y mandamos á los nuestros Presidentes y Oydores de las dichas quatro audiencias cada vna en su distrito y jurisdicion, cada vna, se ynformen de lo que buenamente los dichos yndios pueden pagar de seruios ó tributo sin fatiga suya así á nos como á las

plaint could be made; the manner of levy sometimes gave rise to justifiable protests.<sup>1</sup>

Punishment for crimes according to Spanish laws was, to the Indian, a source of great astonishment, and often of displeasure. Atonement for murder by the death of the murderer at the hands of justice, without the possibility of redemption by remuneration, was an entirely new feature. On this point the Indians had generally to yield, for the law could not give way to their customs. Still there are evidences of compromise in the Southwest, as there was great difficulty in inculcating in the mind of the aborigines, rapidly, any other notion but that execution was another murder or manslaughter calling for equivalent retribution. In regard to theft, communism of living rendered their notions very vague. As little as the Indian understood why necessities of life should not be free to all, so little did the European comprehend why they should be, and constant conflicts arose.

personas que los tubiere en encomienda, y teniendo atencion á esto les tasen los dichos tributos y seruicios, por manera que sean menos que los que solian pagar en tiempo de los Caciques y Señores que los tenian ántes de venir á nuestra obediencia." The Indians of New Mexico paid no tribute whatever in primitive times, but in Central Mexico a tribute, and a very severe and onerous tribute, was exacted of vanquished tribes by their conquerors. This explains the last portion of the royal ordinance. In New Mexico the tribute was paid in cotton cloth and in grain, often in buckskin and sometimes in buffalo robes. Conde de Monterey, *Discurso y Proposicion (Doc. de Indias, vol. xvi. p. 48)*: "De algodón ó cueros de Cibola, y de maiz, presupongo yo que serán los tributos." In 1630, according to Benavides, (*Memorial, p. 25*) the tribute consisted "en cada casa vna manta, que es vna vara de lienço de algodón, y vna fanega de maiz cada año, con que se sustentan los pobres Españoles." Compare also Fray Pedro Zambrano, *Carta al Virrey* (MS., November 6, 1636). Fray Antonio de Ybargaray, *Carta al Virrey* (MS., November 20, 1636); *Carta al Virrey del P. Custodio y Difinidores del Nueuo México* (MS., November 28, 1636).

<sup>1</sup> Great complaints are uttered by the Franciscans about the manner of collecting the tribute in New Mexico. I refer, among others, to the letters to the Viceroy quoted above, and especially to Fray Andres Suarez, *Carta á su Magestad* (MS., October 26, 1647).

At last, however, the Spanish ideas prevailed to a great extent, and by allowing permanent tribes independent jurisdiction a compromise was effected, the result of which has been that, as towards outsiders, the Pueblo recognizes the action of law, while the law in turn tacitly acknowledges the right of home rule in his favor.<sup>1</sup>

In the main, the effects of Spanish legislation upon the Indian mind have been to enlarge the scope of its vision, and to foster the thought of individuality, thus shaking primitive socialism without abolishing it in a manner detrimental to the race. It has placed an effective barrier to the unsteadiness of Indian nature, has opened his mind to the conceptions of metes and bounds of time and space, and has even striven, though with small effect, to impress him with a thought of economy of time. Indirectly and through the medium of language it has also encroached upon the Indian principle of segregation, by placing at the command of the native a new medium of utterance that renders intercourse possible between separate stocks, thus paving the way for an idea entirely foreign to all American aborigines, — that of fraternity among mankind.

Any other nation governing the Indian according to European systems might have achieved similar results; but the special merit of Spain consists in having achieved them, whereas other nations occupying American soil have given comparatively little attention to the well-being and conser-

<sup>1</sup> This tacit arrangement prevails to-day with the Pueblos, and it has been legalized in the first statutes of New Mexico, which declare the pueblos to be bodies corporate, corporations having their own jurisdiction over their members. When the Indians of Nambé, in March, 1855, butchered three men and one woman of their village in the most horrible manner for alleged witchcraft, the courts decided that no interference was possible. The Indians were, it is true, compelled to pay four hundred dollars, but these were rather costs and fees than fines. Compare *Relacion de la Matanza de los Brujos de Nambé, por Juan Lujan, Testigo Ocular* (MS., 1838, original in my possession).

vation of the red man. Certain it is, that the Spanish laws of the Indies are by far the most beneficent, the most humane, and the most practical that were ever framed for the government of the aborigines, and that while they have done a vast amount of good, if they did not achieve more, it was not the legislator, but the administrator, who was at fault.

Although not germane to the points under treatment, I cannot refrain from noticing here the contrast between the astounding impetuosity displayed by the Spaniards in their spread over the American continent, and the slow and patient wisdom which marks their legislative enactments. All the very numerous edicts and decrees breathe, in regard to the Indian, the spirit of utmost solicitude for his welfare and gradual introduction into the path of civilization. The rulers of Spanish affairs were thoroughly convinced that nothing could be gained by urging the aborigines to march along a line on which they were as yet unable to advance. There is nothing wiser, nothing more humane and more practical, in this respect, than the voluminous ordinances framed in 1573 by King Philip the Second,<sup>1</sup> and under these ordinances the annexation of the Southwest to the Spanish dominion was effected. These remarks do not apply to the administration of pacified and permanently established tribes alone, they refer as well to that of new discoveries and settlements, and to the conduct towards hostile tribes. From this time on, the term of "Conquests" was banished from Spanish legal terminology, and "Pacifications" adopted in its stead.<sup>2</sup>

<sup>1</sup> *Ordenanzas de su Magestad hechas para los nuevos Descubrimientos Conquistas y Poblaciones*, July, 1573 (*Doc. de Indias*, vol. xvi.). I refer the reader to this important enactment, which is a model of sound practical sense, of knowledge of the true nature of the Indian, and of noble and generous sentiments.

<sup>2</sup> *Ordenanzas*, p. 152: "Los descubrimientos no se den con titulos de nombre



The changes in art and industry wrought by contact with the Spaniards, while great and manifold, appear less striking in the light of the present state of progress in mechanical appliances. We smile at the antique plough, at the two-wheeled cart, at the clumsy iron axe, the imperfect saw, etc., still found among the New Mexican Pueblos, and deride the Spaniard who, three centuries ago, could not give the Indian any better implements than those used at that time among all civilized nations. We chide him for not having kept step in his distant colonies with progress in other climes, under different circumstances. We are liable to forget, however, that the adoption of even those imperfect implements was a gigantic stride for the Indian at whose disposal they were placed gratuitously.<sup>1</sup> He passed, at one step, from the age of stone

de conquistas, pues habiendose de hacer con tanta paz y caridad como deseamos, no queremos quel nombre dé ocasion ni color para que se pueda hacer fuerza ni agravio á los indios." This was reiterated by Philip III. in 1621, and by Carlos II. *Recopilacion*, vol. ii. fol. 80.

<sup>1</sup> An illustration of the gratuitous distribution of agricultural implements is found in the case of re-settlement of the pueblo of Sandia, New Mexico. In the list of things that were necessary in order to settle the Indians recently come from the Moquis appear, besides a number of carpenter's tools, all kinds of agricultural implements of the period, and, in addition, abundance of seeds and grain for planting. Joachin Codallos y Rabal, *Testimonio á la Letra del Superior despacho que me presentó el rd<sup>o</sup> Padre Comisario Delegado*, etc., *en Orden á reponerse los Sitios antiguos con los Yndios Moquinos reducidos* (MS., January 23, 1748). I shall not insist upon the industrial education which was furnished to the Indians of Mexico by the Franciscans at an early date, — the fact is too well known and too thoroughly established to require proof, — but I shall merely state that Philip II. was perfectly justified in saying, in the *Ordenanzas* already quoted (p. 182): "Haseles dado el uso de pan y vino y aceite y otros muchos mantenimientos; paño, seda, lienzo, caballos, ganados, herramientas y armas, y todo lo demas que de España ha habido, y enseñado los oficios y artificios con que viven ricamente." It is interesting to learn what use the Indians of New Mexico made of the implements and domestic animals, the possession of which they owed to the Spaniards, during the time they succeeded in "freeing themselves," as current terminology has it. In 1683, several Indians from the pueblo of Picuries went down to El Paso del Norte to reconnoitre the Spanish armament there. These Indians were surprised by the Mansos and one of them captured. In his interrogatory he deposes (*Declaracion de vn Yndio de Nacion*

into a state of transition, wherein, without the intermediate use of copper or bronze, he learned to weld iron, as well as to fuse and to hammer silver and copper; and to employ

*Pecuri que dijo llamarse Juan*, MS.) that Luis Tupatu, one of the most influential Indians of his pueblo (and among the pueblos in general), said: "Que atendiesen á como se hallauan destituidos de todo con la falta de los españoles. Porque ya no tenían vacas ni abejas ni cauallos ni cuchillos ni coas ni alesnas ni ropa ni bestuario ni con que dar á vn enfermo porque todo lo traian los españoles y que en aquel Rno no lo abia ni balia nada de lo que podian aprovechar para su biuienda." It seems that three years after the uprising the cattle and sheep had already been eaten up, instead of continuing to be raised as heretofore. "Y que en todo el Reino no ai vna res vacuna ni cabeza de ganado menor ni los atajuelos que tenían los Yndios que todo selo an comidos los apóstatas, y que la cauallada y yeguas toda sela á llevado los Apaches, que no ai oy en todo el Reino mas de algunos vueies que an dejado en los pueblos para el venefizio de sus mielgas y que en algunos Pueblos ai de tres á quatro bestias, que todo está destruido." This shows, in the first instance, that the Indians had stock and agricultural implements to a fair extent, and, secondly, that as soon as the Spaniards were gone they squandered these possessions in the most wanton and most truly Indian style.

In regard to Sonora, whatever progress was made by the Indians was mostly due to the Jesuits, who, indeed, obtained the material, so far as implements, cattle, etc. were concerned, from the Spanish government, and served merely as distributing agents, so to say. Father Ribas, who wrote in 1645, not thirty years after the final reduction of the powerful tribes on the Yaqui and Mayo Rivers, and only a few years after the peaceable submission of the Pimas and Opatas, is very emphatic about the rapid changes in mode of life and arts of husbandry. *Historia de los Triumphos* (p. 251), about the Mayos: "Y el viuir y auezindarse los Indios en tales estancias y puestos está ya muy introducido en las Indias; y les está muy bien á sus naturales, porque tienen tierras, y comodidades, si quieren sembrar, y la comida y sustento muy seguro." Of the Yaquis, the fiercest and most warlike of the Indians of Sonora, he remarks (p. 339): "Los Pueblos estan dispuestos en muy buena forma, sin quedar ya vno solo, que de asiento viua en sus sementeras, ni rancherías antiguas. Las casas hazen ya muchas de paredes de adobes, y terrados, y las de los Gobernadores mas ámplias. . . . Muchos de los Hiaquis vsan ya de cauallos, en que andan y traginan sus carguillas, comprándolos con los frutos que cogen, con tanta codicia, que por esse respeto se aplican á hazer mayores sementeras, de que suele ser tã abundãte su valle, que en años esteriles entran á rescatar los Españoles y otras Naciones, sus frutos, con permutas que hacen de vnas cosas por otras, y á esso llaman rescatar. En lo que toca al vestido, es grande la mudança que desean y procuran, y por este respeto se dan mas á sembrar algodón. Demas de esso . . . los Padres . . . han procurado, que entre en Cinaloa alguna cantidad de ouejas, para que con la lana pudiesen las Indias labrar mantas de que vestirse, como ya lo hazen."

not only these two metals, but also gold, as a medium of commerce and barter. In place of the wooden stick used for planting, he obtained the hoe and the plough; he got the saw, the chisel, and the auger, in place of the fire-drill. He obtained draught animals, cattle, sheep, the cat, the domestic dog. He was taught to raise wheat, barley, melons, vegetables, apples, pears, peaches, and grapes.<sup>1</sup> In Sonora the orange and the citron were added to his stock of native fruit-bearing trees. Wool supplanted cotton and buckskin for vestments; the old musket with powder and lead took the place of bow and arrow. True it is, the Indian grasped all these improvements but slowly. Their very advantages were a source of misgiving to him for a long time, and even to-day he is, generally speaking, more dexterous with the bow than with the rifle, more prone to use a stone than a hammer, raw-hide and buckskin than rope or wire. As far as the New Mexican Pueblos are concerned, it may be said that they are still in that state of transition from stone to metal in which they found themselves three centuries ago, after the Spaniards had begun to introduce the arts of life and husbandry of the Eastern world. The assertion of decadence in their arts, so often repeated, is devoid of all basis. Certain arts have been abandoned by the sedentary Indian, because he found more profitable employment.

<sup>1</sup> The introduction of grapes into New Mexico took place in the first half of the seventeenth century, and the first vineyard was planted at San Antonio de Senecú, eighteen miles south of the present town of Socorro. The village of Piros Indians founded there about 1626 was abandoned about 1675. The Senecú of to-day, near El Paso del Norte, harbors some descendants of the former Piros of Senecú in New Mexico. Vetancurt (*Crónica de la Prov. del Sto Evangelio de México*, p. 309) attributes the introduction of vines to Fray García de San Francisco. Fray Balthasar de Medina (*Crónica de la Santa Provincia de San Diego de México*, 1682) attributes the introduction of the grape-vine in New Mexico to Fray Juan de Arteaga, which would place it before 1630. At all events, it appears certain that this improvement was due to the Capuchins, — *Frayles descalzos*.

Thus the New Mexican Pueblos dropped the manufacture of blankets almost completely for a time. It was preferable to buy them from the Navajos (who learned the art from them) and from the Spanish colonists. Their pottery to-day is no longer as barbarously elaborate as centuries ago, because other more practically useful arts engross their attention. Such changes are no evidences of decay, they are inevitable results of progress. With the introduction of improved implements and of new products, the Indian ideas of commerce changed correspondingly, their scope of knowledge was enlarged, and in this respect also, while his pride was constantly humbled by the sight of new and unknown things, his standard of manhood became unconsciously raised to a higher level.

These considerations apply not alone to the sedentary Indian, the vassal of Spain, but also to the vagrant roaming aborigines, the relentless foes of the house-dweller and of the Spaniard. In many respects the Apache, the Comanche, the Navajo above all, owe more to European culture introduced by Spain than the Pueblo Indian. That is, for their particular ends and aims they have derived greater profit than their sedentary kindred. They also obtained the horse, and, as in the first section of this Report I have spoken of the buffalo as one of the chief agents in bringing about ethnographical distribution upon the North American continent, so now I would point out that the horse was second in importance only to the buffalo in this respect. Possession of the horse made rapid circulation over the plains possible; it led in the past century to the astonishing spread of a northern stock, the Comanches, towards the Mexican Gulf, and even across the Rio Grande; it created an indirect intercourse, through Indians of the plains, between New Mexico and western Canada, which

finally brought about actual contact with the French.<sup>1</sup> Comanches traded with the French of Louisiana and Texas; Comanches alternately made raids upon and traded with the village Indians of Pecos. The savage Indian grasped the utility of the horse and of fire-arms with much greater vigor than sedentary tribes, and the complaint is often heard that the Apaches, as well as the Comanches, were better armed and better equipped than the few Spanish soldiers who pretended to defend New Mexico against their incursions.<sup>2</sup> It

<sup>1</sup> The earliest advance on the part of the French towards New Mexico, so far as known, is reported as having taken place in 1700. The French were said to have destroyed a village of the Jumanos. This however is not certain. I find it in the *Relacion Anónima de la Reconquista del Nuevo México* (p. 180). The news was brought by an Apache from the plains. Certain it is that in 1702 the Governor Pedro Rodriguez Cubero made an expedition to the Jumanos. See *Libro de Difuntos de Pecos* (MS.), 1695 to 1706. In case this aggression be true, it must have come from Texas or Louisiana. In 1720, the Spaniards made a reconnoissance with fifty men as far as the Arkansas, but they were surprised by the Pawnees and some French, and nearly all perished. In 1748, it is officially stated that the French traded with the Comanches at the place called Quartelejo, north or northeast of Mora. Joachin Codallos y Rabal, *Testimonio sobre lo Acaesido en el Pueblo de Pecos: Notizia del Theniente de Thaos de hallarse en el Rio de la Gicarilla cien tiendas de Cumanches enemigos y que á ellas llegaron treinta y tres Franceses que los bendieron estos á aquellos bastantes escopetas* (MS.), 1748, fol. 5. But the first French immigration into New Mexico (aside from the three deserters from the expedition of Lasalle, among them the famous L'Archevêque, who came to New Mexico about 1693) took place in 1739, when nine French Canadians made their appearance, and two of them remained in New Mexico. One of these, named Luis Maria Colons (?), attempted to foment an insurrection among the Pueblos against the Spaniards, for which he was shot at Santa Fé on October 19, 1743. *Causa fulminada criminalmente contra Luis Maria Colons, moro criollo de las Colonias de Francia de la parte de la Frobinxia de Cánada en 31 de Mayo del Año de 1743* (MS. in my possession).

<sup>2</sup> Antonio Bonilla, *Apuntes Históricos sobre el Nuevo México*, 1776 (MS.), p. 119: "Hay abundancia de hombres, así Españoles, como Indios, mui á proposito para la guerra: pero la carencia de armas y caballos los inutiliza." *Ibid.*, p. 124: "Los Cumanches . . . no les intimidan las armas de fuego, porque las usan y manejan con mas destreza que sus maestros." Speaking of the inhabitants of New Mexico, he says (p. 135): "Y enseñarles el uso del arma de fuego, que verdaderamente por lo general se ignora en estas tierras." It is useless to quote from other sources; they all agree on the point of utter defencelessness of the Spanish inhabitants of New Mexico and of the Southwest in general, and of the

may be said that the hostile tribes took from the Spaniards only what they could turn to advantage against them, and that what they took they wielded with terrible effect. The implements of peace were slow to penetrate among peoples by whom peaceable work is regarded as degrading to man.

One of the results of the introduction of new arts and objects has been a change in the conceptions of the Indian about wealth. If treasure is mentioned to the Pueblo, we must specify what kind of treasure is meant. His original treasure is neither gold nor silver. His treasure consisted of shell-beads, of green stones, and of objects of worship. His medium of exchange, aside from objects of practical value, was formerly these shell-beads and these green stones.<sup>1</sup> To-day he still clings to them with tenacity, and many a good horse is purchased from the Navajos by the Pueblos by means of turquoises alone. But the Indian has learned from the Spaniard the usefulness of coined money, and while he regards his own treasure as equally valuable, if not more so owing to the superstitious importance placed upon it, money is handled by him and esteemed a desirable convenience. He knows that with money he can acquire certain things unattainable through shell-beads alone, but he knows also that the last can procure him things which no money perhaps may buy. There exists consequently, among many sedentary tribes of the Southwest, a double circulating medium; a civilized currency of United States or of Mexican coins, and an aboriginal currency, which has value in transactions with their kindred only.

superiority in horses and armament of the hostile tribes. In 1778, the Territory of New Mexico had, all told, eight guns (one without carriage) and eighty-four serviceable muskets! *Noticia del Armamento, Peltrechos, y Municiones pertenecientes á este Gobierno del Nuevo Méjico* (MS.).

<sup>1</sup> I refer, among others, to the exchange of turquoises for parrot's plumes, already mentioned by Cabeza de Vaca, in 1536.

Such dualism is a feature that underlies the Indian's life in every direction. It is especially prominent in his religious conceptions and ideas.

I have included the action of the Church in what I termed the "Indian policy" of Spain. Through the concession termed the "royal patronage," the Crown had obtained a powerful hold on the Church in the Indies. It insured control of the investiture of ecclesiastics and the distribution of parishes and curacies.<sup>1</sup> It placed the Regular Orders in a kind of dependency towards the government, and long and bitter was the struggle that terminated in the secularization of the doctrines, and finally in the expulsion of the Jesuits.<sup>2</sup> For the Indians, and for the welfare of the colonies in general, these two results were great misfortunes. By the first, a large body of men, hitherto zealous and active, were forcibly confined to contemplative retirement, that is, to mental stagnation coupled with passive accumulation of idle wealth. The expulsion of the Jesuits deprived the Indians of excellent directors, and the Creoles of able and progressive teachers. It was a severe blow to the aborigines of Sonora and Chihuahua. In the Southwest, the loss was

<sup>1</sup> The concession of patronage of the Indies dates from 1508. See the Bull of July 28 of that year, issued by Pope Julius II. I cite it from the work of Antonio Joachin de Ribadeneira y Barrientos, *Manual Compendio de el Regio Patronato Indiano*, 1735 (p. 409). Bulls confirmatory were, among others, those of Benedict XIV., of February 20 and June 9, 1753.

<sup>2</sup> The decree of expulsion of the Jesuits was communicated to the latter on the 25th of June, 1767. Alegre, *Historia de la Compañía*, Appendix by Bustamante, vol. iii. p. 301. The great majority of them sailed from Vera Cruz on the 24th of October of that year. But the strife between the temporal power and the Regular Orders (most of the secular clergy being on the side of the government) dates from the close of the sixteenth century. Compare (in the *Sumarios* of Montemayor, fol. 19, 20, 22, and 23) the stringent *Cédulas Reales* of April 28, 1603, June 22, 1624, April 6, 1629, and June 10, 1634, touching the regulars and the royal patronage. The bitter conflict between the Bishop of Puebla, Don Juan de Palafox y Mendoza, and the Jesuits, towards the middle of the seventeenth century, was one of the precursors of their expulsion.

not felt, inasmuch as the Franciscans of New Mexico were not secularized previous to Mexican independence.<sup>1</sup> Decay, indeed, set in among the Franciscans, but the causes of it belong to an order of events to which I refer elsewhere.

I may as well state here, that the Inquisition had no manner of sway or jurisdiction over the American Indians. References to *autos de fé* in which Indians are represented as being the victims are absolutely untrue. Not only the laws of the Indies, but the official declarations of the Holy Office, bear witness to this fact. Crimes committed with Indians were visited by this tribunal upon those who perpetrated them, but it never interfered nor was permitted to interfere in matters of faith or belief of the aborigines.<sup>2</sup> Cases of witchcraft even were disposed of by the civil or military authorities, as the case might be.<sup>3</sup> It was considered that the Indian could not be held responsible for his creed in the same degree as the European or his American offspring, and

<sup>1</sup> Most of the Franciscans were removed in 1832 and 1833. A titular "Custodio," Fray Mariano de Jesus Lopez, continued to reside at the Pueblo of Isleta and to administer occasionally to the distant Indian villages of Laguna, Acoma, and Zuñi, until 1847, when an accident put an end to his life.

<sup>2</sup> The great documentary historian of Mexico, Don Joaquin Garcia Ycazbalceta has called attention to this in his *Bibliografía Mexicana del Siglo XVII.*, p. 377. He refers to the Cédula of Charles V. of October 15, 1538, and to Law No. 35, tit. i. lib. vi. of the *Recopilacion de Indias*. Here follows the text of this law (fol. 192, vol. ii.): "Por estar prohibido á los Inquisidores Apostólicos el proceder contra Indios, compete su castigo á los ordinarios Eclesiásticos, y deben ser obedecidos y cumplidos sus mandamientos, y contra los hechiceros, que matan con hechizos y usan de otros maleficios, procederán nuestras justicias reales." In confirmation see *Carta Patente del Padre Custodio Fray Joseph Lopez Tello, comunicando una Instruccion del Santo Tribunal de la Inquisicion*. April 22, 1715 (MS.; the instruction is issued by three Inquisitors and the Secretary): "Esto es porque los delitos de Yndios no tocan al Sto Oficio, si los que en materia de fé se cometen con ellos ó Yndios."

<sup>3</sup> See the law above quoted. I have in my possession a number of witchcraft trials from New Mexico, beginning with 1704. All were conducted by the civil authorities of the province.



the principle of patience and leniency adopted in legislation also prevailed in religion.<sup>1</sup>

The conversion and spiritual "reduction" of the Indians of New Spain were from the beginning, after the conquest, intrusted chiefly to the Franciscans. But in proportion as other orders and secular priests arrived from the mother country, they were assigned to certain provinces and localities. The friars of St. Francis had discovered New Mexico.<sup>2</sup> Their blood was repeatedly shed on New Mexican soil.<sup>3</sup> They held the first claim to the missions there, and thus the territory became an annex to the province of the Holy Evangile of Mexico under the title of the Custody of Saint Paul of the Conversion of New Mexico. Afterwards, in southern and central Chihuahua, the Franciscans of Zacatecas established themselves,<sup>4</sup> while the Jesuits took hold of Sonora, and subsequently of Arizona, where they remained

<sup>1</sup> The prohibition to the Inquisition to meddle in Indian matters is due to Philip II., and the *Cédula* bears date February 23, 1575. It is in harmony with the ordinances of 1573. *Ordenanzas para Descubrimientos*, etc., p. 182: "Los predicadores, con la mayor solemnidad que podieren y con mucha caridad, les comiencen á persuadir, quieran entender las cosas de la Santa Fee católica, y se las comiencen á enseñar con mucha prudencia y discrecion por el orden questa dicho en el libro primero, en el Titulo de la Santa Fee católica, usando de los medios mas suaves que podieren para los aficionar á que la quieran aprender; para lo cual, no comenzarán reprehendiéndoles sus vicios ni idolatrias, ni quiténdoles las mugeres ni sus ídolos. Porque no se escandalizen ni tengan enemistad con la doctrina cristiana, sino enseñensela primero, y despues que esten instruidos en ella, les persuaden á que de su propia voluntad dexen aquello ques contrario á nuestra Sancta Fee católica y doctrina evangélica." This is so far as the idols are concerned an abrogation of decrees of Charles V., June 26, 1523, of the Empress, August 23, 1538, and of the King (then Prince Regent) himself, August 8, 1551. See *Recopilacion*, vol. i. fol. 2.

<sup>2</sup> Fray Marcos of Nizza in 1539.

<sup>3</sup> Fray Juan Padilla, in 1543; Fray de la Cruz and Fray Luis Descalona, a short time after; Fray Agustin Rodriguez, Fray Francisco Lopez, and Fray Juan de Santa Maria, in 1581.

<sup>4</sup> The Custody of San Francisco de Zacatecas was established in December of 1566. Arlegui, *Crónica de Zacatécas*, p. 41, and its first mission in Chihuahua was San Bartholomé, or Parral.

till they were supplanted by the Franciscans of the College of Querétaro in the second half of the eighteenth century.

The system of work pursued by the Franciscans in New Mexico consisted, first, in the construction of churches with the aid of Indians.<sup>1</sup> This necessitated giving to these Indians a certain amount of mechanical training, and thus it was that the Pueblos became acquainted with tools of iron and steel. Secondly, in the setting apart and cultivation of plots for the support of the missionary. This made the Indian acquainted with improved methods of tilling the soil, as well as with the use of superior implements and of domestic animals.

The teaching of letters and of the catechism was a herculean task, considering that the priests had to become acquainted with the languages of the neophytes, and had to encounter a violent opposition against arts which the Indian regarded with superstitious dread.<sup>2</sup>

Painting was easily taught, for the Indian is always very fond of colors; but music was more difficult, for, although the aborigines are much given to rhythmic noise, music

<sup>1</sup> This was done everywhere, and was a natural consequence of missions. The work of building the walls of these churches was performed, at least in New Mexico, by the women. See Benavides, *Memorial*, p. 41.

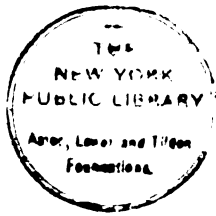
<sup>2</sup> It would be too long to go into details on this point. I can only refer the student or reader to some of the principal sources. Thus, in regard to Sonora there is Ribas, *Hist. de los Triunfos*, the *Estado de la Pimeria*, and the *Descripción Geográfica de la Provincia de Sonora*. In regard to New Mexico the sources are too numerous even to indicate here. As to the difficulties of teaching, consult especially Benavides, *Memorial*, pp. 40, 90-130. The greatest stress was laid upon the acquisition by the missionaries of native Indian tongues. The interest taken in these American languages lasted late; I have a number of circulars of the last century, in which the learning of Indian idioms is enjoined on the missionaries in New Mexico. The re-establishment of mission schools is specially ordered by Fray Miguel Menchero, *Carta Patente*, 1731 (MS.): "Otrofí mandamos que en todas las misiones halla Escuela y Doctrina en nuestro Ydioma y lengua Castellana, como está ordenado probehido y mandado por la Magestad de nro Rey y Señor en repetidas Cédulas para lo qual distribuiremos Cartillas, Catecismos, y Cartones á cada Mision segun el número de los de doctrina."

proper falls harshly on their untrained ears. Nevertheless, as early as 1607 there existed at least one small organ in one of the Pueblo churches of New Mexico.<sup>1</sup>

To depict all the difficulties which the brethren had to encounter would require a space far exceeding the limits of this work. I can only notice the changes wrought, very gradually too, in the condition of the Indians.

The Pueblo Indians accepted the new faith voluntarily, and to a certain extent honestly. They adopted it, however, from their own peculiar standpoint, that is, they expected material benefits from a creed that pretended to give them spiritual advantages. In their conception, religion is but a rule of conduct controlling man while alive, and on strict compliance with which his success in this world depends. In short, the Pueblos looked upon Christianity as upon another kind of magic, superior to the one which they practised themselves; and they expected from the new creed greater protection from their enemies, more abundant crops, less wind, and more rain, than their own magic performances procured. To disabuse them was extremely difficult, and yet it was done, — done through teaching, and also by the force of circum-

<sup>1</sup> There exist to-day paintings on buffalo hide executed by Indians of the Pueblos. I photographed in 1882 a picture of "Nuestra Señora de Begonia," at Galisteo, which bore the date of 1808. Artistically, these paintings are worthless, still they indicate progress over the decorations of pottery. In music, the organ was of importance. Fray Cristobal Quiñones placed one in the church at San Felipe (now destroyed, and the pueblo has disappeared also). Vetancurt, *Menologio*, p. 137: "Solicitó para el culto divino órganos y música, y por su diligencia aprendieron los naturales y salieron para el oficio divino diestros cantores." Idem, *Crónica*, p. 315. Benavides, *Memorial*, p. 40. About Sonora says Ribas (*Historia*, p. 336): "Preuendidos estos hábiles niños, se procuraron Maestros de canto Christianos antiguos, y juntaron, y formaron capillas muy diestras en cada vno de los partidos de Hiaqui, dōde ya oy se celebran las fiestas á canto de órgano, y con otros instrumentos músicos, de baxones, sacabuches, chirimías, y flautas, que en todo han salido diestros." The same about the Mayos (p. 250). Also *Estado de la Provincia de Sonora* (MS., 1730). Evidences might be multiplied.





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PROCESSION, FEAST OF ST. ESTEVAN, ACOMA.

stances. The result was, that the Pueblo Indians, seeing that the new creed did not produce the effect they had anticipated, turned against it, and the rebellion of 1680 was greatly due to a feeling that the new order of things, religious as well as civil, was not worth the support of the people.<sup>1</sup>

Still almost three hundred years of patient toil bore some fruit. A change crept over the religious beliefs of the native, that renders it very difficult for the ethnologist to separate the primitive doctrine from the Christian. The task is the more intricate, since much of what is originally Christian has become distorted in the Indian's mind, and assimilated by him to his own fetichism and polytheism. Among most of the Pueblos, however, a few simple Christian notions have taken root permanently. Among them are:—

First. The idea of one Supreme Being, for which the name of God in Spanish (Dios) is used. *Dios* is looked upon as the original creator, but recognized at the same time as the Christian God *par excellence*.

Second. Intercession by the saints.

Third. Baptism, in most of the pueblos. At Zuñi it has almost disappeared. There is a superstitious idea among many, that children baptized are sure to die soon.<sup>2</sup>

<sup>1</sup> Among the causes alleged by Pueblo Indians who testified in regard to the uprising of 1680, is expressed the conviction on the part of the Pueblo Indians that the Christian creed had no value. Compare *Interrogatorios y Declaraciones de varios Indios, hechos de Orden de Don Antonio de Otermin* (MS., 1681). One Indian declares (fol. 126): "Que el Demonio era muy fuerte, y mucho mejor que Dios. . . . Diciendo que mejor era lo que el Diablo mandaba, que lo que les enseñaban de la ley de Dios." Another one says (fol. 130): "Ya murió el Dios de los Españoles que era su Padre, y Santa Maria que era su Madre, y los Santos que eran pedazos de leños podridos, y que solo vivia su Dios de ellos." Still another one (fol. 136): "Porque el Dios de los Españoles no valia nada, y que el los tenian era muy fuerte."

<sup>2</sup> This idea was clearly expressed by the Indians of Zuñi to Fray Mariano de Jesus Lopez in 1847. *Libro de Bautismos*, MS.

Fourth. The Mass.

Fifth. Burial in consecrated ground.

Ideas about retribution after death are vague among the majority of Indians in the Southwest, except in particular cases, where the teachings of the Church have entered into the flesh and blood, so to say, of the individual. Confession is not often practised; there are objections against it from the Indian standpoint; still many of them perform their duties in this respect, and the Church shows leniency on account of their intellectual condition.

The effects of education, or instruction, have, however, now wellnigh disappeared; still there are signs of former and better times. In general, there are many and very plain tokens of a relapse into barbarism, after the experience of a lift towards higher development.

Baptism has remained as an established form, and the Indian attaches to it considerable importance. The death of a child unbaptized is regarded in most of the pueblos as a calamity. Interment is performed everywhere among the Pueblos (Zuñi and the Moquis excepted) as close to the temple as possible, and the New Mexican clergy have experienced great trouble in attempting to wean their Indian parishioners from this custom, and to induce them to bury their dead in outside cemeteries.<sup>1</sup>

Matrimonial customs have undergone a relative change. On this score the struggles of the clergy have been severe. The Indian recognizes the sacrament of marriage, he demands it, but declines to obey the moral precepts of Christianity. He clings to the customs of olden times, which make the

<sup>1</sup> Witness the great difficulties which my esteemed friend, Rev. Father Camille Seux, priest of San Juan, has lately experienced from the Indians of that village, when, in compliance with the territorial laws, he caused the cemetery to be removed outside the village. It nearly cost his life.

increase of the tribe and clan a duty under all circumstances ; he considers formal marriage as an essential detail, though seldom as a binding pledge. Nevertheless, there is a great difference between matrimonial relations as they exist to-day, and the condition of the family in primitive times, when dissolution of the bonds uniting man and wife was the rule. Now it excites gossip, scandal even, and calls forth the reprimands of the old men, and the reproaches of the whole tribe. The strenuous efforts made to bring together a couple who, for some reason or other, have separated, show that a revolution in ideas has taken place through the agency of the Church ; that concubinage, formerly a rule, is now an exception ; and that, while tolerated, it is still looked upon as reprehensible.<sup>1</sup>

I am speaking here of such Indians as are nominally christianized, and not of the still roaming tribes. I allude also more particularly to the village Indians of New Mexico, since these are the best known and have been the most closely studied, and since they have been under the exclusive guidance of the Franciscans for nearly three centuries. The Jesuits were more fortunate with at least two numerous groups of village Indians,—the Opatas and the southern Pimas, or Nebomes, of Sonora. Among these they have succeeded in destroying almost completely the foothold

<sup>1</sup> At the time of the great rebellion, in 1680, one of the first measures adopted by the successful insurgents was to dissolve all marriages effected under the Church, and to set every one free to live and cohabit as he pleased. See *Interrogatorio de varios Indios*, 1681 (MS.), fol. 126, 130. As early as 1713, however, there is testimony to the effect that the Indians had changed their ideas about concubinage. One of the most interesting witchcraft trials of New Mexico, the *Causa Criminal contra Gerónimo Dirucaca, Indio del Pueblo de Picurias*, 1713 (MS.). The said Dirucaca openly boasted of living in concubinage, and the Indians of his village became scandalized and accused him before the Governor. At the present day, strenuous efforts are made to reunite couples that have separated, and an Indian who while married still maintains a so called "Casera" is subject to reproof by his kindred.



of primitive institutions. I have no doubt that this result is due largely to the greater independence enjoyed by the Jesuits in their missions, and yet what sad complaints have these missionaries themselves recorded, as late as the second half of the past century!<sup>1</sup> Certain it is, that no other spiritual power has understood so well how to reconcile the advancement of the Indian with his preservation, but the problem may be properly formulated in the discouraging theorem, If it takes twenty-one years in the eyes of the law to make a man out of a child, how much time will it take for thousands of men, born and bred in organized childhood for untold centuries, to develop into independent manhood?

The Indian presents the strange anomaly of a human being ruled by two distinct systems of laws, using two classes of implements separated from each other in point of development by thousands of years, two kinds of currency, and professing sincerely two distinct creeds as antagonistic to each other as fire and water. It is vain to deny that the southwestern village Indian is not an idolater at heart, but it is equally preposterous to assume that he is not a sincere Catholic. Only he assigns to each belief a certain field of action, and has minutely circumscribed each one. He literally gives to God what, in his judgment, belongs to God, and to the Devil what he thinks the Devil is entitled to, for the Indian's own benefit. Woe unto him who touches his ancient idols, but thrice woe to him who derides his church or desecrates its ornaments.

Considering the time devoted to the Indian of the Southwest by the "Indian policy" of Spain in all its various forms, and the sacrifices of life and means which it has entailed, the results may appear surprisingly meagre. Yet it would be idle to inquire if another nation, another religious

<sup>1</sup> *Estado de la Provincia de Sonora, 1730, MS.*

direction, might have "done better." Judging from results obtained in other parts of America, we are hardly authorized to believe it. Still I have until now only presented the favorable side of Spanish influence, and I am the last to deny the existence of grave defects, the committal of serious faults. As these dark sides of Spanish administration of the Indies have contributed greatly to our knowledge of the Indian, I must allude to them here, as well as for the sake of impartiality, which is the first duty of the historian.

Spanish legislation affords but few grounds for complaint, but the execution of the laws was often far from satisfactory. American Spaniards invented the famous expedient of "obeying without complying," and from Santa Fé to Madrid the distance was immense, in space as well as in time. Hence it resulted that the promulgation of decrees, even the reception of special ones, was often much delayed. The territory administered from Madrid was so immense and so diversified, that a good deal of what was excellent in one portion proved an utter failure in another. But until the Council of the Indies could be informed and convinced, and other dispositions taken, much evil was done by compliance with well intended laws. In the Southwest, the same failures, through disobedience of officials, through impracticability of execution, or through delays, did not equally affect Sonora and New Mexico, Chihuahua and Arizona, because the natural conditions are different. Thus the royal decree of 1620, of which I spoke in the preceding pages, worked well in New Mexico: it remained a dead letter almost everywhere else in the Southwest.<sup>1</sup> The peremptory order of the King to the Gov-

<sup>1</sup> In Sonora, for instance, the Governors of Sinaloa frequently nominated the chiefs of the Indian villages, during the seventeenth century. The regular elections, but under the supervision of the Jesuit missionaries, were instituted by a decree of 1716. Ribas, *Historia*, p. 339: "Gouiernanse ya todos sus pueblos por Gobernadores, Alcaldes, Fiscales de Iglesia, y otros ministros de

ernor of New Mexico (then residing at El Paso del Norte), to assign to each Indian pueblo four square leagues of land, was issued in 1682, but its execution was inevitably delayed, through force of circumstances, until the century following.<sup>1</sup> The Governors of New Mexico frequently did very much as they pleased, for they knew that their term of office was short, and their salary (two thousand ducats) not in proportion with the uncomfortable life they were called upon to lead. Consequently, they tried to "make" as much of their position as could be "made," confident that, after their term of office expired, they would have to disgorge at least a portion of whatever ill-gotten gains they had gathered. This exposed the Indian to a number of local and temporary vexations, the severity of which varied within a very short lapse of time, and often alternated with periods of great benefit to the native, according to the character of the magistrate who represented the Crown.<sup>2</sup> Neither were the clergy free

justicia de su misma nacion. con orden, sujecion, y obediencia. Los vnos puestos por el Capitan, aunque distante mas de cincuenta leguas; los otros Fiscales de Iglesia por el Ministro de doctrina." This was in 1645, or twenty-five years after the promulgation of the royal Cédula mentioned. *Descripcion Geografica*, cap. viii. art. ii.: "El gobierno civil de los pueblos de Indios, consiste en un gobernador, un alcalde, alguacil y topile. El gobernador se elije por los mismos Indios en presencia del padre misionero, quien por las leyes reales insertas á una Provesion Real de la Audiencia de Guadalajara de veinte cinco de Septiembre de 1716, y un despacho del Exmo Señor Virey D. Juan Francisco de Guémes y Orcasitas, su fecha en México 25 de Noviembre de 1746 años, les dirige en la tal eleccion, para que acierten á dar sus votos á algunos cuya vida y costumbres no les sirvan de tropiezo, sino de freno respecto de lo malo, y aguijon y espuela para lo bueno." The change effected in New Mexico in 1620 thus took place in Sonora fully one century later.

<sup>1</sup> The four square leagues were tacitly allowed to the pueblos, but they were surveyed and staked out only in the course of the eighteenth century, and at very different times for the different pueblos; thus, for San Ildelfonso in 1704 and 1726; for the Sumas of San Lorenzo in 1765, etc.

<sup>2</sup> For instance, in Sonora, the change from Hernando de Bazan to Francisco de Urdiñola, and to the Captain Martin de Hurdaide (died in 1626); in New Mexico, from Francisco de la Mora Ceballos (1634) to Francisco Martinez

from blame. The regular orders acquired an ascendancy threatening to the rights of the secular priests as well as to those of the government. Proud of the signal services rendered by them to the cause of civilization and religion, and

Baeza, or from Diego de Vargas to Pedro Rodriguez Cubero (1697). Sometimes several governors in succession were tyrannical towards the Indians. Says Fray Andre Suarez, *Carta á su Magestad* (MS., October 26, 1647): "De treze gouernadores que ha avido, los diez ya han dado cuenta á Dios ño Señor, y todos los he conocido en esta tierra, saluo uno que fué el armador desta tierra, solo trato de los tres, que actualmente estan en estas provincias, avnque los dos salen en este despacho, el vno aprisionado por aver vendido la pólvora de vuesa Mag<sup>d</sup>, y el otro sin ellas por cohechas que ha hecho," etc. In this letter, Fray Suarez complains bitterly about the Governors Fernando de Arguello and Luis de Guzman y Figueroa. Such individual instances of arbitrariness and actual disregard for the laws may be found frequently, and how could it be otherwise when the central authorities were so far away? Still, it can be proved that no transgressing official escaped punishment in time, provided that death did not interfere with the slow but sure action of Spanish justice. The miserable end of Nuño de Guzman is well known. Hernando de Bazan was severely chastised. Diego de Peñalosa's fate is well known too, although erroneously attributed to persecution by the Inquisition. Bernardo de Mendizabal was put in prison. Luis de Rozas was in prison when murdered. Pedro Rodriguez Cubero was only saved from severe punishment by his speedy death. The "Residencia," which every official had to give at the close of his term of office, was sure to disclose every fault and crime committed, and whenever there were accusations made during the term of office, there came the dangerous "Visita," which struck the suspected officer unawares, suspending him at once, throwing him into prison, and sending him to Spain in case of necessity in irons, there to pine until his case was decided. Accusers never failed, sometimes evil-disposed persons, sometimes over-zealous ones, but frequently well intentioned and thoroughly informed advisers. In connection with the Indians, the clergy were bound, and by positive royal orders, to watch the civil officers and to report any abuse committed by them. Such reports, even if made by the most humble monk, were acted upon by the King himself. This is shown, for example, by the action taken in regard to the letter above quoted of Fray Andres Suarez. On the 22d of September, 1650, the King despatched a special Cédula to the Viceroy of New Spain ordering him as follows: "He tenido por bien de dar la presente, por la qual os mando, que luego que la reziuiais, os enteréis muy especialmente, de si es Verdad lo que contiene, y siéndolo atenderéis desde luego á procurar y impedir las Vejaciones que reziben los Yndios, amparándolos como lo tengo dispuesto por cédulas mias." Not content with this, the King reiterated his order on the 20th of June, 1654, after the Viceroy had removed the Governor of New Mexico and put Don Juan de Samaniego in his place. See *Cédula al Virrey de la Nueva España, remitiéndole una copia de*

initiated into the ways of the Indian, they assumed a position towards the government, which in New Mexico, for instance, called forth dangerous conflicts at a very early date, and discredited both Church and State in the eyes of the aboriginal vassal and convert. The origin of the terrible rebellion of 1680 can be traced as far back as 1642, when Governor Rozas was assassinated in Santa Fé.<sup>1</sup> Dissensions between the

*Carta sobre las vejaciones que se han entendido hazer los Guernadores de Nuevo México a los Yndios* (MS., Sept. 22, 1650). *Real Cédula al Virrey de Nueva España sobre el Aciuio de los naturales del Nuevo México* (MS., June 20, 1654). The great stumbling-block in the way of making the solicitude of the central government effective was, first of all, the enormous distance separating the head from the extremities of the gigantic body. Thus the *Real Cédula* of October 20, 1665, was received at Mexico on the 28th of May of the following year. It took often eight and nine months for a royal despatch to reach New Spain, and from Mexico to Santa Fé quite as long, if not longer. Another difficulty arose from possible connivance of the highest officials at Mexico with the governors of distant provinces. This is very plainly hinted at by Fr. Andres Suarez, *Carta*: "Pero, muy católico Rey y Señor, como los que vienen son Criados de los Virreyes, ó compran los officios como lo [illegible in orig.]. El governador passado Don Fernando de Arguello que le havia cõprado el officio nuebe mill pesos, y todo esto, muy católico Rey y Señor, lo vienen á pagar estos pobres naturales, y Españoles." The principle adopted, of selling certain offices to the highest bidder, was a vicious one, and did a great deal of harm. This innovation (for at the outset all offices of the Indies were given as favors) is due to Philip II. Antonio de Leon y Pinelo, *Tratado de Confirmaciones Reales*, part ii. cap. i.

<sup>1</sup> This crime, which was committed by one Antonio Baca, came very near bringing about an uprising on the part of the Spanish colonists of New Mexico. Dissensions between the clergy and the Governors of New Mexico began at an early day, and very soon after the instalment of Don Pedro de Peralta as successor to Juan de Oñate, in 1608. The violence of the strife was such, and the Custodians, Fray Bernardo de Aguirre, and chiefly Fray Cristobal de Quiros, were so jealous of every prerogative of their order, that the King had to interfere. He took the part of his Governors, and one portion of the often quoted *Real Cédula al Padre Custodio Fray Estevan de Perea*, 1620, is devoted to the matter. Philip III. speaks very plainly: "Ha constado de los grabes inconvenientes que se han seguido y resultado de que los Prelados buestros anteze-sores ayais usado de la dha Jurisdiccion contra Dn Pedro de Peralta y del almirante Bernardino de Zeballos, . . . çon mas escândalo y menos prudencia de lo que fuera justo exzediendo contra lo determinado por los Sacros Canones Bulas de Su Santidad y Zédulas mias," etc. Quiet was restored for a time, but

temporal and spiritual powers laid the foundations of unbelief among the Indians. But the greatest cause of the decay of the good work commenced was the closing of the colonies to foreign immigration. This measure, adopted by Spain as a method of defence, killed vitality in the colonies, and created an intellectual stagnation which struck the clergy as well as the laymen. After the crisis which the Indian revolts caused at the close of the seventeenth century, new life sprang up in the missions.<sup>1</sup> But soon the effects of the policy of seclusion began to tell, and most forcibly in remote quarters. In the Southwest it coincided with a new factor, the increasing spread of hostile tribes freshly arriving from the North. These enemies formed a circle of blood and fire around the Spanish outpost of New Mexico; they cut it off from the distant South, and produced a spirit of hopelessness among the inhabitants of all classes. The clergy

under the Governor Martinez Baeza, in 1636, the strife broke out with greater violence. From the documents in my possession, dating from the years 1635 to 1639, I must, however, conclude that the Governors Don Francisco M. Baeza and Don Luis de Rozas were in the wrong; that the former especially was in principle opposed to the Church as protector of the Indians, and that while the Custodian, Fr. Cristobal de Quiros, was a very energetic and even naturally violent man, he was fundamentally in the right. Many of the colonists were on the side of the clergy, and the tumult broke out in 1642. When Governor Rozas was murdered, he was in prison for Residencia, a fact that speaks strongly against him. The assassination was charged upon the Franciscans, and by that bitter enemy of all regulars, Bishop Palafox, whose difficulties with the Jesuits were then at their height. Still it appears that the Franciscans were afterwards fully exonerated. *Real Cédula al Virrey de la Nueva España, en Racon de las Cosas Tocantes al Lebantamiento del Nuevo México*, July 14, 1643 (MS.); also *Ynforme del Yllustrisimo Señor Don Juan de Palafox Obispo de la Puebla, al Conde de Salvatierra*, 1642 (MS.). That such dissensions contributed greatly to the uprising of the Pueblos is openly asserted by the Provincial Fr. Pedro Serrano in his *Ynforme al Excmo Señor Virrey Marques de Cruillas sobre la Custodia de el Nuevo México*, 1761 (MS.), and hinted at by Fr. Antonio Camargo, *Carta Patente*, 1717 (MS.), by Antonio Bonilla, *Apuntes Históricas*, 1776 (MS.), and others.

<sup>1</sup> This is very evident through the circulars of Custodians, to some of which I have already referred.

could not remain exempt. Although nearly all of the priests who served in New Mexico during the past century were born and bred in Spain, they went to the Southwest as into an exile.<sup>1</sup> "Lasciate ogni speranza." No military protection anywise adequate could be given, for Spain was exhausted, and weary of maintaining empires from which it derived only sacrifice to itself.<sup>2</sup> Thus began a decline, from which the intellectual progress of the Indian suffered correspondingly. During the Mexican Republic, matters grew worse, for the Indian traits of segregation and intertribal strife displayed themselves as soon as the bond of unity imposed by Spain was forcibly removed, and with such tendencies neither church nor school can prosper. Therefore I say that the intellectual development of the Indian has suffered a decline, not from its primitive condition, but from the height

<sup>1</sup> Nearly all the New Mexican priests, up to this century and the establishment of the Mexican Republic, were born Spaniards, and educated in Spain. I have a copy of the *Libro en donde se asientan las Vidas de los Padres Misioneros que obraron en el Nuevo México* (MS.). Unfortunately it is only a fragment. Of seventeen priests whose nativity is given, only five were American born.

<sup>2</sup> I have already alluded to the utter defencelessness of the colonists. The number of actual soldiers maintained in the Southwest was correspondingly insignificant. The garrison at Santa Fé was usually one hundred men, and of these a great number had to be campaigning all the time. At El Paso del Norte there was another "Presidio" of one hundred troops. In Sonora, there were not over three Presidios. At Parral there was one. The Brigadier Pedro de Rivera bitterly complains about the insufficiency of means of protection, in his *Informe del Estado de las Misiones de la Compañía en las Provincias de Sinaloa y Sonora* (MS., 1727). Similar complaints were uttered by Don José de Berrotaran, *Informe acerca de los Presidios de la Nueva Vizcaya* (*Doc. para la Historia de México*, second series, vol. i., 1748), by Don Pedro Fermin de Mendiñeta, *Carta sobre Asuntos Militares* (MS., 1772), by Antonio Bonilla, *Apuntes Históricas*, and others. On the other hand, we cannot overlook, in addition to the general exhaustion of Spain, the fact that New Mexico, for instance, was nothing but a constant drain on the Spanish resources. The Crown never received one iota of remuneration for its efforts to hold the province, and maintained possession of it finally for no other purpose than to erect a barrier against the northern hostile tribes for the protection of the more valuable southern regions of Durango, Sinaloa, and southern Sonora and Chihuahua.

which it had reached under the first impulses of Christianity and of a wise and well regulated governmental discipline.

The present Indian of the Southwest, objectively speaking, is a result of all those various agencies that played a part in his education under Spanish rule. After this long introduction, the picture which I intend to present of him as he is now will become more intelligible, and I hope more clear and concise.

## II. CHARACTERISTICS OF EXISTING TRIBES.

I cannot pretend to speak with any assurance of Indian tribes which I have not personally visited. Therefore I shall make but brief mention of the Yaquis, Pimas, and Seris of Sonora ; of the Tarahumares and Conchos of Chihuahua ; of the Moquis, the tribes of the Colorado River, and the Maricopas of Arizona ; and of the Yutas, who occasionally wander upon New Mexican soil. Since the beginning of the labors of the Bureau of Ethnology, many of the southwestern tribes within the United States have been earnestly investigated, and a mere reference to the works of Captain John G. Bourke, U. S. A., on the Moquis and Apaches, and of Dr. Washington Mathews, U. S. A., on the Navajos, is perhaps of more intrinsic value to the student than additional confirmation of the results obtained by them through any assertion of mine. In regard to Linguistics, I hardly need recall the valuable labors of Albert S. Gatschet. Of the work of Mr. F. H. Cushing I shall have to treat at length further on. Although mostly distant from each other, frequently out of communication through the force of circumstances, I may well affirm that our results can hardly be separated ; that since I formed his acquaintance I have scarcely discovered anything about the aborigines while re-



siding or travelling among them to which my attention had not been called by some observation of his at Zufi, or which did not subsequently find its equivalent in the complete picture of indigenous life which his material will present when placed before the public.

The Jovas and Eudeves of Sonora I have not met, and I am led to believe that they have almost, if not completely, disappeared as a tribe. The same might be said of the southern Pimas and of the Opatas. Having, however, spent a short time among the Opatas, I shall be compelled to treat of them separately. The Mayos, or southern kindred of the Yaquis, can be referred to together with them.

It is impossible as yet to give any reliable idea concerning the number of Indians in the Mexican States of the Southwest. The assertion in regard to the Yaquis, for instance, that they are nearly thirty thousand strong at this day, is but an estimate. The Department of Statistics at Mexico is collecting data with the greatest activity, but the difficulties in its way are enormous when the work concerns tribes which, like the Yaquis, have been, not only practically independent, but openly hostile to the government of Mexico for many years. It was easier, in fact, for the Jesuit missionaries of the sixteenth and seventeenth centuries to make a census of these Indians, than it is now. As to the Opatas and Pimas, they have become so thoroughly merged into the Spanish or Creole population, that it is not possible to separate the pure blood from the Mestizo. The Seris are nearly inaccessible in their island homes. The same may be said of the wild half of the Tarahumares of Chihuahua, whereas the settled portion of the tribe and the Mansos of El Paso del Norte have intermingled with the whites, although the former but slightly. The Piros of Senecu remain not intact, for intermarriage with Mansos, Tiguanas, Apaches, Sumas, and

Janos has modified their blood; still they at least dwell by themselves, and an approximate estimate of their numbers is not impossible.

I have not at my command any recent reports on the condition of the Mayos and Yaquis of southern Sonora. Orozco y Berra published in 1864 some notice of these tribes. But rather than follow that author, who has not professed to enter into more details than were indispensable for his specifically linguistic purposes, I shall avail myself of the statements of José Francisco Velasco, a man who was eminently fitted for the task with which he had been officially intrusted, that of preparing statistical notices of Sonora, and who united with a thorough knowledge of his State an equally deep acquaintance with Indian nature in general, and the various causes that have affected it.

Velasco says of the Yaquis: —

“ Their industry, such as it is, consists in the fabrication of woollen blankets or covers, with which they protect themselves against the cold. These blankets are very densely woven, and in color black and blue. In general, the Yaqui appears endowed with good natural faculties of perception. With very slight efforts he masters any kind of mechanical trade or profession.

“ Their character shows much firmness, or rather obstinacy. Nobody can induce them to reveal secrets, or any of their projects. Not even Free Masons are so reticent in respect to their mysteries. Time and again they have suffered death rather than disclose what they did not wish to divulge, and this is one of the many points of advantage which they have possessed in their rebellions.

“ The Yaqui has usually no other ambition than to eat and to obtain for himself a shirt and a pair of white trousers, for his wife a ‘Rebozo’ and skirts, while his children go

naked, or with a simple breech-clout called 'Sapeta,' consisting of a rag which covers the loins, with its ends tied to a girdle or string around the waist. He is much given to festivities, and generally of a merry disposition, often shouting while he walks. At night, if they are not tired out, they dance their dances, — the Pascola, the deer dance, the Tesguin, or the dance of the Coyote. Naturally suspicious and rude, it is difficult to dissuade them from any preconceived notion, especially if they believe they have been abused by anybody. This is more especially the case in regard to whites, towards whom they harbor a distrust characteristic of the antipathy existing between the races. Indeed, their customs, actions, and manners are so distinct from ours, that even their gait is different. There are of course exceptions, since some of the Yaquis, who have been raised among whites from childhood on, enjoy our mode of living and sympathize with us.

“ Their complexion is usually bronze; they are well formed, the women rather buxom and of middle height. In some of the pueblos females are found who are very white and handsome; they are children of so-called Coyotas, or daughters of a Spanish father and an Indian mother. Their language is easy to learn, free, and susceptible of being reduced to grammar and rules.”<sup>1</sup>

Further on the same author proceeds as follows: —

“ All the customs of the Yaquis are the very opposite of ours. From childhood on, they are inclined to theft, addicted to drunkenness from all kinds of fermented liquors, are in the highest degree sensual, and gamblers. Social intercourse with whites they shun, although they crave the wages which the latter are willing to pay. As for rendering any service, or doing anything out of generosity or gratitude, it

<sup>1</sup> Velasco, *Noticias Estadísticas del Estado de Sonora*, pp. 73 *et seq.*

is out of the question. In their villages, only such whites are tolerated as foster their vices and passions, and even these are very few; they treat them with the utmost suspicion, and upon the slightest pretext they are despatched. Although some of them speak Spanish, they always address the whites in their own native idiom, well aware that the latter do not understand it, and when chided for this disregard, they laugh or stammer some few broken words. Of conjugal fidelity they are not careful at all, interchanging wives, or, if their spouses run off with another man, they pay no attention to it.

“Notwithstanding all these defects, we must render justice to them by saying that they are the laborers or laboring class of Sonora. They are its miners, its farm hands, its artisans for the construction of buildings, as well as for all classes of mechanical work. And so it is in the higher arts also. They play the flute, the violin, the harp, and the guitar, although they never have received the least primary instruction. Many of them, after having been for a short time only in the employ of a mechanic, be it a blacksmith or a carpenter, know these trades as well as their master. Had this tribe received, under the Spanish government, the education proper to its aptitudes, and with a view of elevating them morally and intellectually, they would now be, instead of a source of incalculable evil, highly useful to themselves, as well as to us. In what they undertake they display firmness and consistency, and in war they are very bold.”<sup>1</sup>

No better picture could be presented of a tribe which, after having been set on the right track in early times of Spanish colonization, deflected from it afterwards during the period of decay. A relapse into ancient customs while in possession of the material and intellectual advantages brought to them

<sup>1</sup> *Ibid*, p. 78.

by the first educators, could not fail to produce the strange admixture, the singular compound, of old and new, of good and bad, which here is attributed to the Yaquis. Similar but less marked characteristics are attributed by the same author to their cousins, the Mayos. The latter always were more pliable, less hostile and ferocious. But they are described as equally lazy, and as practising the same simple arts as the Yaquis.

Velasco gives no estimate of numbers with any pretence to exactness. He merely says, that at his time (about 1850) there were probably not over three thousand warriors, if as many. This would give a total number of ten thousand souls. He states that their numbers are declining considerably, "be it from the vicious and abandoned life they are leading, or from the ravages which contagious diseases are making, or from their carelessness in chronic diseases, or from the prevalence of syphilis, or finally from the number of those who have perished in the constant rebellions."<sup>1</sup>

It may not be amiss to compare the remarks above quoted with those of another modern writer, Escudero, on the Yaquis and Mayos.

"These Indians are both pleasant and tractable. They have a lively, nay fiery imagination, and natural brightness. Although given to music and enjoyment in general, and very fond of feasts and recreations, they are intrepid, bold, ferocious even, in warfare. . . . They are active and industrious, which the degenerate and sybaritic tribes are not. In Sonora and in Sinaloa they are the carriers, the field-hands, the cowherds, divers, sailors, miners, gold-hunters, or explorers for gold ores and placers. They practise all sorts of mechanical and manual work, since they usually show natural aptitude for every kind of trade, office, and art of that class. They

<sup>1</sup> *Noticias*, p. 78.

work with assiduity and persistence the whole year, in order to gather some money. With their earnings they return to the Yaqui villages for the Feast of St. John, when the fruits are ripe, as we have said above. Among their customs there is a very reprehensible one, that of the dance called 'Tutile gamuchi' (exchanging wives). At this dance, every Yaqui who pretends to display good taste exchanges his woman for another, just as the Spartans were wont to do, in order to multiply and perpetuate their warlike stock. Their favorite diversion is the spectacle of a lively clown, who, if not ingenious, is at least malicious and satirical, and who, during the time he is not talking, dances to the sound of a fife and tambourine, and whose gestures and grimaces amuse even those who do not understand the language. This strange dance is called Pascol, it being performed with greatest pomp at the time of Easter. He who plays the part of buffoon covers his face with a deformed mask. Rattles hang round his feet, arms, and waist; and he holds another in his hand, shaking it to the rhythm of the music. The violin and the harp are very common instruments among the Yaquis; they play them with harmony, which proves their taste for music, and also that this taste is not new among them."<sup>1</sup> According to Orozco y Berra, the Yaquis lived, in 1864, in eight villages, and the Mayos also in eight.<sup>2</sup>

I have not been among the Seris. I am therefore compelled to quote in regard to them such modern or comparatively modern authorities as are at my command, without assuming, of course, any responsibility in regard to their statements. I begin again with Velasco:—

"Their clothing generally consists of pelican skins or of a coarse blanket around the waist, the remainder of the body

<sup>1</sup> Orozco y Berra, *Geografía de las Lenguas*, p. 355, quoting from Escudero.

<sup>2</sup> *Ibid.*, pp. 355, 356. Velasco (*Noticias*, p. 84) gives the same number.

being left completely nude. They paint or striate their faces with lines of black, and many of them perforate the bridge of the nose and suspend from it pieces of green stones like ordinary glass.

"The women do more work than the men. They gather the seeds of grass or other herbs, do the fishing, and sell coarse pottery and the like. But the women, as well as the men, spend whatever they realize in this manner in liquor, the taste of which controls them absolutely.

"They are tall, straight, and rather corpulent, with usually black eyes. The women present not an uncomely appearance; their complexion is of a bronzed hue.

"The dress of the females is also made of the skin of the pelican with which they cover themselves from the waist downwards. The rest of the body, the chest included, is bare.

"The ladies of Hermosillo, for the sake of charity and public decency, give to these women, whenever they come to their houses, old garments, dresses, etc. These the Indian females wear until they are completely rotten, for they do not know how to wash.

"This tribe, besides being very coarse, and the wildest and rudest one known in these parts, is at the same time the most inconstant and most treacherous. Since the time when the first attempts were made at its reduction, not less than forty uprisings have occurred."<sup>1</sup>

In regard to the number of the Seris, Velasco states that

<sup>1</sup> Velasco, *Noticias*, p. 131. Orozco (*Geografía*, p. 354) says: "Ferozes y salvajes han preferido morir en la guerra contra los blancos, ántes que adoptar sus usos y costumbres, perezosos, indolentes, se entregan con tanta pasion á la embriaguez, que las madres dan con la boca el aguardiente á los niños mas pequeños. Son altos, bien formados, y las mugeres no carecen de belleza. Es proverbial la ponzoña con que envenenan sus flechas, por su efecto mortífero; componen el jugo venenoso con multitud de ingredientes, y añaden al confecionarlo prácticas supersticiosas."

it at no time exceeded two thousand, and in his time it reached not five hundred, among which sixty or eighty were capable of bearing arms. He adds: "The Ceris are not polygamous, since they have but one wife; still there is much looseness in their matrimonial relations, and a good deal of tolerance towards each other. The only worship known to exist is that of the moon, which orb they respect and revere as a god. At the time of the new moon they kneel down and cross themselves, kissing the ground, and beating their breasts."<sup>1</sup>

Further on he quotes from a letter of Mr. Thomas Spence, as follows:—

"The Seris Indians are tall, well formed, not very stout; the women are striking for their busts and for the smallness of the feet, which are drawn in, and for the rather prominent abdomen. After nightfall their eyesight is defective, which I attribute to the reflection of the sun on the white sands over which they more or less constantly roam in order to obtain their subsistence, which consists of fish and other marine products. . . . Their language is guttural. They are as filthy in their appearance as in their habits, eating everything raw, or at best slightly broiled. Life on the islands exposes them to a thousand hardships, and yet they cling to it with incredible attachment. They are always accompanied by many dogs."<sup>2</sup>

It is well known that the Seris now inhabit in part some of the islands of the Gulf of California. In 1861, Charles P. Stone estimated their numbers at three hundred. He says of the Seris: "They are of large stature, well made, and athletic. In war and in the chase they make use of poisoned arrows, the wounds from which are almost always fatal."<sup>3</sup>

<sup>1</sup> *Noticias*, p. 133.

<sup>2</sup> *Ibid.*, p. 169.

<sup>3</sup> *Notes on the State of Sonora*, p. 19.



I regret not to be able to give more details, but, not having visited them myself, I am limited to such printed information as lies within my immediate reach.

The same I must say in regard to the Pimas of Sonora, the Southern Pimas, or Nebomes. All I know of them is, that as a tribe they have wellnigh disappeared; that is, they have become "Mexicanized." This is the case with the Opatas also. It would be very difficult to distinguish any of the numerous branches of this once powerful tribe from the others, for they are fast losing their original language. During my stay in the Sonora River valley the men who still spoke Oyata were mostly old, and were pointed out as relics, so to say, of times gone by. I was assured that not more than twenty or thirty could be found in the whole region, from Arizpe in the west to the frontier of Chihuahua in the east, who spoke the idiom with any pretence to correctness, and I once witnessed a lively and very amusing discussion between two of these proficient old men over the meanings of the best known local names in Sonora in the Oyata language.<sup>1</sup> It showed me how far, even in the approaches to the Sierra Madre, the Oyata had become estranged from his primitive condition and mode of utterance. Still, there are traces of dialects. Thus the dialect of Banamichi is positively stated to be very different from that of the Upper Yaqui River at Guassavas, Baserac, and Babispe. I was informed that there was a difference even between the Oyata of Banamichi and that of Sinoquipe, although the two villages are but twelve miles apart. I also noticed or was led to notice, a division into

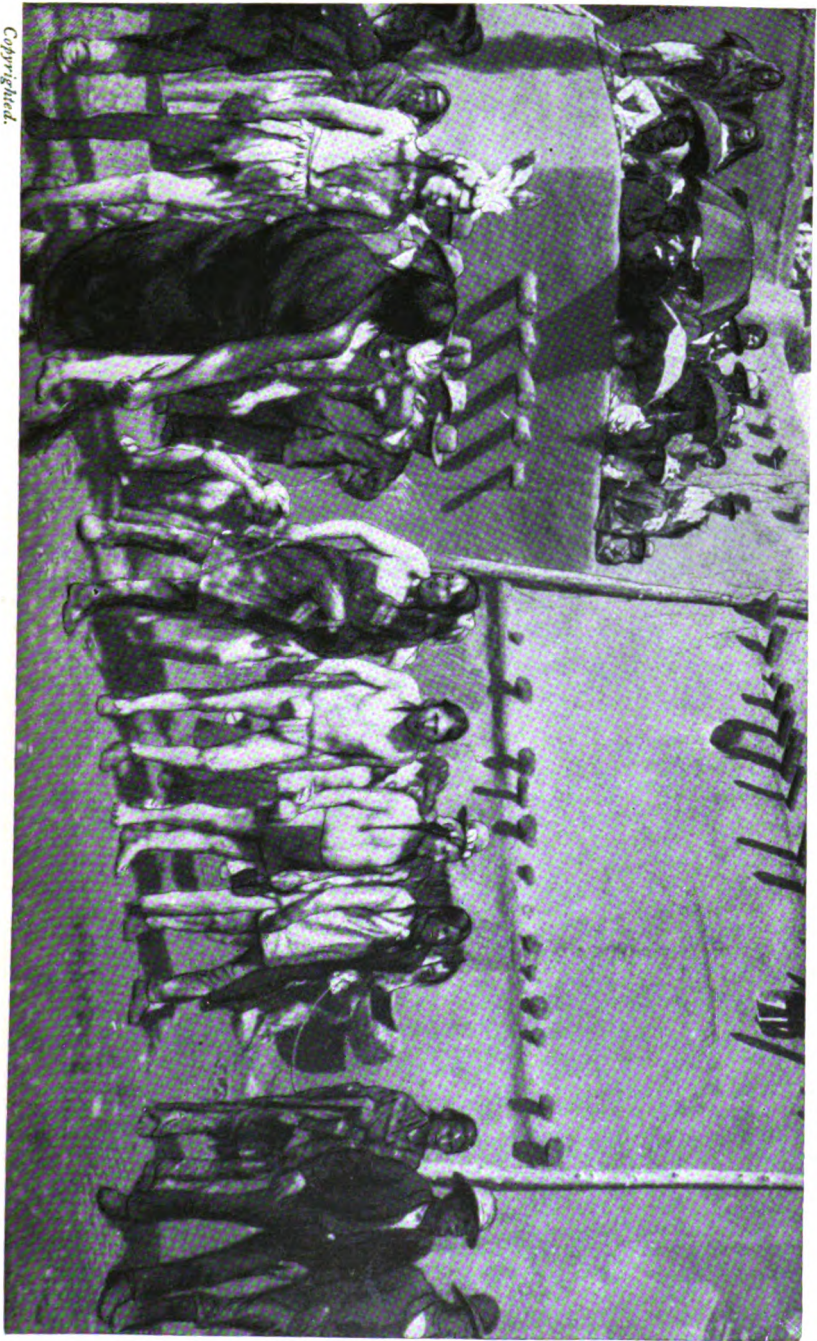
<sup>1</sup> This was at Baserac in northeastern Sonora, where the Oyata language is still occasionally spoken. My two informants hardly agreed on any name. One of them, Gregorio Hernandez, was considered the best "Oyata linguist" in the district, and his interlocutor, Señor Dolores, as "well up" in the idiom.

original clusters, remnants of former tribal leagues, evidenced by sympathies and antipathies, and, not long ago, by associations of certain pueblos against others in the game of ball. Thus Banamichi and Sinoquipe play against Huepaca and Aconchi. Their former organization on the pueblo system has been abandoned since 1853; still each village retains a particular chief or functionary of its own, who is in possession of the landed titles and valuable papers of the community, and who holds office for life or during good behavior. In addition, there are the regular municipal officers appointed according to Mexican law; but the former represents, it seems, the "power behind the throne" which is to be found in all Indian communities. How far this functionary is alone, whether he has associates, and to what extent the old semi-religious government peculiar to Indians is kept up, I was not able to learn. Still there must be traces of it left, else the Opatas would not cling with such tenacity to some of their primitive dances.

In many places the Maso-da-ui, or Batespar, or Deer-dance, has fallen into disuse. In others, for instance, below Babiacora on the Rio de Sonora, it is still occasionally performed. There is in this dance but one performer, who wears a deer-mask with its antlers; he does the jumping and high stepping called forth by the rôle he has to perform, and he does it to the tune of a peculiar drum, consisting of a "Corita" or impermeable basket (such as are made by the Papagos) filled with water, in which an earthen bowl is placed upside down. The rappings of a stick on this inverted bowl, floating as it were on the liquid, produces the desired rhythmic noise. In addition to the deer-dance, the Mariachi, an obscene round dance, was performed, more particularly among the eastern Opatas, those of the Upper Yaqui River at Oposto, Huachinera, etc. It was also danced farther towards the heart of the

Sierra Madre, at Bacadehuachi and Nacori. It has been abolished owing to its indecency. The dance that is still practised almost everywhere among the Opatas is the Da-ui or Dauinamaca, which is regularly performed about Easter. Both sexes wear on this occasion a sort of diadem or head-band of braided corn leaves, covered with gaudy paper, and bearing in front a medallion, with a figure of the sun for the men, and of the moon for the females. A skirt of little canes strung to a leather girdle, with small plumes depending from each cane, is the most striking garment of the males. The women wear, in addition to the diadem, their best suit; in the hand they carry a long staff with colored ribbons, and an intricately tressed ornament made of wheat-straw, common also among the Zuñis and the Apaches of New Mexico. The men carry a rattle painted white with red dots. Some of the figures of this dance are very elegant, but it would take too much space to describe them.

Next to dances, the games are the most common diversions. The Ua-ki-mari is rather a foot-race than a game of ball, for the runners toss the ball before them with their toes, and the party whose "Gomi" (or ball of a certain kind of wood) reaches the goal first is declared the victor. As stated before, village plays against village. The Maynates or captains of the runners are important personages on such days, and what is evidently primitive, and shows besides that there is a religious import placed upon the ceremony, is the fact that they formerly used to gather the evening before at a drinking bout, smoking at the same time the fungus of the Mezquite (called in Opatas "To-ji") in long and big cigar-like rolls. The game of ball, or foot-race, is not the only one played in common. Of like sort is the Ua-chi-cori, or "Shinny," as it is called in this country. The Patol, or Quince, is rather a social game, played on the street often. In all of



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FOOT RACE AT PUEBLO OF TAOS.



these games are rudiments of a religious observance, and the game, as well as the dance, is more than a diversion ; it is symbolical, often regarded as prophetic even. Dance and game are, among the Opatas, the last remains of a creed which is now almost extinct, or at least has disappeared from the surface. Vestiges of it are still preserved in other directions, as in the belief in witchcraft and in 'auguries of all kinds. The wild and sinister cave of Vay-mo-da-chi, in the mountain fastnesses between Huassavas and Bacadehuachi, not many decades ago, was still the resort of Indians for the purpose of performing ancient rites and incantations. The owl is not more beloved by the Opatas than by other tribes of the Southwest, and the crow is no favorite. Eagle plumes are prized for bodily decoration, and as well as buzzard feathers are worn at some of the dances.

In dress and mode of life the Opata has little to distinguish him from the poorer class of originally Spanish settlers. His features also are not, as a rule, particularly Indian. He frequently is bearded and wears a moustache. Still he, although reluctantly in most cases, acknowledges himself as having been once, at least, an Indian. I heard the complaint made by old men who still spoke the language, "that the present generation would not be Opatas any more, but regarded themselves as Mexicans." Under such circumstances it is very difficult to investigate the traces of primitive faith and belief, and still more difficult to find original traditions. And yet I have picked up some of the latter, mostly local tales, and even one or two mythological ones. I propose to give some of the local tales in the archæological part of this report proper ; the others will be mentioned when I come to treat of Southwestern tribes in comparison with their more southerly congeners.

That the Opatas, when at war, took (and perhaps would

still to-day take) the scalps of their enemies can be inferred from what I said about the tribe in the second part of this Report. The scalp-dance was described to me by several of their number, and they assured me that it was still danced but a comparatively short time ago, the constant wars with the Apaches furnishing good opportunities for it. The ceremonies of this dance appear to be very similar to those practised by other Southwestern tribes. The trophy was set on the top of a high pole, and the women opened the dance by throwing ashes at the men. The man-killer, that is, the warrior who has himself secured a scalp, wore a distinctive ornament, a red scarf of cotton, and a badge consisting of a cord or band of buckskin, from which depended a small wallet of the same material, with tassels and pieces of iron that rattled while he was dancing.<sup>1</sup> Since the establishment of peace the scalp-dance has not been practised. It is likely to fall into oblivion, as has been the case with the ceremonial rabbit hunt, which occurred in May of every year, and which has been abolished but recently.

The Opatas have but few industrial arts at present. Weaving with the primitive loom consisting of four stakes placed in the ground is almost totally abandoned. The pottery of the Opatas of to-day is uniformly reddish in color. They build the vessel in coils as do the Pueblos of New Mexico, smooth it while damp, paint it with red ochre and burn it mostly in small kilns, sometimes also in dung-heaps, in the centre of which the vessels are placed. Their system of

<sup>1</sup> This ornament is the equivalent of one worn to-day among the Pueblos of New Mexico by the man-killer, Matalote ("Um-pa" among the Queres). It is his badge of honor, and does not belong to him but is intrusted to him to be worn only at special rites. I saw a similar badge that had been found in the cave dwellings on the Upper Rio Salado in Arizona. The material was different from what it is among the Pueblos, being made out of Yucca fibre or cord.

agriculture and their implements are those common to the interior of Mexico, except that they use some foreign imported tools, which are, though extremely slowly, taking the place of the old.

To give a census of the Opatas proper is very difficult, nay, impossible, for the reason that statistical data are as yet uncertain, and the still more potent reason that it is not possible to determine where the pure Opatas begins and the Mestizo ends, and *vice versa*. That the population of many localities has diminished within this and the past century is beyond doubt. Constant revolutions, and especially the relentless warfare made upon the house dweller by the Apaches, are the chief causes. The devastations by these fiends have been most terrible in the settlements bordering upon the Sierra Madre, and the church books of the parishes on the Upper Yaqui and beyond, of Huassavas, Bacadehuachi, and Nacori, present ghastly lists, year after year, of the victims of the roaming and murderous foe. In Sonora as well as in New Mexico, under Spanish Mexican rule, the advantages of weapons were all on the side of the Apache. They have had, since about 1846, the advantage of obtaining fire-arms from the northern or Anglo-American sections of the Southwest, just as the Comanches during the eighteenth century enjoyed the same advantage from the French settlements in Louisiana and in the Mississippi Valley. The Apache alternately robbed on Mexican soil and bartered the plunder in the United States (Arizona and New Mexico), and *vice versa*. As soon as he crossed the boundary line into either of the two Republics, he felt safe from pursuit from the other side. All this has been changed, by treaty, only within recent years. But the Apache was wily enough to nurse another source or outlet for his ill-gotten gains. He raided Sonora in the most merciless manner, and bartered the stolen



horses and cattle at Casas Grandes or Janos in Chihuahua. Certain parts of the latter State enjoyed relative security from these savages, but upon Sonora he had no mercy. Since the uprising of 1829, these savages have displayed a hostility towards Sonora that has been the greatest calamity to that State. I cannot treat here of the Apaches as former residents of Sonora. Since 1830, their abodes have always been temporary, occupied only as long as it was safe to stay within the State and prey upon its inhabitants. The deep cañons south of Huachinera, the formidable Sierra de Teras, the heart of the Sierra Madre towards the solitudes of Huaynopa and the Taraycitos, contained "Rancherias"; but the marauders felt safer, on the whole, on the Chihuahua than on the Sonora side of the extensive mountain chain. There they could barter the plunder (gathered in western Sonora sometimes) with impunity for bad liquor and other "necessaries of life."

I must now cast a glance at the aborigines of Chihuahua.

From personal inspection I know nothing of the numerous tribe of the Tarahumares. To my knowledge, I have never seen one of them. They occupy Southwestern Chihuahua, and are said to be of a very swarthy complexion, rather well formed, and are divided into sedentary Tarahumares, nominally Christianized, and wild or savage ones, living separate from the others, though in the same region. When willing to work they are regarded as faithful laborers, and they seem to be in that respect for Chihuahua what the Yaquis and Mayos are for Sonora. A friend of mine living at Parral has had the kindness to gather some information concerning this tribe. I trust he will forgive the liberty which I take, in the interest of ethnology, of transcribing here a portion of his letter to me on the subject:—

"It is a very large tribe, but scattered, and no estimate of

numbers can even approximate truth. I have seen quite a number, — small, wicked-looking, sneaking, cowardly, shiftless, and ill-clad (or rather not clad, for a bow and arrow and a very small piece of a very small shirt seem to constitute full dress), tough-looking citizens. They live as they can, plant a little corn and potatoes, raise small herds of cattle and goats, gather wild honey, etc., all in a very small way, sufficient only to keep body and soul together. The tribe is divided into two great sections or factions, Gentiles and Christians, (for want of another name, I suppose,) who are distinct in their habits and ways of living, holding no intercourse with each other. The Christians are more advanced, will mix with white people, and do some trading. Their habit of living in villages (houses), and of election of officers to govern the different pueblos, I should imagine, must be similar to that of the Pueblo Indians of New Mexico. But the Gentiles are a different people, live in caves, scarcely plant or raise anything, subsist mainly by hunting, and run away on the approach of a white man. Very little is known about them, and it will be most difficult to gain their confidence, or even to see them, they hide so effectually. But they are harmless, and no violence need be feared, although it is necessary to carry provisions as none are to be had in their country. They only speak their own language, but some of the head men of the Christians speak Spanish. To find out more about the Gentiles will probably be a long job, as before you can hold intercourse with them you must in some measure gain their confidence."

I place absolute reliance on the statements of my friend, in as far as he speaks *de visu*. He is also very careful in the choice of his informants, so that I do not hesitate to accept the picture presented in his letter as substantially true. It has confirmed an impression which I had conceived long ago,

that the Tarahumares should be made the subject of special ethnological study. Under the present rule in Mexico, the support of the Mexican government would not fail to be given to an earnest and honest investigator.

Of the other tribes which, in the centuries past, occupied Chihuahua, or at least roamed over a part of its surface, I have no knowledge in the present epoch. The Conchos, the Tobosos, and the Julimes seem to have disappeared, and I have not the slightest doubt but that they have vanished as tribes. The same is the case with the Jumanos, the Janos, and the Jocomes. The last two clusters were certainly engulfed by the Apaches; of the first, I have found (since I finished the second part of this Report) a trace dating as late as 1855. They were then living in Texas, not far from the Comanches, and the characteristic disfiguration of the face through incisions which they afterwards painted, was noticed by my informant, who traded with them thirty-three years ago. Whether the Julimes are not perhaps Jumanos, I cannot determine; there are (as I have noted in the second part) indications to that effect, and it might not be impossible to find traces of the Julimes yet in Chihuahua, although Orozco y Berra includes the language among the lost idioms.

I have, however, become personally acquainted with two small groups of Indians of Chihuahua, of whom hardly the name is known outside of the district of El Paso del Norte in which they reside. These are the Mansos and the Piros. Of the latter, who dwell in the hamlet of San Antonio de Senecu, six miles east of the town of El Paso del Norte, or Villa Juarez, I can say that whatever may be stated hereafter in regard to the New Mexican Pueblos (to whom they belong historically and ethnologically) will apply to them in a limited sense, that is, so far as may be true of a tribe reduced to about sixty individuals. The social organization was kept

up in 1883, when I visited them. They had their officers, including the so called Cacique, who was the pivot and mainstay of old customs. They even preserved the "mother," the emblem of the soul, and they prayed to the mother of mankind, whom the Pueblo Indians believe to dwell in the moon. But the sacred emblem was hidden, for ruthless curiosity had attempted to tamper with it. The Piros have preserved their language, and some of their historical traditions. They know that they are descended from the Piros who in the seventeenth century and untold centuries before dwelt at Senecu, Pilabo, Abo, and, as far as I can infer, at Tabira or Gran Quivira. They are reticent and timid, but in a longer stay among them one would almost certainly discover features of considerable interest compared with analogous ones among the northern Pueblos.

It is much more difficult to separate, among the descendants of the Mansos living to-day in the so called Barreal (one of the outskirts of the newly fledged Villa Juarez), the original Manso element from its admixture with the Tiguas, Piros, Sumas, Janos, and other tribes who have married or crept into the original blood of the settlers of El Paso del Norte and founders of the Indian mission there. I have been misled myself by not paying sufficient attention to the numerous miscegenations (from the standpoint of tribal integrity and purity of blood) that have occurred here. Still, the Mansos of El Paso del Norte claim to be direct descendants of those whom Fray Garcia de San Francisco settled at the "Pass" in 1659. They recollect that their ancestors were from New Mexico, and at a still earlier date came from the North. They remember through the sayings of the oldest men (folk-tales), that their people formerly lived in huts of reeds and of boughs, that they were as wild as the Apaches, and knew not how to dwell in houses nor how to

irrigate and till the land as they do now. They confess that their present mode of life, their arts and knowledge of to-day, are due to "Los Padres" and to the Spaniards. On the other hand, they recognize the Pueblo Indians of New Mexico as their relatives, without, however, being able to designate one particular stock as their ancestry. They have two so called Caciques, and, as well as in other Indian villages, there has been strife between them on the score of "legitimacy," the second Cacique claiming to be more legitimate than the first. This quarrel has lately ended by an elopement! Cacique No. 2 (over sixty years of age) has fled with the spouse of Cacique No. 1 (the lady is over fifty). The claim of legitimacy rests on grounds which are quite instructive, and which should be known to the future student of the Mansos. Cacique No. 1 is by descent through his mother a Tigua Indian. His wife is a Manso. Cacique No. 2, however, is pure Manso. Therefore the latter has, in his opinion, a just claim to the principal office. This shows in the first place to what extent the Mansos are intermarried with other tribes, and next it proves that the peculiar functions of the Cacique (which I shall hereafter explain) were so closely similar among the Mansos and the New Mexican Pueblos that one of the latter could officiate for the former. The dance on the feast of Nuestra Señora de Guadalupe at El Paso del Norte, in front of the church, is an ordinary dance of the Pueblos; but the few Indians who participate in it lack the accoutrements that make of the dance such a weird performance among more northern tribes.

At least four clans are still in existence among the Mansos. They are the white, yellow, blue, and red corn people. There are also traces of the water clan. The four colors of the corn clan are very prominent among the New Mexican Tiguas, and there is a possibility that my informant may have indi-

cated gentes of the Tiguas rather than gentes of the Mansos. Still, there is no doubt about the existence of the clans among the Mansos also. I did not have sufficient time to make investigations about creed and rituals. But the formal reception to which I had to submit in the house of the first Cacique showed, that, like the Pueblos, they know the six sacred regions, as well as the seventh, which is the emblem of the whole ; that sacred meal is, among them, in use for the same purposes as among the Pueblos ; and that tobacco also serves as a means for incantation and as an offering. Otherwise, the Mansos have nothing to distinguish them from the lower classes of country people in Mexico. They still enjoy a communal tract, have their governor (Tsham-ue-i-mere), whom they annually elect, their war-captain (Tshere-hue-pama) and call the first Cacique Tsho-re-hue. That the sun is looked upon by them in the double light of the orb and of a sacred being residing in that orb, is hinted at in the words by which they designate it, Hi-ue Tata-i-ue ; and that the moon stands in a similar relation towards a female deity is also indicated by the Manso term, Hi-mama Pa-o. The Mansos cultivate the grape and make wine ; they also fabricate pottery, sometimes rudely painted.

These few details, some of which need confirmation, are sufficient, however, to warrant a closer study of the remnants of the tribe while it is yet time. They are fast disappearing so far as they are Mansos, through intermarriage and dispersion. In 1883 I heard the bitter complaint, on their part, that they had no medicine-men (Shamans), and that consequently they were unprotected. But they recognized also, that, while most of the implements of their ancient cult were gone, they would only have to apply to the Pueblos of New Mexico in order to replace them.

That there is still one Suma Indian alive, I have already

stated. In consequence of the rule of descent, this individual is indeed the last one of his tribe, as there are no females left.

Turning from the Indians of Chihuahua to those of Arizona, we meet, in regard to the latter, at least with attempts at giving their numbers as exactly as possible. Not that the figures are absolutely reliable. To obtain their precise number is practically impossible with Indian tribes, owing to their reluctance to allow themselves to be counted. But repeated endeavors, made in an official manner and under favorable circumstances, have afforded means of reaching approximately correct estimates. Thus, the total number of the Indians of Arizona, excluding the Navajos, who are constantly shifting over their extensive reservation from New Mexico into Arizona and back, is given at 18,000 about. Among these appear the Papagos with 6,000. But this includes certainly some, if not all, of the Papagos living across the Mexican border in Sonora. The Papagos of Arizona are Pimas by language, although with a dialectical variation. They are less agricultural than herding Indians, for the Papageria is a barren stretch, where water is scarce, and what there is better serves to supply cattle and sheep and horses than to irrigate even the smallest region of arable soil. The Papagos therefore mostly dwell in so called Ranchos, not in villages, the settlement at San Xavier del Bac, near Tucson, excepted. There, as the Rio de Santa Cruz is conveniently near, there are farming lands on the limited scale peculiar to Indian agriculture. There also they dwell in adobe houses, which is seldom the case in other parts of their hot and arid country. They have their chiefs and spokesmen, their war captains, and, above all, their medicine-men. The last are all powerful within their sphere of action. The Papago is a fair Indian Christian; he clings to his church, and also holds on to

his ancient beliefs, according as he considers the one or the other more suitable to his actual needs. But no outsider should meddle with either. They are generally tall, strong-limbed, and of dark complexion. They dress as much as possible in refuse civilized clothing when outside of their homes and in centres like Tucson, for instance, but at home the aboriginal undress is common, and indeed the fierce heat of the Papageria is a fair excuse for nudity. Dances are numerous among them, and carried on with barbaric display. After the massacre of Arivaypa the scalp dance was performed with considerable pomp, and the few Apache prisoners (mostly children) had to take part in the ceremony where the trophies of their parents were triumphantly flaunted by the murderers. The Papago is not as much afraid of the Apache as other sedentary Indians. He is more accustomed to their mode of warfare, and can travel, lie in ambush, or wait in that unprepossessing country better than other Indians, who have not been reared amidst burning sands and shadeless rocks. As to their creed, I have had opportunity to ascertain hardly anything. It would seem that they have a conception of the four cardinal points as mythic regions, and a folk-tale, in which a great lagune appears that they had to cross ere reaching the promised land in which they are now scorching, in company with the people of southern Arizona in general. Their burial customs can easily be observed, at San Xavier, for instance. The dead body is neither burned nor entombed. It is enclosed, in a sitting posture, by a rude hut or bower, built of rubble or stones, and covered with a primitive roof of branches. Whatever the deceased owned and used during his lifetime is either placed with him or heaped on his tomb. If a man, his gun or bow and arrows are broken over the small house; if a woman, pottery is fractured, perforated (killed as the Indian saying is) over it.



Ornaments, trinkets, plumes of various kinds, are added to the other articles that shall accompany the departed one beyond the limits of this earthly world. Wherever the fast decaying roof exposes the inside of these funeral monuments, we see its occupant, shrivelled to a black skeleton, either sitting with chest erect and knees drawn upwards, or the frame of the body has already tumbled to one side and the hideous face, muscles and skin shrunk to a distorted ghastly mask, gazes upward eyeless, from amidst a heap of decayed matter, or through strands of dishevelled hair streaming from a shrivelled scalp. Although it is often stated that the Pimas cremate their dead, the Papagos certainly do not.

The Pimas proper occupy the banks of the Gila River. They live in small villages, extending from east of Riverside to near Tempe, and also north of the Gila, on the delta between this stream and the Rio Salado. The number of the Arizonian Pimas is estimated at about 5,000, including the Maricopas, which latter are of Yuma origin, although settled near the Pimas, and intermingled and intermarried with them. I believe this estimate to be above the reality. The villages of the Pimas make some pretence to permanence. These Indians irrigate their land, and they dwell in two kinds of houses, one kind of which, at least, are far from being unsubstantial, although at first sight they seem but frail huts. A Pima winter house is round, and formed like a beehive somewhat flattened, not a regular dome. Four posts, supporting a rough frame of boards or branches, form the basis of this structure. Long poles, bent like quadrants, are so placed as to meet above this rude platform, to which they are tied. Hoops encircle the bows, and hold them laterally. Over this skeleton, earth is placed. Sometimes a layer of grass or brush is first applied to the frame. The whole is nothing else but one of the well known "dirt roofs" that

can be seen in any pueblo building of New Mexico, with the difference, however, that the dirt-roof of the pueblo rests on a wall of stones or mud (adobes), whereas the Pima roof rests on the ground, and forms a compact cupola-like shell. Comparing this contrivance with what is left of the ceilings of the ruin at Casa Grande, (claimed by the Pimas to have been one of their former abodes,) one can scarcely help thinking that the roof of to-day is a reminiscence, in composition, of former prosperous times, and that only its shape has been modified to suit a more humble existence.

Beside the winter house the Pima has his sheds for the summer, equivalent in purpose to the "Ranchos" of the Pueblos. For this he has used but the central four posts and scanty roofing of the nucleus around which his more substantial winter abode is reared. The summer dwelling has therefore scarcely any side walls, and if there are such, they are most primitive and temporary. Still, the whole family reside there, in proximity to their crops. Another kind of structure is the storehouse. This is square or rectangular, and has a flat roof of similar material to that of the winter abode.

The Pimas of the Gila River are rather a strong-built stock. The men are often tall, the women not unprepossessing. Their dress of predilection is scant. A striped close-fitting shirt, the breech-clout, and paint applied to the face in slender stripes and dashes, or in a few arabesques on the cheeks, satisfy them in summer, provided the side-locks are carefully plaited in a long tress hanging down on each side of the head. If attainable, a little bell, or a string of beads, or some gaudy ribbon, or bright plumelets, are suspended to these strands that take the place of the shaggy Melenas of the Rio Grande Pueblos, and are the equivalent of the bunches of colored worsted, or rabbit fur, braided into the side-locks of the

northern Pueblo stocks of the Tehuas and Taos. The women have the hair cut short over the forehead, like a prototype of civilized "bangs." A white chemise, a flashy skirt, necklaces and collars, constitute the usual accoutrement. Children, as usual, wear no clothing whatever.

The Pimas are essentially an agricultural tribe. Their wheat is noted for its good quality. They raise corn, beans, and other vegetables, and originally planted cotton; but this staple has now fallen into disuse. They irrigate in two ways. First, from the waters of the Gila through the usual "Acequias," or ditches; and in those sections where fertile spots lie at some distance from the watercourse, and at the foot of steep and forbidding mountains, they have dug rills or channels from the dry gulches (Arroyos) down to their fields, in order to lead the torrents rushing down these arroyos after every shower into the cultivated plots. This is particularly the case where, as in the vicinity of Casa Blanca and towards the Sierra Maricopa, rain sometimes fails for a whole year. Showers flood the surrounding mountains daily during the months of July and August, but only the surplus that the denuded and abrupt slopes cannot hoard floods the bottom below.

The Pimas, so I am informed by my friend, Mr. J. D. Walker (the best living authority on the subject of this tribe) have the gentile organization. Thus, there is a buzzard gens, Ni-ue Uöm O-kai. Uöm signifies offspring of two sisters. This is indicative of descent in the female line. There is also the gens of the coyote, or prairie-wolf, Pan. Nearly every village, so Mr. Walker informed me while at his hospitable home at Casa Grande, has a separate building, called Tyi-in Ki, or house of speech. They have public criers called Amok O-tam (people of loud speech), who publish everything officially in the morning, just as

among the Pueblos. Their officers are elected, but due deference is given to the descendants of former chiefs, provided they are capable. Some time ago there was a central war-chief, which indicates the existence of a league between the various villages. Now there is still a civil chieftain called Ko-e, who has military functions besides. In case he dies, an election is held, and the old leading men who form the chief council select the successor.

Of arts and industries, the Pimas have not many, except their admirable basket-work, which is unsurpassed in any part of North America, and in which the Papagos also excel. Among their baskets, the large Ki-jo, or carrying hod for women, deserves attention. It is neatly tressed of indige-nous twine, painted blue, or red, or in various colors, and has the appearance of a large quadrangular funnel, each of the sides of which is fastened to a long stick or pole. Only a drawing could give a fair idea of this singular contrivance, which is the peculiar utensil and head ornament of the women. It is evident that the ki-jo serves as an ornament only incidentally, and as a matter of aboriginal taste, but it is mentioned as such in the tradition of Civano Ki (Casa Grande), to which I shall hereafter refer.

Pottery is manufactured by the Pimas, but although they attempt to decorate it with colors and designs, the attempt recalls the worst efforts of the New Mexican village Indians in this direction. In comparison with ancient Pima pottery there is a marked decline. This decline antedates the sixteenth century. It must have been coeval with the abandonment of house life in buildings of mud, and consequent impoverishment. Still, some of the decorations recall well known symbols. The whirlwind or spiral is well defined, and some designs resemble strikingly the paintings of the original symbol of the clouds made on pottery by

the Mansos and Piros of Chihuahua. Basket-work seems to have supplanted, among the Pimas, elaborate display in ceramics.

The Pimas have done good service against the Apaches. They are able to cope with these formidable foes of sedentary races. It was only ten years ago that a party of Pimas ventured to visit the Apaches with the view of trading. It was a daring experiment, for the savages were in favor of killing them at the outset. Better counsels, however, prevailed, and a limited intercourse has sprung up since. Formerly, as often as a war-party was organized, one diviner, or shaman, of the kind called "Ma-gi," went with it, and in the nightly councils he took his seat at the extremity of the arc of a circle formed by all present. The leader of the party sat in front of the fire, facing the direction whither they intended to move, a master of ceremonies sat on the extreme left. The latter opened the meeting with a chant in low measured tones, at the conclusion of which a prominent brave rose, placed himself between the men and the fire, facing the latter, and recited an ancient song in archaic language, called the Sava-nyo-kap. When the ritual songs were sung, the chief spoke about the campaign, and finally called upon the shaman to foretell its result. Every one present turned to the diviner, saluting him according to the degree of relationship, and he answered. At the close of his talk, he was again saluted in the same way. This, says Mr. Walker, to whom I owe the information, is a common custom among the Pimas. They salute each other before and after a speech or conversation of any kind.

Of the religious beliefs of the Gila Pimas little is definitely known. They have adopted the idea of one individual maker of the earth, Työ-uöt A-mak, from Työ-uöt, earth, and Mak,

prophet, or shaman. This idea of a great prophet for the earth is a Christian importation most assuredly, and due to the influence of the Jesuits. Together with these reminiscences, there exists a strong belief in witchcraft, and at least two of the secret orders or societies which Mr. Cushing discovered at Zuñi are found among them also. The medicine-men proper, called in their language Say-tyo-kap, hold secret meetings at night and in the mountains, and are said to be a fully organized body. The Maki, or diviners or prophets, appear to correspond to the Ka-ka of the Zuñis, and the Ya-ya of the Queres, or the highest class of wizards,—those who include in their knowledge the sum and substance of all the others. One of the Maki accompanies war-parties, as above stated, but he may send a substitute, in which case one of the medicine-men goes along; a further analogy, as we shall hereafter see, with the customs of the Pueblos. In place of the sacred or medicine bowls of New Mexican villagers, the Pimas use sacred baskets adorned with plumes, appropriately painted with designs resembling developments or variations of Pueblo symbols.

Of the traditions of the Pimas, so far as communicated to me by the authority stated, I shall speak in the archæological section of this Report. There is among them a tale of a local flood, and they have quite definite recollections about the Vip-i-set, or great-grandparents, and Ho-hok-om, the extinct ones.

The Maricopas are usually included among the Pimas, for they are allied with them, owe their salvation and survival to the assistance which the Pimas in former times lent them against the Yumas, who were threatening the Maricopas with destruction, are intermarried with them, and the children speak both idioms in most cases. The Maricopas make pottery similar to that of the Pimas, and

have very analogous customs. Still they are a Yuma tribe, and as such belong to another linguistic group. I have not seen the Yumas, neither have I been able to visit any of the Colorado River Indians, such as the Mojaves, Cocopas, etc. The number of all these Indians of Yuma stock on Arizonian soil was estimated at one thousand in 1881, and, as they live on both banks of the Colorado and shift occasionally from one side to the other, I leave them out here, referring the reader to the publications of the Bureau of Ethnology and to the works of Mr. Albert S. Gatschet on the subject.

Neither have I, as yet, visited the Moquis. Here also I must refer to other sources, such as the publications of Captain Bourke and of the Bureau of Ethnology. The Moquis live in six villages, called, respectively, Gualpi, Sichomivi, Mishonginivi, Shipauluvi, Shimopavi, and Oraybi. These are the villages that may be regarded as specifically Moqui, or Shinumo, as the Moquis call themselves. There is a seventh one, Tehua, situated on the most easterly promontory of the much indented Mesa system that bears the habitations of the Moqui tribe; but in this village the Tehua language is spoken, and its people are mostly Tanos, who retired thither at intervals after the reconquest in 1694, and have preserved their language, as well as the customs by which Pueblo tribes are locally differentiated. Even among the other Moquis there is a sprinkling of New Mexican Pueblo blood: Tiguas, Jemez, Zuñis, Queres, etc., as well as Navajos and Yutas, have married into their tribe, or settled among them. I call attention to these mixtures, since they influence customs as well as creed. Myths peculiar to one tribe filter into the folk-lore of another, becoming in course of time assimilated in distorted forms. Even idols are adopted from outsiders. In addition to this,

there must be elements of Christian origin in the beliefs and rites of the Moquis. They were not subject to Christianity for a century without absorbing at least some notions, however faint these may have become since, and however misshapen. So it is with agriculture and industry. The flocks of the Moquis, and their orchards of degenerated peach trees, are due to Spanish importation. In 1881, the Moquis were counted at 1,813 souls all told. This includes of course the Tehuas.

It would appear to be the place here to treat of that most numerous tribe of the Southwest, the Navajos, or, as they call themselves, Dinne. But, properly, they should not be separated from the Apaches, or N'De, and as I intend to devote to these a few pages towards the close of this section, I prefer to consider the Navajos on the same occasion. This naturally applies to the Arizonian Apaches also, called White Mountain Apaches. I may only state, that the numbers of the latter were, in 1881, given at 4,578, whereas the aggregate of Navajos occupying northeastern Arizona and northwestern New Mexico was estimated in the same year at twenty-one thousand. These figures seem to be as correct as can be obtained.

Leaving aside for the present the aforesaid numerous, but rather erratic tribes, I turn to the Pueblo Indians of New Mexico. The transition is natural from the Moquis to them, since the Moquis are, in habits and customs, legitimate Pueblos; that is, village Indians, dwelling in houses of stone and mud. The linguistical position of the Moquis is better defined than that of the New Mexican villagers; they have been recognized as Numas or Shoshonees, whereas the Pueblo idioms await yet the sentence of philologists in regard to their true position among the languages of the continent.



The aggregate number of Pueblo Indians on New Mexican soil, in 1887, was figured at 8,337. These are divided into five linguistical branches: Tiguas, Tehuas, Queres, Jemez, and Zuñis. The relative strength of these groups, and the number of villages occupied by each, are as follows, beginning with the northern extremity:—

Tiguas of the North, villages of Taos and Picuries . . . .	485
Tehuas, five villages, or rather six, although one (Pojuaque) is next to extinct: San Juan, Santa Clara, San Ildefonso, Nambé, Pojuaque, and Tezuque . . . . .	881
Queres, eastern branch, on the Rio Grande and Rio de Jemez, five villages: Cochiti, Santo Domingo, San Felipe, Santa Ana, and Cia . . . . .	2,030
Queres, western branch: Acoma and Laguna . . . . .	1,734
Tiguas, southern branch: Sandia and Isleta . . . . .	1,142
Jemez (with the remnants of the Pecos included) . . . .	518
Zuñi, one village <sup>1</sup> . . . . .	1,547

This census is not absolutely exact. The population of San Ildefonso, San Felipe, Nambé, Acoma, and especially of Santa Ana, is certainly underrated, whereas that of Laguna appears to be in excess. This is not the fault of the officers so much as of the Indians. At Santa Ana, for instance, the people are unusually suspicious about being counted, and there, as well as at Nambé, it is next to impossible to obtain correct figures. There is too much superstition

<sup>1</sup> It may not be out of place here to give the aboriginal names of these different villages:—

Taos, Te-uat-ha. Picuries, Ualana, also Ping-ul-tha.

San Juan, Jyuo-tyu-te Oj-ke. Santa Clara, Ka-po. San Ildefonso, P'Ho-juo-ge. Pojuaque, P'Ho-zuang-ge. Tezuque, Te-tzo-ge. Nambé, Na-im-be.

Cochiti, Kot-ji-ti. Santo Domingo, Ki-ua. San Felipe, Kat-isht-ya.

Santa Ana, Ta-ma-ya. Cia, Tzi-a. Laguna, Ka-uay-ko. Acoma, A-ko.

Sandia, Na-fi-ap. Isleta, Tshya-ui-pa.

Jemez, Uala-to-hua ("Village of the Bear," and not a corruption of Valladolid, as Mr. Locw has imagined).

Zuñi, Hal-on-uaa.

among the Indians yet. Still enough is positive to show that the Queres is the most numerous, and the Jemez the least numerous stock; that Zuñi is the largest, and Pojuaque the smallest village; and that the Pueblo Indians have remained about the same in numbers since the great uprising of 1680.<sup>1</sup>

In the whole number of Pueblo Indians above given, there are 4,068 males and 4,269 females, of all ages. The number of children between the ages of five and sixteen is 2,101. The proportion of males over eighteen years of age to the whole number of souls is as 1 to 3 $\frac{6}{100}$ . This is a further confirmation of the scale which I always adopted in estimating the population of a tribe from the number of warriors given, when no other criterion could be obtained, namely, 1 : 3 $\frac{1}{2}$ .

It is rather difficult to treat of the Pueblo Indian, anthropologically, as a special stock, basing conclusions upon the features, etc., of the Pueblo Indian of to-day. We ought to consider that, for instance, the Indians of Zuñi have largely intermarried with and plentifully absorbed Navajo, Tigua, and Jemez blood; that the people of Nambé are a compound of original Tehuas, of Navajos, and of Jicarrilla Apaches; and that at Santa Clara the Yutas, at San Juan the Yutas and Apaches, and at Pecos the Comanches, have

<sup>1</sup> According to Rivera (*Diario y Derrotero*, p. 32), the number of Pueblo Indians in 1725 was 9,747. This included the Indians of El Paso, who are, of course, not comprised in any census made under the government of the United States. In 1749, the number is given at 11,942. *Relacion del Informe de las Misiones del Nuevo México* (MS.). In 1793, it is stated at 7,455, from a volume of *Misiones* in the Archives of Mexico (MS.). The anonymous report entitled *Certificaciones de las Misiones que son al Cargo de la Provincia del Sto Evangelio de N. & P. S. Franco de la Ciudad de México*, etc., 1794 (MS.), was 9,495. Allowing for inevitable inaccuracies, it results that the Pueblos have neither increased nor decreased within the past two hundred years to any noticeable extent.

assiduously contributed to the propagation of the species. Jemez is more than half Navajo, and one of their leading men, whom unsophisticated American Indian-worshippers are wont to admire as a typical and genuine Pueblo, the famous Nazlé, was Navajo by birth, education, and inclination. The same was the case with Toya, the popular Pecos chief. He was a full-blooded Comanche. Such mixtures should be taken into account by anthropological investigators. They have had their influence upon language, and, in a certain sense, upon customs. In addition there is a large proportion of quarter, half, and whole Spanish blood in the Rio Grande villages. To regard the Pueblos of to-day as anything else but a mongrel breed, physically speaking, would be a grave mistake. It is also quite unsafe to assume that all the words and phrases of Pueblo idioms, as spoken to-day, are original. Aside from the positively established fact of the existence of archaic terms, which the Pueblo Indian uses without knowing any longer their signification, there are intrusions from various sources. Thus, the Tehua has filtered into all the other idioms through various words disseminated by the Spaniards. Ko-ye for interior room, Ca-china for symbolical dance, Gua-je for a gourd or rattle, An-ta for the side-leather taken from a buffalo-hide, are Tehua words adopted now in almost all other Pueblo speech. It would not be difficult to trace other terms to the Apache, Yuta, and Comanche languages, and still others to the Spanish, — as, for instance, in Queres, Mero-nyi for melon, Motätza and Makatza for the Spanish Muchacho and Muchacha for boy and girl, not to speak of Ua-cash for cow, Vuro for donkey, and the like. Even the Mexican Nahuatl language has left positive traces, through the Indians from Central Mexico and the Spaniards themselves who brought them to New

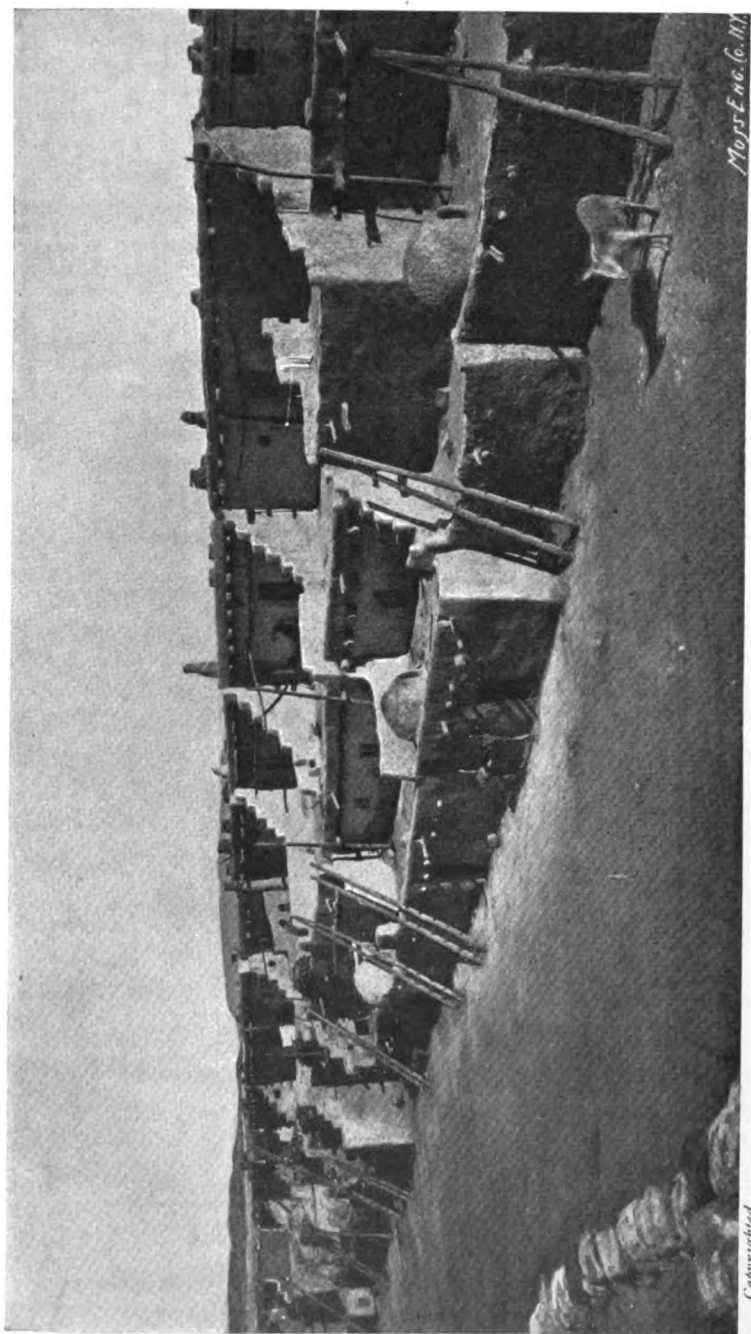
Mexico as their servants. Thus Chalchihuite is often used in current speech in place of the Queres word Shyu-a-mo, and the Tehua Cu-na; Tecolote for Cocope, Pichi-cuate (sand-viper) for Yai Shru-y. The same has occurred in dances. Not only have the various pueblos borrowed from one another, (as, for instance, at Jemez, the dance of the Chac-ui-na from Laguna,) but also from roaming tribes. The Sar-it-ye Jia-re, or dance of the French, of the Tehuas, was imported from the Kiowas. The people of Santa Clara (Tehuas) to-day dance a variety of the eagle dance, borrowed from the Yutas of Colorado. From time to time we hear of certain "medicines" (charms) derived from such and such a roaming tribe. The Osh-tzit-e (a powerful charm) of the Queres is ascribed to the Navajos, and if we inquire for the origin of some specially striking jugglery trick, we are not unlikely to be referred to the Navajos as its original performers. To separate the primitive from the historically imported is already a very difficult task, but to sift the mass of customs, of beliefs and rites, methodically, and find out where each belongs in fact, is an undertaking of herculean proportions. We should be very cautious in every assertion concerning the Indian's arts, habits, and creed, and never be sweeping in any of our deductions, so far as detail is concerned. The facility with which such details are adopted by widely distinct tribes (geographically speaking) shows that they are adapted to the ethnic degree of development of the peoples, and that there is an underlying harmony in thought, sentiment, and speculation among tribes within a certain compass. It will not be difficult through further ethnological studies to establish that such is the case in both Americas, North and South, and that aboriginal culture everywhere bears the same character; to wit, that of long seclusion and

isolation, brought about by natural causes, but as rigid and inflexible as the type of seclusion ascribed to the culture of China.

Among the Pueblos, those with whom I have more particularly become acquainted are the Queres of the Rio Grande valley, and the Tehuas. The Western Queres did not escape my attention. I lived at Acoma for some weeks, and have been to the much more recent village of Laguna. In fact, I have visited every Indian village of New Mexico, and improved my stay there, whether long or short, for ethnological information. After comparing notes with Mr. Cushing at Zuñi in 1883, and since, I became satisfied that certain features would serve as guide-posts among all these tribes, and furnish a key to the understanding of their whole system of life, material as well as intellectual and moral. To describe the variations in detail from pueblo to pueblo, would become tedious, and of practical value only in so far as a detailed local history of each could be attempted. The main features are alike in every New Mexican group.

Pueblo architecture still bears the type of that honey-combed communal agglomeration of many-storied dwellings, with the stories retreating like steps of a staircase from the bottom to the top, by which it was characterized in the sixteenth century, and which so many ruins still display. Yet modifications are noticeable in many ways. The Spaniard had already changed the small air-hole or vent to a larger opening, and taught the Indian to close this opening with pieces of transparent, or at least translucent, mica or gypsum; window-glass being unattainable except with excessive cost and at great risk. The Spaniard also introduced the door with hinges, generally of wood, in place of the low and narrow doorway





*Mary E. n. c. 6. 117*

ACOMA : NORTHERN ROW OF HOUSES.

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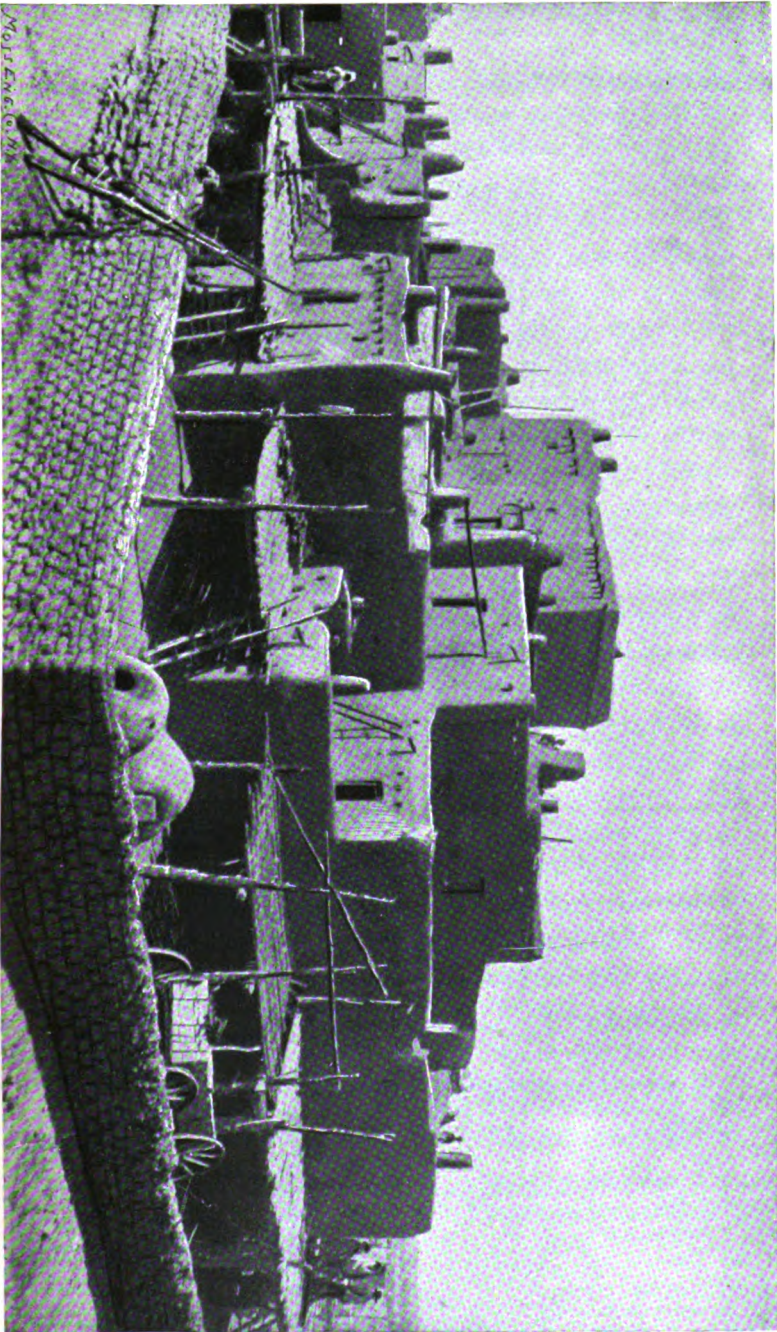
protected by a robe or mat. At the present day, a further step has been taken: the iron hinge, the moulded door-panel, the modern window-frame with panes of glass, begin to make their appearance in the pueblos. As a consequence of greater security, the houses have more numerous entrances on the ground floor, and the antique ladder has fallen gradually into disuse. For a similar reason, the number of the stories is diminished, and consequently the height of the houses. Taos and Zuñi are the only pueblos with four and five storied buildings, and the former may be called the old-fashioned pueblo *par excellence*, with its two tall houses sheltering the entire tribe of four hundred souls. Acoma still may be called a regular three-storied village, since almost every one of its long buildings counts three floors, of which only the upper two are inhabited. On the other hand, Isleta has lost the pueblo character completely, and resembles a Mexican settlement. As a general rule, the single houses have become more numerous and of less extent, while the rooms have grown in size. As to the plan of the villages, it varies according to topography and surroundings. Since all of the pueblos now extant (those of the Moquis excepted) date from after the reconquest of 1694, the amount of insecurity to which the people were exposed in the eighteenth century guided them largely in their location of the houses.<sup>1</sup> San Ildefonso forms a hollow quadrilateral; Jemez, Santa Clara, and San Felipe are each a double quadrangle with two squares; Santo Domingo, San Juan, Santa Ana, and especially Acoma, consist of several parallel rows of houses forming one to three streets. Zuñi is in fact one gigan-

<sup>1</sup> This is very clearly stated by Rivera, *Diario*, p. 33: "Y dichos cuarteles estan los unos al frente de los otros, para que todos esten flanqueados y que los enemigos no puedan mantenerse en el intervalo."



tic building, very irregularly disposed, traversed by alleys called streets, and interspersed with several interior squares. Taos has two tall houses facing each other, one on each side of the little stream, and communicating across it by means of wooden foot-bridges. The material of which the houses are constructed varies with the nature of the surroundings. Acoma is of stone and rubble; Isleta, Santo Domingo, Cochiti, etc., are of adobe, and very often one and the same pueblo, not unfrequently one and the same long house, displays both kinds of material. The Indian now mixes his mud with straw, and forms the bricks in a rectangular mould. There are still occasional traces of the ancient custom by which the women were required to rear the walls, while the males attend to the woodwork, that is, to cutting and bringing in beams, poles, etc. The roofs need no description, they have been described often enough. Hewn, even sawed rafters, become more and more common, although they still are exceptional, and where they are used the ceiling is of planks instead of poles or brush. The floors are invariably of mud,—mud often soaked with blood and smoothed, which makes a tolerably solid floor. Porches are not unfrequent, but mostly on the ground floor, although the second story also has an occasional projection for purposes of shelter and shade. Stables for the animals are almost unknown. The so called corrales, enclosures of palisade-work reared on the outskirts of the villages, one corner of which is sometimes covered with a provisional roof of poles and corn-stalks, are the only contrivance for sheltering domestic animals indispensable about the home. The majority of horses and cattle are left to the tender mercies of winter in the mountain gorges.

In addition to the dwellings, a pueblo contains two other classes of buildings, the church and convent, or priest's



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PUEBLO OF TAOS : SOUTH HOUSE.



house, and the estufa. The churches are sometimes large, nearly always of adobe, and the convents nearly always in ruins since the missions were transferred from the pueblos to Mexican villages. Not one of the pueblo churches, that of Cia perhaps excepted, can lay claim to real antiquity.<sup>1</sup> All were built either in the last or the present century. There is always a low belfry with a rickety bell, cast in Mexico, and a dingy sacristy appended to one side of the choir. The ornaments inside are scant, a few of the paintings, one of which was presented to each church by the King of Spain after 1694, are still extant; many have either been removed by the clergy, in order to prevent them from falling into the hands of ruthless American curiosity seekers, or they have fallen a prey to the latter. A few images, often the product of home industry and art, and accordingly misshapen, a chancel from the last century decorated by native artists in a manner frightful to behold, sometimes a ceiling daubed over with Indian and Christian symbols mixed in dismal array, a bare floor, a cumbrous sculptured wooden door, and windows with coarsely carved wooden railing in place of frames, and no panes,—these constitute a typical pueblo church in New Mexico. On the whole, these edifices fare no worse than the homes of the aborigines themselves, considering the fact that the curates often dwell long distances from their missions, and in more central localities of their extensive parishes, and that the Indian has to keep the temple in repair.<sup>2</sup> The great size of

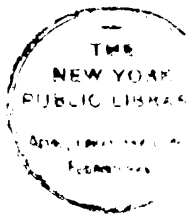
<sup>1</sup> The Indians state that the outer walls of this church are those of the old mission temple, which was reared previously to 1680. The church of Santa Clara was first used in 1761, that of San Ildefonso is posterior to 1700; the church at Zuñi was completed in 1780, and so on.

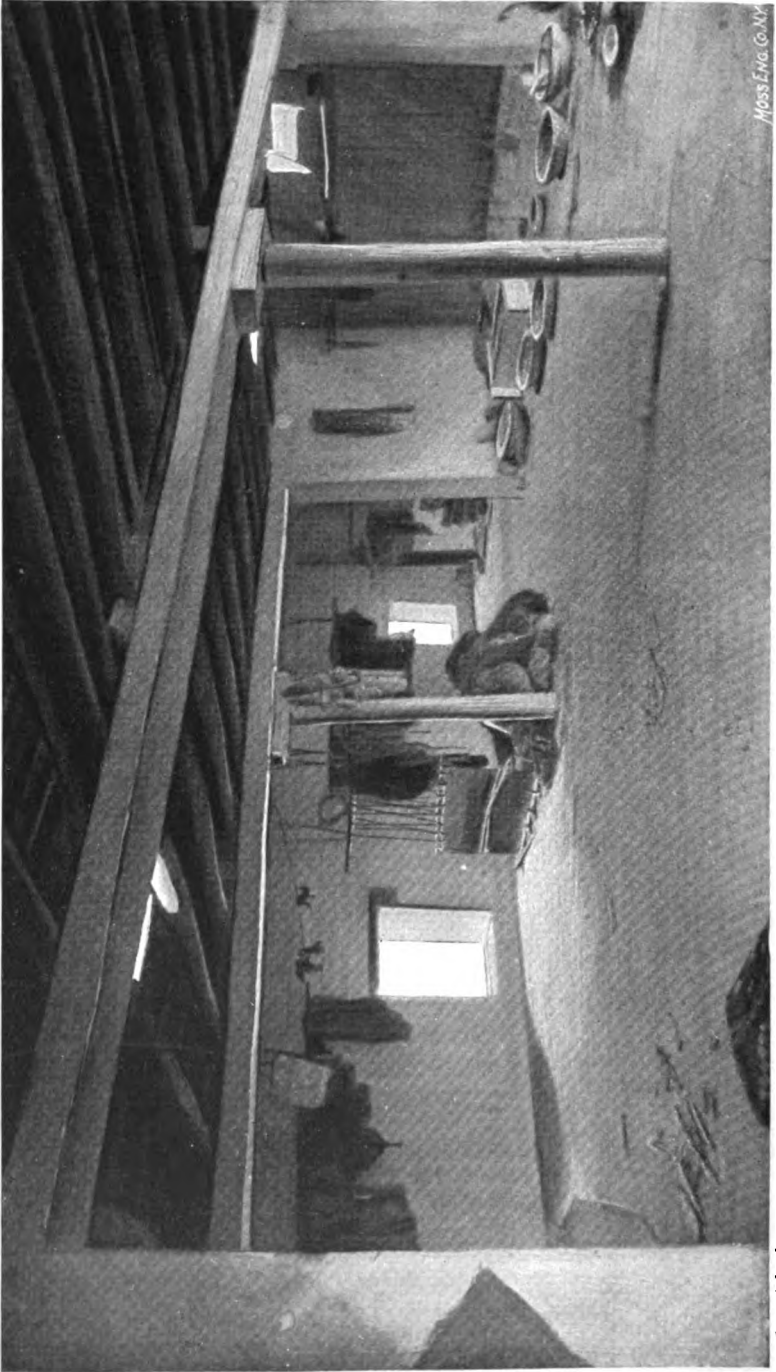
<sup>2</sup> The duty of keeping the church in repair is one of the obligations of the Indian parishioner. How they comply with it is shown by the condition of the edifices.

the churches, and the material of which they are constructed, make it quite onerous to maintain them in good condition. There are local differences from pueblo to pueblo: some Indians are more careless and lazy than others.<sup>1</sup>

The estufa is not kept in a better state of repairs than the church, but it is easier to manage, since the building is much smaller, and, furthermore, mostly underground, therefore less exposed to decay. Not all estufas are circular, and not all are subterraneous. Those of San Juan and Santa Clara, for instance, are rectangular and above the surface, whereas in another village, inhabited by people of the same (Tehua) stock, the estufa is circular, and partly underground. At Acoma, where the houses rest on the naked rock, the estufas do not form isolated structures; they are merely chambers within the buildings, mostly on the first floor, and distinguishable from the outside by the long ladders protruding from the hatchway, and serving as entrances. At Zuñi and Jemez the estufas are similar to those of Acoma. At Taos the estufas are completely subterraneous, the hatchways being at the level of the ground. The number of estufas varies also greatly. In the Queres villages of the Rio Grande there are invariably two, at San Juan one, at Acoma six, at Taos seven, and so on. The interior of the estufa, unless there is some ceremony to take place, or after the performance of some rites, has nothing peculiar. It is a bare room; the usual floor shows only a rude hearth, the hatchway above allows ingress to the lower half of a tall ladder, whose end rests on the floor about the centre of the apartment, and light pene-

<sup>1</sup> Thus, for instance, the churches at San Felipe, Cochiti, and Acoma are comparatively in good repair. At San Juan, all the work done was performed by the priest, Rev. Father Seux, at his own expense, and almost against the will of the Indians, who, while they would not allow any outsider to touch the edifice, still refused to make even the most indispensable repairs.





Moss Eng. Co. N.Y.

INTERIOR OF A HOUSE AT ZUÑI.

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trates into this dingy chamber from above, or from one or two side vents opened near the level of the ground outside. The walls are usually whitewashed. Not a seat, not a single piece of furniture, the hearth excepted, breaks the dusky bleakness of the chamber.

Furniture, in a pueblo house, in the shape of chairs, tables, bedsteads, wardrobes, etc., is a quite modern feature. As yet, the majority of dwellings are poorly provided. Many have still the coarse low stool, hewn out of a block of wood, no table, or the low rickety toy-table-like contrivance, fitting, in height, the primitive stool mentioned; in place of bedsteads, the floor, on which blankets, hides, or a wool mattress, are spread every night; a cord or rope stretched across one corner of the room, over which garments, ancient and modern, buckskin, and similar material, are thrown; weapons dangling from wooden pegs driven into the white-washed wall, perhaps a dance-ornament or a leather satchel concealing some fetich;—this constitutes the furniture of a pueblo room of to-day, with exception of the inevitable and essential fire-place. There is no doubt that the present form of the fire-place—with a projection of adobe or stone on which rests the flue, made either of perforated jars placed one on top of the other and covered with a thin coating of white-washed mud, or pieces of wood laid crosswise and protected in a similar manner, or of regular courses of adobe bricks—is also of Spanish introduction. The same is the case with the kitchen hearth and its big “hat,” sometimes occupying the entire width of an apartment. Kitchen utensils are equally modest in variety and appearance. Iron pots and pans are found in most households, but the black “olla,” and the painted bowl, or “caxete,” of aboriginal make, are still in general use, the one for cooking, the other for serving the food. The



painted urn or "tinaja" is used for carrying and keeping drinking water, and the huge round-bottomed "tinajon" for storing grain and beans. Forks, knives, and metallic spoons are of recent introduction, as well as China cups, saucers, and plates. The same is the case with a sporadic looking-glass, and, for decorative purposes, "retratos" (pictures). Representations of saints, on wood or hide or paper, are looked upon with great veneration; they hang on the wall beside the wallet or sheath containing the fetich of the hunt, or the idol of Ma-se-ua or Ke O-jua.

Some of the older Indians, as well as some of the younger ones, can read and write. It is almost melancholy to hear the tales of those who, in the third and fourth decade of this century, were taught the first letters in the "Pueblo schools" maintained by the Franciscans. Writing paper was too scarce to be within reach of the teachers, so they covered a wooden frame with thin sheepskin, suffered the latter to dry, and afterwards "ruled" this improvised parchment by means of a leaden bullet which was sharpened to a point. Ink was also home-made: pulverized charcoal diluted in water and fixed with saliva. A deer prong, or the horn of a cow, scooped out and fastened to a piece of plank, served as ink-stand. Turkey, or crow, or eagle quills were the pens. With these contrivances the children were taught to write. The catechisms, and the "Arte de bien morir," were used to teach spelling and reading. It was not neglect nor indifference, it was the impossibility of obtaining any better materials except with enormous expense, and having them transported to New Mexico through the ring of blood and death that nature and hostile Indians had built around it, which reduced the parish teacher of the Pueblo mission to such indigence in utensils of teaching. At the present day, schools have sprung up in nearly every pueblo, and there are

large government schools at Santa Fé, as well as at Albuquerque. It is yet too early to determine the value of these institutions for the education of the aborigines.

The separation of the sexes in their dwellings having been abolished during Spanish times, the Pueblo Indian is to-day acquainted with home life and the idea of the family. Still there is a trace left of the former division in the custom (at least theoretically acknowledged) which makes the wife, or, in case of a widower, the housekeeper, owner and master of the house and whatever it contains, the personal effects of the males excepted. Crops once housed are only to be sold by the woman, or with her consent. This custom is indeed not always observed, but it is certainly recognized. The man who works the field controls the field; the woman, who, formerly at least, reared the walls of the house, controls the house and what it may contain. Nevertheless, there is a great change in the customs of inheritance. The children all inherit equally from the father, the wife can have plots of ground and buildings of her own, and can will her property at her pleasure. This is not the primitive custom, by which the sons took the plot which the father had tilled, and, whenever that plot did not suffice, might obtain as much land as they needed in the neighborhood of the village. In localities where the area was naturally limited, each of the clans held its tract of fields, and the male members had lots assigned to them out of this tract. Now, the clan, while still in full vigor, plays no part in the allotment of arable tracts: whoever wants land applies to the tribal officials for a share of the communal range, and this share becomes his own as long as he works it. He can exchange it with or sell it to other members of the tribe, but he cannot dispose of it in favor of any outsider. The title to the four square leagues originally assigned to each pueblo by the Spanish Crown is vested in

the tribe; and while that tribe may, through its officials authorized thereto by the male adults in a general meeting, sell and convey the communal real estate, alienate it, and give good and valid deeds to it,<sup>1</sup> the individual cannot part with his share except to born or adopted members of his pueblo. Further, if he fails to cultivate it, or to have it cultivated for the space of a year, the tract reverts to the commonalty, and is at the disposal of the next applicant for tillable soil.

Marriage is still strictly exogamous; the children belong to the gens or clan of the mother, consequently the clan is, in reality, the unit of pueblo society.

The number of clans in each village varies. It is not always easy, besides, to obtain fully accurate lists. I cannot

<sup>1</sup> This is not in conformity with the accepted view in legal circles. It is true nevertheless. In the first place, under the government of Spain, the Pueblos were regarded as vassals, with all the rights and prerogatives of such. Their position is generally confounded with that of the Indians on the so called "Reducciones," where a body of them was collected, and a tract of land specially assigned to it as inalienable without the consent of the government. Such was not the case with the Pueblos. They held the lands occupied by them by an anterior right, recognized by the Crown, and the so-called "Pueblo grants," subsequently made under direction of the King, were only limitations, or reductions of a hitherto undefined expanse to metes and bounds. Under the Mexican Republic the Pueblos were declared citizens, and as such (although the Indians never consented to exercise their rights of citizens) the United States took them in charge. According to their ancient customs, the lands pertained to the adult males, and what their representatives, the tribal government, decided in regard to the soil, was law. Minors and women did not come into play at all. The plea that Pueblo territory cannot be sold except with the consent of every member of the tribe, whether of age or not, is therefore of no force whatever. The Pueblo custom is law for the Pueblo, and even the original statutes of New Mexico have recognized this fact, by acknowledging the pueblos to stand in the position of bodies corporate and politic, whose duly constituted officers have the faculty of representing them in court and elsewhere. If therefore a pueblo decides upon selling or bartering any portion of its territory, and the adult males thereof empower certain officers to do so, any documents signed by the latter should have due validity. Unanimity of the male adults is, however, indispensable, and such a disposal can in no manner affect the houses. These, according to the old custom, properly belong to the females.

guarantee, for instance, the catalogue which I give below, of the clans of those pueblos where I made special investigations on the subject.

Taos, thirteen gentes. I obtained the translation of the Indian names of but six of them, which are : the bead, water, axe, feather, sun, and knife clans.

San Juan de los Caballeros, fourteen gentes : sun, moon, stone, bead or coral, marten (?), earth, turquoise, eagle, painted eagle, mountain tree (?), cloud, calabash, grass, corn. The translation of some of these is doubtful.

Cochiti, at least thirteen : sun, water, cottonwood, turquoise, panther, bear, calabash, Mexican sage, coyote, corn, scrub-oak, fire, and ivy.

San Felipe, five : tobacco, eagle, water, coyote, and one the name of which I am unable to translate ; and two which are dying out, sun and ivy.

Laguna, fourteen gentes : water, bear, sun, snake (rattlesnake), parrot, turquoise, coyote, eagle, pheasant (road-runner), corn, antelope, badger, and two more, with names which I am unable to translate.

Acoma, seventeen gentes : water, eagle, parrot, yellow, red, blue, and brown corn, bear, sun, rattlesnake, piñon-eater,<sup>1</sup> calabash, ivy, antelope, pheasant, turkey, and one the name of which I do not attempt to render in English.

Isleta, fourteen gentes at least : corn (white, yellow, red, and blue), deer, antelope, bear, elk, sun, moon, water, eagle, goose, duck. This list is neither complete nor absolutely reliable, except in such names as are common to most, if not all, of the Pueblos.

Zuñi, fifteen gentes : parrot, corn, badger, eagle, sun, deer, bear, coyote, frog (or water), crane, grouse, turkey, yellow-top plant, yellow-wood, rattlesnake.

<sup>1</sup> The Sho-hak-ka, — *Picicorvus Columbinus*.

Jemez: I obtained the names of but a few, among them the eagle, the coyote, the corn, sun, and a bitter plant of the genus dandelion.

However imperfect these lists are (and as such only I wish them to be regarded) they reveal to us one quite interesting fact; namely, that, among all of the five linguistic stocks or groups of which the Pueblos are composed, the majority at least of the clans are the same, and bear the same name in a distinct idiom. Also, that among villages of the same language there is more similarity than among others, and that among the Pueblos who are locally close to each other, although the idioms they speak are distinct, there is still a resemblance in the names of the gentes. Thus the parrot gens is found at Zuñi, Acoma, and Laguna. The parrot is known in every pueblo, and its bright plumes are sported in dances and otherwise, but the parrot gens seems to be a feature of villages west of the Rio Grande. Certain clans are found everywhere, like the sun, water, corn, and eagle; the corn divides, in addition, into certain colors; the coyote, and the calabash or gourd or squash (all three names or terms being practically synonymous among the Indians), are also very frequent. In some pueblos there are distinct recollections of such and such gentes having immigrated from another place; as, for instance, the clans of the coyote and the parrot having come from Zuñi to Laguna, and probably to Acoma. In short, a close investigation of the gentes, much closer than that to which I had to limit myself owing to insufficiency of time and means, would undoubtedly reveal facts of local history preceding the Spanish explorations and settlement. The history of the gentes is an equivalent of the genealogy of families in civilized society. The Indian has, in his native tongue, only a personal name; there is no family appellation, except in so far as a Spanish family name may have been

adopted; the man or the woman is called so and so, and *belongs* to such or such a gens, by which he or she is recognized among the tribe.

Of the former authorities of the clans, and of the old men whose gatherings composed the council of the tribe while each one of them represented in particular one of the gentes, there are hardly any traces left. Still, there are evidences of the clan system in matters of government, and in this respect the divisions according to *estufas*, prevalent among the Pueblos on the Rio Grande, is instructive. The question of the government of the single clans is, however, less important than that of the tribal government, which I have now to consider.

On the surface, this government consists of a set of officers, annually elective, and playing the part of an executive, and of a permanent council, whose decrees are the "law of the land," that is, for the village or tribe. We often hear of another officer whose functions are represented as being of a somewhat occult religious nature, and who is said to be really the ruling power in the pueblo. This is the Cacique, whose true position has never been clearly defined. Thus much is certain: the Council (*U-uit-yam* in Queres) is permanent and its decrees are the law; the Governor (*Ta-pop* in Queres, *Tu-yo* in Tehua, *Ta-bu-de* in southern, *Ta-bu-na* in northern Tigua, *Ta-pu-pu* in Zuñi), the Captain, or War Captain (*Maseua* or *Tzia-u-yu-kiu* in Queres, *A-kong-ge Tuyo* in Tehua, *Ca-ve-de* in southern Tigua, *Jum-bla-ua Dun-ana* in Taos), and their assistants, are annually selected (not elected) and installed about the first of each year, and they are the executive officers of the pueblo; but the relative positions of all these branches of government cannot be understood without intimate knowledge of the ancient religious organization of the Pueblos as it is still kept up. Where that organization

is best known is at Zuñi ; and if I have succeeded in discovering some of its details among the Queres, the Tehuas, and among the Jemez, it is owing to the advice and friendly guidance that I received from Mr. Cushing in that field of ethnologic investigation. I cannot sufficiently insist upon the fact, that what the work of the late Lewis H. Morgan has been for the social organization of the Indians and their system of civil life, the work of Mr. Cushing is for their religious organization and customs.

To the religious organization of the Zuñis I shall refer only so far as it presents analogies with that of the three tribes mentioned, or interesting differences. To that of the Taos and southern Tiguas (Sandia and Isleta), I can refer but incidentally, since I have not as yet had opportunity of penetrating into their secrets.

Among the Queres, the typical form of their religious government and religious "Sociology" (if this term is permissible) consists of four esoteric clusters, whose members are selected from the standpoint of fitness, and educated by degrees for the various tasks they are destined to perform. These clusters or societies are :—

The hunters, Shya-yak in Queres. They are fast dying out, however, and have almost disappeared in several villages.

The warriors, called Uak-anyi, and, when they go on the war-path, Na-uanyi Ko-sa.

The medicine-men, Tshay-anyi.

The Ya-ya, or mothers.

Each of these clusters divides into a number of branches. Every one of the first named three esoteric groups cultivates a certain side of life, and cultivates it with the specifically Indian idea, that the spiritual and physical worlds are intimately linked, that the former rules the latter in its smallest details, that inanimate objects have souls, or obtain them so

soon as they become subservient to mankind, or connected with it, and that all these spiritual individualities scattered throughout the visible world require careful attention on the part of man in order to become useful to him, or at least to prevent them from proving hurtful or dangerous. This doctrine may be illustrated as follows. Every Indian is of course a hunter by nature, inclination, and for subsistence, but only those who own the charms and spells, the "medicine" (in Indian speech) wherewith to subdue and overpower the spirits of game, — those only are Shya-yak. Every Indian must go to war, but only those who have learned how to cow the soul of the enemy, to lead him astray, and to make himself invulnerable, are Uakanyi. Any Indian, male or female, can heal and cure, but only the Tshayanyi possess the magic remedies and charms which, while propping up the body, are intended to work either on the soul of the patient directly, or on the soul that is attributed to the medicine also.

Such beliefs, stereotyped in a complicated organization, cannot be otherwise than exceedingly old, and their origin must have been a succession of empirical discoveries, around each of which a group of "adepts," or "such as had knowledge," gradually clustered, to perpetuate the discovery and secure it to the tribe forever. At the same time, such an organization cannot be otherwise than very powerful. It represents every branch of life in its relations to the supernatural, for whatever the hunters, the warriors, the medicine-men, cannot reach with their arts, the highest Shamans, mothers, or Yaya, devote their life to secure.

The Yaya are a small group, and as only certain religious functionaries can belong to them it results that their number has a limit which cannot be exceeded. Thus there cannot be, among the Queres, more than six of them. These are:—



The Ho-Tshanyi, or principal Cacique.

The Uisht-Yakka and the Shay-ka-tze, his two assistants.

The Hishtanyi-Tshayanyi, the Shkui-Tshayanyi, and the Shikama-Tshayanyi.

The office of the three Caciques is that of penitents. Their duty is to do penance for the people. On every important occasion they are called upon to pray and to fast, sometimes for a day, again for as many as four days and nights. Commonly they are allowed to partake of a meal once in twenty-four hours; again, their nourishment is limited to a large bivalve shell full of corn-meal diluted in water, once a day. On very strong fasts they must remain four days without any kind of food, and also without sleep. The dignity of Cacique is therefore one which nobody expressly covets, for it is painful and exhausting. The common saying is, and it is true, that few caciques last long. The underlying thought of these fasts is, that penance of this sort weakens the body, and correspondingly frees the soul from physical fetters, and brings it nearer to the highest deities, who are purely spiritual beings, and distinct from the fetiches, although there are fetiches intended to represent some of them. Another underlying idea is, that the greater the control which one is able to exercise over his body, the stronger his mind, and the more capable of discerning the will of those who need no material form for displaying their powers. A third, and perhaps the most common thought, is that penance is the sacrifice most agreeable to the gods, since no human being can bring a sacrifice greater than that of his own self.

To become cacique, long education is necessary. He has to undergo a careful training in physical endurance, and, above all, in knowledge of the main arts or artifices peculiar to the higher branches of the three minor esoteric orders. In addition to it, he must know what constitute

the real secrets of his office. What these are, I am unable to say. No cacique, unless he should be very depraved, will reveal these secrets to any but him whom he looks upon as his successor, and perhaps to his assistants. It is to be supposed that these secrets consist of matters essentially unimportant, — a few tricks and sortileges, and maxims embodied in prayers and traditions of historical value, which often take at the present time the form of incantations. The end and object of all these performances are to maintain peace and harmony among the tribe, so that the caciques are, properly speaking, the keepers of the peace. It is often suggested, when any question arises between a pueblo and outsiders, to apply to the caciques for easy settlement of the difficulty, under the impression that a word from them is sufficient to determine the action of the pueblo. It is true that the caciques are also augurs or prophets, — that they consult the gods frequently, and communicate the answers they fancy they have received indirectly to the people. Yet it is futile to address them in any matter of strife and quarrel. The peace-keepers are not allowed even to hear anything calculated to disturb the harmony among their constituents ; that is, they can hear of it, but without entering into any discussion thereof. If the announcement is made officially at a general meeting, the three caciques listen, and then retire to watch and pray. Their word of warning is communicated to the tribe afterwards, through channels sometimes outside of the pale of religion.

The caciques therefore are by no means the "monarchs" of the pueblos, as which they are sometimes popularly designated. They exert a great influence without any doubt, but they themselves are under control, and far from independent in their official capacity and position. In the first place, the war captain is their warden ; he invests them

with the dignity, and has the right to punish them in case they are derelict or aggressive. Their selection is based upon fitness, and in this respect the wish of an incumbent often determines the choice of his successor. But not only the war captain, the other Yaya also have their voice in it. These three leading shamans are each the head of a branch of the minor orders. Thus the Hishtanyi is also the head shaman of war; the Shkuy, the chief medicine-man of the hunt; and the Shikama may be considered as the leader of the shamans of medicine. All these offices are for life,—being based upon actual possession of secret arts and “tricks,”—or during good behavior. The caciqueship may be—I am not yet positive—hereditary in a certain gens; but if this is the case, I hold it to be so only among the Tehuas, and not among the Queres. We hear, in intimate intercourse with Pueblo Indians, of caciques *ad interim*, until a legitimate one shall be old enough to exercise the functions of his office. This gives color to the assumption of heredity; still, legitimacy in this case results only from a choice expressed by the previous incumbent, in which choice he is in no manner debarred from designating his son as the one to succeed him. The duties of a cacique are so arduous, so trying to the body, that only a strong, or at least a hardy individual, and one trained for the task, can expect to fulfil them and survive any length of time. Besides, he must know a good deal, and a child must therefore be educated for the purpose. This education is conducted by the substitute, by the assistants, by the other Yaya, and by the war captain. If, however, the so called “legitimate” cacique refuses to accept the position, he is free to do it, and a new choice is made; almost always the Hishtanyi-Tshayanyi is selected, because of his greater knowledge of the essential “secrets.”

The cacique receives a compensation for his services. In every pueblo in former times, and often to-day, a tract of land is set apart which the community tills, attending to it before all other tracts in spring, and housing its crops first in autumn. The caciques are also exempt from work on the communal enterprises, like the irrigation ditches, hunts, and the like. Of tribute I have not heard, unless the rabbit skins gathered at the frequent rabbit hunts, — a festival-rite of great rejoicing for the whole village, — which are turned over to the great penitents, should be regarded in that light, about which, however, I am not certain.

But still the caciques have the faculty of creating for themselves a sort of income. Their fasting and intercession are not merely applied for in favor of the "general public." Single individuals or families can and do ask their intercession in case of illness or other woes. Such services are not gratuitously rendered; the official faster must be paid for them, and many are the jars full of grain, the pieces of buckskin, the shell beads and turquoises, that wander into the possession of the penitent for his treasured work. This little "outside business" allows the cacique and his family to lead a comparatively easy life, although, on the other hand, he has a duty to perform which may become onerous, although less so now than in former times. Any stranger arriving at a pueblo may, if he chooses, apply to the cacique for hospitality. Whether he be a Pueblo Indian, or a savage, or a white man, the cacique must receive, feed, and lodge him. This old custom is falling into disuse; but in theory it subsists, and the cacique cannot refuse to receive the applicant, provided he has no relatives in the village. Another duty of the caciques is, in case of war on a large scale, to attend to the wounded. They are the surgeons and nurses.

This is, so far as I have been able to discover, the rôle of the caciques among the Queres, at least in theory, as the Indian understands it. In reality, there are modifications, often local, or temporary. Thus the three caciques, or main cacique and assistants, are not found in every village. To my knowledge, the set is full only at San Felipe. At Cochiti, until two years ago, there was but a cacique *ad interim*. Now the "legitimate" chief penitent has succeeded, but there is no trace of the two assistants.

The caciques constitute, together with the three great shamans, the heart and centre of religious life of the tribe. The former have no vote in the tribal council, but the latter occupy in that body a prominent position. The Hishtanyi opens the council with a speech, and only after his prayer is the real cause of the meeting revealed to the assembly; thereupon the caciques retire. Still this archaic form is not always rigorously observed, and I have been present at councils where the cacique remained and gave his opinion like the other members.

The Hishtanyi Tshayanyi is the great medicine-man of war. He holds the Yerba del Manso, the pulverized leaves and stems of which give strength to the brave and strike the enemy's heart with terror. He paints the warriors with powder of manganese ore, in order to render their appearance frightful and their bodies invulnerable in a measure. He also has the "medicine" that preserves peace among the people and makes them "rich." He has a number of other similar charms, too numerous to mention here, in which the Indian implicitly believes. He is also the head of a particular branch of medicine-men, and keeps the time-honored idols which, at a certain season of the year, are taken from their sheaths, and exposed in the inner private room of his abode, there to work beneficial results

for the people. The Hishtanyi also must fast and do penance, but only for certain objects, not as the caciques, for general interests. He is a powerful doctor, and may derive considerable income from his cures.

The Shkuy is more properly the charmer of game, the magician of the hunt. As such, his importance has rather decreased since the great communal hunts are no longer practised on a large scale, the rabbit hunt excepted. The duties of the Shikama are those of a medicine-man of note. But in case of extreme need, any of these may take a prominent position without interfering with the domain of the others. All of them may appear as oracles, although the caciques are of course most listened to. The difference consists in that the caciques are the regular intercessors for the people at large, whose chief duty it is to sacrifice themselves for the general good, while the other three have special fields assigned them in which to promote, through sacrifice, prayer, and incantation, the common welfare.

The influence of such a powerful organization on the social and civil, not to say political, life of the people, is very evident. Through the esoteric societies, creed, belief, and fear pervade every household, weigh down on every clan. Through the oracular utterances of the Yayas, the popular mind is guided, and moves more or less according to the decisions of those higher powers whom the Indian reveres and is in dread of. Whatever the council decides, whatever the executive officers determine, is always subject to amendments from the upper world. Not a single important step can be taken without consulting first the invisible ones. Therefore the election of administrative and executive officers is not really performed by the delegates of the people. It is the caciques who choose the governors, and propound their choice to the people for

ratification. And rare are the occasions when the people do not accept blindly the choice of the chief penitents. The annual elections are a Spanish innovation, to which the Pueblos have submitted without yielding an iota of the original principle of selection.

If the higher offices of the religious organization were hereditary, there would long ago have been danger of the formation of castes and a change in the mode of government, — a theocracy first, a military and religious despotism next. The separation of the family into two halves by exogamous marriage excluded all thought of heredity and dynasty. The organization of the esoteric clusters themselves, their number, and the numbers of those who constituted them, maintained the democratic principle in their midst, and rendered it impossible for one or a few to obtain more than a temporary and transient power. In fact, individuals have no power beyond that of the office which they fill, and only so long as they perform their duties faithfully. There is a check on every body and every dignity; not a barrier artificially raised through legislative enactment, but one unconsciously formed by the multiplicity of duties and faculties of the various religious functionaries. All these hang together, and yet they are on their guard against one another. I have already observed that the cacique can be punished in case of misdemeanor; he can also be removed if the tribe so directs in general council, or if the war captain or the leading shamans dispose. A degraded cacique seldom, if ever, lives long. There is too much danger in suffering him who is in possession of the most precious arts and knowledge to live while under a cloud. Shamans who dispose of idols or sell secrets are also got rid of in a similar manner. It is the war captain who, officially at least, attends to such executions. But nobody except

a few initiated ones ever knows more than that the person has simply "died."<sup>1</sup>

Among the Queres the war captain occupies a singular position. He is annually selected by the cacique, yet he controls the latter to a certain extent. It may be said that he has him "in charge." This arises out of an old belief which makes of the war captain the direct representative upon earth of the divinity called Maseua, one of their chief gods. Therefore the war captain's lieutenant is called Oyo-yä-uä, after Maseua's brother, another divinity of the Queres. Although the Pueblos have been at peace ever since the Navajos were repressed, war still remains theoretically their chief duty and occupation, and the war organization is kept up carefully. By the side of the captain and his assistant there stands the Hishtanyi Tshayanyi as spiritual adviser and magic aid. Whenever a campaign is organized, he goes with the force, or sends one of his own cluster of wizards. The war captain must take good care of this important personage, and should any harm befall the shaman in an engagement, the day would be lost for his people.

The relative positions, rights, and prerogatives of the governor and war captain are rather clearly defined. The former is really an administrative officer, the latter a military leader and "sheriff." In matters where the council has pronounced its sentence, the governor commands the captain; but in religious matters and matters of war, the war captain is superior to the former. That the captain's office is also a religious one is shown by the fact that, while

<sup>1</sup> Early in this year, 1889, an instance of deposition occurred, in which I succeeded, however, in averting the final catastrophe. It is the second time within nine years that I have been called upon to thwart a secret execution. The number of people who disappear among the Pueblos for alleged offences, or for misdemeanor, is much greater than would be supposed.



any of the great shamans who pertain to the Yayas can become governor, the war captain is never, to my knowledge, chosen from their number.

Among the Queres, the distinction is often made between "Principales," and "Principales Grandes." The former are always men who have once occupied the post of governor or of war captain. The latter are the Yaya and two other religious officers, less in power and rank, but still of considerable influence. These officers are the Ko-share Na-ua, or leader of an esoteric cluster belonging to the medicine-men, intermediate between them and the Hishtanyi Tshayanyi, and called the Kō-sha-re, and the Cui-ra-na Naua, or leader of the Cui-ra-na.

The Koshare are well known to all who, in New Mexico, have witnessed the strange spectacle of Pueblo Indian dances. They appear in many of these under the form of hideous, often obscene clowns or jesters, and they endeavor to provoke merriment by performances which deserve decided reprobation. This is, however, but one side of their duties. Their principal task consists in the furthering of growing fruit, by urging it on to maturity through prayers and incantations. The Cuirana have similar duties, but their work begins in spring, and the sprouting of plants is in their charge. The Koshare are summer people, the Cuirana winter men. This division is a very ancient one, — so ancient that its origin is reported as having coincided with the first appearance of the Pueblo Indians upon this earth. Both these groups belong to the medicine-men (Tshayanyi) also, but they are yet in a manner distinct, since, while attending to the art of healing and curing, they also make themselves useful in matters of greater moment to the general welfare. Therefore their leaders, or Naua, are counted among the great chiefs (*principales grandes*). We see that this term,

which we often meet with among other tribes, has nothing to do with heredity of caste or office. None of the dignities here mentioned are in the slightest manner hereditary; the son may succeed to the father through selection on account of personal fitness, but he has no birthright to the office. That the Koshare, for instance, through their connection with erotic features of life, can under given circumstances exercise a great influence, is plain; they may momentarily even outweigh the preponderance of the other Yaya, not excluding the caciques, but they also find their check as soon as their influence threatens to become excessive. The Cuirana are less prominent, as the sprouting of plants has not so many analogies in the life of mankind as the ripening of fruit; they are not obscene in their displays, and have less influence on the public life of the tribe.

The religious organization thus sketched in its outlines (for to enter into systematic detail would require much greater space) rests on beliefs and creeds as detailed and systematized as the organization itself. These beliefs have been gradually evolved, and the bulk of them may be said to have resulted from the formation of the esoteric groups, who, clustering around discoveries of apparent practical importance, and making of such discoveries a profound secret, finally, in the course of many centuries, lost sight of the physical facts. With oblivion, mystery set in, the discovery became a miracle, the miracle a god. Polytheism grew out of esoterism. Succession with the "knowing ones" being through selection and education, and not by birth, the esoteric clusters recruited themselves everywhere, and the beliefs grew common to all, whereas the means to make these beliefs practically useful remained in possession of an everchanging minority. Hence the fundamental creed of the Pueblo Indian is the same for all, but the details and the rituals are known only in sec-

tions, so to say, the Yaya alone holding the *résumé* of the whole.

The foundation of belief is strongly materialistic. No origin is thought of without the idea of sexual division being associated with it. Wherever we find traces of an omnipotent God, it is a reminiscence of Christianity, as, for instance, the holder of the paths of our lives among the Zuñis. The primitive Pueblo creed is very much like that of the Navajos, of which Dr. Washington Mathews excellently says: "It is a difficult task to determine which one of their gods is the most potent. Religion with them, as with many other peoples, reflects their own social conditions. Their government is a strict democracy. Chiefs are but elders, men of temporary and ill-defined influence, whom the youngest men in the tribe may contradict and defy. There is no highest chief of the tribe. Hence their gods, as their men, stand on a level of equality."<sup>1</sup> This applies equally well to the Pueblos.

Among the Queres, Pa-yat Ya-ma, the Sun-Father, and San-at Yaya, the Moon-Mother, are apparently the most prominent deities. It is not the sun which the Indian reveres, it is the spiritual being residing on or in it. That being is thought to be a male. His consort resides in the moon, and is called therefore the Moon-Mother. But I have not been able to detect, as yet, any myth touching the creation of the world. Creation myths begin with the origin of the human species, and the earth is supposed to have existed already. It is different with the sun. It seems that this luminary was, according to the Pueblo Indian, made only after man had risen out of the bowels of the earth to the earth's surface; for when the children of men came out upon the surface, it was dark,

<sup>1</sup> *Some Deities and Demons of the Navajos*, American Naturalist, October, 1886, p. 844.

cold, and moist. Light came to them only when they proceeded southward. With light came heat.

The conception of the Sun-Father at the present time seems to be that of a deity in rather passive enjoyment of the fruits of his labors. The Moon-Mother, however, is still in daily activity. Every household has an emblem of her, or rather a symbol of the thoughts of man rising to her in prayer. This is the so called Yaya or mother, a bunch of snow-white down, elegant in shape and quite tasteful. It would seem as if the Moon-Mother were like an intercessor, whom mankind implores to pray for them. But it is to be noted also, that most of the prayers are addressed, not to one divinity alone, but to several,—another evidence of the democratic nature of Indian mythology, reflecting the nature of Indian sociological conceptions.

Almost more prominent than the two deities just named are two personages whose names in Queres are respectively Ma-se-ua and Oyo-yä-uä, two brothers, probably children of the sun and moon gods. I have already stated that they are personified in the war captain and his lieutenant. They are frequently addressed, and one of the chief public dances of the Queres, the A-yash Tyu-cotz, is mainly directed to them now, whereas in former times it was rather in honor of the Sun-Father himself. The home of these two mythological parties is variously stated as the Sierra de Sandia, opposite Albuquerque, and the mountains north of Cochiti. It is believed that their meeting in the clouds causes the rain to fall, so that these divinities might pass for the gods of the winds were it not that the Shi-ua-na, or cloud spirits, distinctly play the part of bringers of rain or fine weather. It is very difficult to unravel the complicated and contradictory mass of statements and stories concerning these two individualities. Certain it seems, however, that they are, among

the Queres, the equivalents of Mai-tza La-ima and A-hu-iu-ta, the divine and powerful twins of Zuñi mythology. Of pictorial representations of the two gods among the Queres I have seen but one, a small figurine of Ma-se-ua. It represents a man in squatting posture.

I am unable to give the gradations through which the higher idols, or gods, merge into the numberless fetiches. Names like Sen-kuit-ye, and others, have been given to me, but I cannot vouch how far these are distinct personages, or synonyms for divinities already named. The Indian often gives two or three or more titles to his idols, according to the function he requires them to perform. Thus Pa-yat-ya-ma is also merely designated by the name of Osh-atsh, or the sun. Sa-nat Yaya is not unfrequently called simply Ta-Uatsh, the moon. In addition to the obstacles thrown in the way of the student by the reticence of the Indian on religious subjects, (which reticence is much greater among the Rio Grande Pueblos than among the more isolated tribes farther west,) the number of names given to one and the same deity, and the different names varying sometimes between one village of the same language and another, increase the difficulty of reaching absolutely clear conceptions. Only long residence with the Indians, and initiation into the highest of the esoteric clusters, can overcome this difficulty. How long, painful, and intricate it is to achieve initiation, the labors of Mr. Cushing will establish.

The worship of the Pueblos cannot be termed element worship. Mr. Cushing has admirably described that of the Zuñis: —

“ The A-shi-wi, or Zuñis, suppose the sun, moon, and stars, the sky, earth, and sea, in all their phenomena and elements, and all inanimate objects, as well as plants, animals, and men, to belong to one great system of all-conscious and inter-

related life, in which the degrees of relationship seem to be determined largely, if not wholly, by the degrees of resemblance. In this system of life the starting point is man, the most finished, yet the lowest organism, — actually the lowest, because most dependent and least mysterious. In just as far as an organism, actual or imaginary, resembles his, is it believed to be related to him, and correspondingly mortal. In just as far as it is mysterious is it considered removed from him, further advanced, powerful and immortal. It thus happens that the animals, because alike mortal and endowed with similar physical functions and organs, are considered more nearly related to man than are the gods; more nearly related to the gods than is man, because more mysterious, and characterized by specific instincts and powers which man does not of himself possess. Again, the elements and phenomena of nature, because more mysterious, powerful, and immortal, seem more closely related to the higher gods than are the animals; more closely related to the animals than are the higher gods, because their manifestations often resemble the operations of the former.”<sup>1</sup>

This is true also with the Queres, and exemplified in the plainest manner through their symbolism. The symbols of the Queres are the same as those of the Zuñis. The forked line not only indicates lightning, but also the serpent with forked tongue. The water has several symbols according to the form in which it appears. As cloudy vapor, it assumes the form of a double staircase, imitating the cumulus clouds which rise from the earth to the sky, or a group of arches, emitting rain streaks and lightning darts. As streams, or water resting or flowing on the surface, it is represented by the snake again, the snake with horns and without the rattle, the Tzitz-Shrury, or water-serpent, distinct from Shrury, the

<sup>1</sup> *Zuñi Fetiches*, Second Annual Report of the Bureau of Ethnology, p. 9.

rattlesnake. The Tzitz-Shrui is the spirit of the watery element, the horn is its head-dress or symbol of spiritual power. The entire symbolism of the Queres is derived very plainly from natural phenomena. The spiral, double or simple, in curves or angular lines, stands for the whirlwind; the cross, for the stars in general, and the white cross and red cross for the morning and evening stars respectively; the tracks of the pheasant (called road-runner), arranged in a circle, form a magic ring around the object or person they surround; and, as well as at Zuñi, certain animals symbolize certain regions or cardinal points. There are local shades in this symbolism that constitute differences: thus, the colors attributed to the six sacramental regions by the Queres are not the same as those attributed by the Tehuas or the Zuñis.

It is to Mr. Cushing that we owe our knowledge of this division of the world into six quarters, designated by six regions, which discovery is one of the most important recent achievements in American ethnology. The north (Titya-me in Queres), the south (Cuame), the west (Pun-ame), the east (Han-ame), the region above (Ti-nyi), and the region below (Chi-na), — these are gathered together in the conception of the whole. In the country of Zuñi, the four quarters or cardinal points are designated as so many mountains. This is a purely geographical thought, derived from the nature of the country. From the Zuñi basin, four prominent heights indeed attract the gaze of man. Among the Queres, it would require special study of each village to determine how far such striking objects have been used to designate the four sacramental regions. It is likely to be the case at Acoma, but the Rio Grande Queres are not surrounded by isolated peaks to an extent to influence myths. It is well to observe here, that "above" is distinct from the sky, "below" from the earth. The latter, "Ha-a-tze," is also

counted as a deity among the Queres, as well as among the Tehuas.

Fetichism formerly reached, among the Queres, a degree of development analogous to that which the Zuñis display in their creed, but the constant contact with the Spaniards, and especially with the missionaries, has caused a gradual retrenchment. Fetiches are not so common as they were, and not openly displayed ; but they are the same, in the main, as those of Zuñi. I have seen the panther (Mo-katsh), the bear (Ko-ha-yo), the eagle (Tya-me), and the wolf (Ka-kan). In addition to these, I have heard of the lynx (Tia-tui), and on sacrificial bowls have seen the dragon-fly, the frog, the fish, and the tadpole. Of these four "intercessors of rain," I shall speak more fully when I treat of the Tehuas, from whom I obtained more definite information in regard to mythology and symbolism in general. Notwithstanding a residence of over one year among the Queres, I never succeeded in penetrating their secrets more than partially. The village which for this purpose would be the most important of all, Santo Domingo, has closed its doors to me in consequence of one of those errors which the novice in ethnology is liable to commit, and which I committed at the very outset. To gain the confidence of the Indian, good will, unsophisticated sympathy, and the desire to learn are often the least efficacious means. Neither is money always successful. To buy information is, on the whole, not a good plan. Only the naturally corrupt among members of esoteric clusters will speak for the sake of money. Others may express themselves, but it is doubtful if what they say is true. By the majority, a tender of money is regarded as highly suspicious, and as a confession of weakness on the part of him who is so eager to penetrate the sacred interior of the Indian as to part with his wealth for that purpose. Personal affection



and confidence, long residence, and evidences of absolute disinterestedness, are the only means of securing a hold on the Indian, — a hold which sometimes even initiation into the secret societies does not afford. For among these esoteric clusters the failings inherent to man, be he Indian or Caucasian or African, cannot be eliminated. No society or kind of association is able to exclude egotism and suspicion. The adept in one branch is looked upon with distrust by the adept in another; each is jealous of the other's knowledge, arts, and tricks. Only the Yaya are, in a measure, above this; and yet what jealousy between the caciques and the shamans, what rivalry between the Yaya and the war captains! The same petty intrigues move the childish circle of Indian society that disturb civilized society and government, and they are even more prominent in the former, since it is much more limited in scope, and since every individual becomes more important in consequence. I say all this to give a basis upon which to rest my description of Pueblo life. At the same time, I wish to account for the vague manner in which I have to speak of many details. Subsequent students will do better, but they should be acquainted with the difficulties staring them in the face, in order to select a way by which these difficulties may be avoided.

The cause of this reticence is mostly a natural trait of character, resulting from isolation and from the division of the family, brought about by the exogamous customs of marriage. Or, rather, it is due to the imperfect constitution of the family. Where man and wife are separated from each other by an insuperable barrier, man and man are still less inclined to be frank. Absolute frankness is a thing inconceivable to the Indian. In addition to this, secrecy is imposed by the rules of the orders. And, lastly, though its effect has not been so potent as commonly imagined,

the prohibition of a number of rites under the Spanish administration has contributed to the reticence of the Indian. Still, it was not fear so much as a desire to separate from each other what did not properly belong together that caused the Indian to shroud his rites in the depths of the estufa, or in the remote corners of the gorge and forest. He shrinks, as everybody will, from suffering uninitiated ones to see or hear what is specially sacred to him. This needs no imaginary previous persecution to bring it about. It is true that many of his dances have been strongly (and justly) condemned as shockingly obscene; many of his beliefs assailed, and with justice, as being contrary to the laws of humanity, let alone those of Christianity. But this has not been so much the cause of his secrecy as the education he has received for untold centuries, and which enjoins the husband to conceal from his wife matters of his own clan, brother from brother the secrets of their relative esoteric groups. Unconsciously, the result of this strange division, so multiple, so various, and so strict, has become the best example of the workings of the dreaded maxim, *Divide et impera*. Only the dividing principle works equally towards all; it subjects the whole to an inflexible despotism of thought.

The Indian, with all his democratic institutions, in society as in religion, nevertheless is the merest, most abject slave. His life is the best exemplification of what a many-headed tyranny can achieve. Every step is controlled by religious fear. He fancies himself surrounded by numberless supernatural agencies, and the more formulas he has against evil, the more magic he knows for producing good to himself, the safer, not the happier, he feels. There is no thought on his part of retribution in the future, that is, according to his aboriginal belief. He firmly believes in immortality

of the soul ; but, as Mr. Cushing very judiciously remarks, only after death does man become a finished being, therefore a perfect one ; consequently there is no distinct place for the good and the bad after death, except in as far as Christian teachings have tinged his original creed. He believes in hell, but as a Christian institution, and his soul after death, and after having performed a journey of four days and nights, goes to rest in the wonderful "estufa" at the bottom of the lagune of Shi-pap-u in the distant northern regions of Colorado, there to enjoy eternal bliss in the fold of "our mother" (Sa Naya). The evil ones go to the same place, or rather, according to the degree of importance attributed to Christian religion, they either go beneath to a nondescript locality called "el Infierno," or they wander about adrift as witches or sorcerers. His conceptions of what evil spirits imply, goes not beyond illegitimate witchcraft. As he fancies that the spirits of the good, of his own dead relatives, for instance, return to his vicinity floating on the wind, and he holds himself compelled to feed them by scattering sacred meal or pouring it on the water ; so he is persuaded that evil spirits float about him, and hold communication with the hearts of living persons that are given to black magic. As I have already remarked, his secrets, his incantations, are practices which, having had once some empirical basis, have become distorted in the lapse of time to tricks and juggleries. Many of his most powerful "medicines" are really of no other value than as specimens of gross superstition. So it is with his witchcraft. Plumes of the owl, of the crow, of the woodpecker, tied to bundles and fastened sometimes to splinters of obsidian, — human excrements, black corn, bones, fungi, wreaths of yucca, — are among the most dreaded implements of evil magic. And the Indian believes in their

efficacy for doing harm — provided the necessary incantations accompany their handling — as much as he believes in the power of the panther fetich to favor the chase, or of the frog fetich to provide timely rain, and in the power of an animal dance to cast a spell over game, causing it to fall an easy prey to mankind. But for all this elaborate system of sorcery the Indian knows of no spiritual head. Of course, at present, in conversation with our own race, the Devil (*el Diablo*) is made answerable; but in his innermost thoughts the Indian has no clear idea of what a demon or a fiend is. The word *Shu-at-yam* means fiend, but in the plural, and no chief incarnation of the evil principle.<sup>1</sup>

Frequent sacrifices are offered in the pueblos, although they are seldom visible. In general, the traveller or tourist will hardly see any of these practices among the Queres. They will, with the strongest emphasis, deny the fundamental portions of their beliefs to a stranger. Nevertheless, they perform sacrifice almost every day, but in secret. The usual form is strewing yellow corn-meal, first to the north, then to the west, to the south, to the east, throwing a pinch upwards, then directly downwards, and finally placing a pinch in the centre as symbolic of the whole.

Prayer-sticks or prayer-plumes are still much in use. The fundamental idea which underlies the use of these painted sticks with plumes attached to them seems to be as follows. The feather, plume, or down floats in the air, even in a

<sup>1</sup> *Shu-at-yam* means any kind of bad spirit, be it that of a living man, or a demon, or a spectre that works ill to the human race. I have suspected, with what degree of probability I cannot surmise, that it is a gradual corruption, in course of time, of the word "*Sátanas*," the Spanish for Satan or Devil. I have not been able to find in the older creed of the Queres any trace of a belief in an evil power. This, of course, does not prove its non-existence as yet. But as to the fact that there is no special place assigned to the bad ones after death, beyond their flitting about in the air as witches or sorcerers, there is no doubt; and even these have access to the place of bliss at the bottom of the lagoon of *Shi-pap-u*!

still atmosphere, and is therefore to the Indian the emblem of thought. A prayer is a thought, and often a suppressed sigh only, consequently the plume is above all the emblem of the prayer. Were it left to float at will, it might wander astray; therefore it is tied to the spot where it is uttered by being attached to a stick. These are only the rudiments of the prayer-plume system. Innumerable details complicate it,—details that have arisen in course of time. The colors with which the sticks are decorated are symbolical, and bear distinct relation to the colors of the cardinal points, etc. The Indian deposits his prayer-plume in shrines, or before rude painted altars in the estufas, as an evidence of worship, as an intercession, or as a votive offering, as the case may be. He still has another, a simpler way. Going out of his village or coming into it, he breaks off a twig, or a blade of grass, or some dry branch, and places it on the ground, and in order to secure it lays a stone over it. Where one has placed his offering, others are sure to add theirs in course of time, and this accounts for the stone heaps that are often seen around the pueblos.

There is another kind of sacrifice and prayer combined, of incantation linked with worship,—namely, the dances, the religious character of which has seldom been recognized. An Indian dance, a Pueblo dance, is not a diversion, like a dance among our own race; it is a sacrifice, an invocation, an incantation, a religious performance. The number of these dances is very great, but the visitor sees commonly but a single one,—the “Baile de la Tablita,” which is most often performed on church festivals,<sup>1</sup> though it is fundamentally a

<sup>1</sup> A good representation of the appearance of the dancers is found in Captain Bourke's book on the Moquis, wherein he depicts a Santo Domingo (Queres) Indian in full costume. I refer to this work, as well as to the Bureau of Ethnology Reports, for pictorial representations of the paraphernalia.

practice of idolatry. The head-dress of the females is especially suggestive. Its triple pyramids, indented so as to present the appearance of a two-sloped staircase, symbolize the clouds. The sun, the moon, the rainbow, are painted on the boards from which the current term of *Baile de la Tablita* is derived. The paint on the naked chests of the men is symbolical; the twigs of "Pino Real," which their hands wave during the dance, are sacred; in short, it is a remnant of paganism, tolerated and softened to the extent of making its appearance not too directly offensive. But many, nay, the majority, of the other dances of the Pueblos are nothing but incantations, — displays of sorcery. Thus the animal dances, the *Tyame-ka-ash* (eagle dance), the *Moshatsh-kaash* (buffalo dance), and others, are only so many reminiscences of old practices, when the spiritual power attributed to the eagle had to be invoked for the benefit of the tribe, or the spirit of the buffalo subdued previous to an expedition to the eastern plains, for the purpose of securing the meat and hides of the great quadruped. Such dances, like that of the deer, mountain sheep, and elk, for instance, were also performed for the sake of obtaining rain, or sunshine, or relief from woes; and for these last objects they are still practised, though communal hunts are in disuse, for, according as the animal imitated, and, through its representatives, subjected to a charm, stood in a certain apparent relation to the natural phenomenon dreaded or desired, he is either subdued through incantation, or appealed to as intercessor.

Among the more private dances of the Pueblos, there are several from which the reproach of gross obscenity cannot be withheld. These are also highly symbolical, and they furnish a deep insight into the real conceptions forming the bulk of what are called the religious ideas of the Indians. It cannot be otherwise where duality in sex is regarded as

essential to the idea of creation. There are other dances that are chaste, that is, they afford no room for offensive displays. But all are practices of magical import, sometimes performed with but an indistinct recollection of their former signification, frequently however with a definite purpose. Formerly, the hope of injuring the whites through this sort of out-door sorcery was indulged in; to-day, if any such hope still lurks, it is well concealed, and the dance is performed in secret. But generally it is done in the belief that the rite will benefit the Indian, that it is a sort of medicine adapted to the Indian alone, and whose blessings the white man is not entitled to or capable of being benefited by.

Two dances are falling gradually into disuse, the war dance and the scalp dance. Still I have seen the latter, or Ah-tzeta-tanyi, performed at Cochiti. The Umpa, or man-killers, appeared with their badges, of which I have spoken as resembling those formerly worn by the Opatas in Sonora. Since war is no longer a necessity, or, rather, since the Indian is restrained from making war at his pleasure, — a restraint originally imposed by the Spaniards and now resulting naturally from the increase of foreign population, — the man-killer is rare. In place of him, the bear or puma slayers appear in the scalp dance with the same honors. This shows in what degree of estimation these beasts of prey are held by the Pueblos. Since life is regarded as having its seat in the blood, meat is looked upon as the chief life and strength giving aliment for man, and the large carnivorous beasts stand nearest to him and on a footing of equality with him, on that score.

Secret dances or rites are frequently performed in the estufa. Not always in the official estufas; for certain occasions, any larger room may be turned into a sacred place. For the occasion only the estufa is sacred, and is specially

decorated with symbolical paintings, and so long as the occasion lasts the place is respected. At Jemez, the decorations have remained permanent, elsewhere they are obliterated very soon after a festival is over. In this respect the *estufa* resembles the medicine lodge of other tribes. Between festivals it serves as an occasional meeting place, although the assemblies or councils are held at random in any conveniently large room. Among the *Queres* of the Rio Grande valley, the two *estufas* are named after two of the most prominent clans: the *Turquoise*, *Shyu-amo*, and the *Calabash*, or *Gourd*, *Tanyi*. On certain dances, the clans assort themselves respectively in these two meeting places. This appears like a rudiment of the *Phratries*, or like survivals of them. Recently, that is, since the beginning of this century, each of these *estufas* seems to represent also a certain tendency, or what might be called a party. Usually the people of *Tanyi* represent the progressive, the *Shyu-amo* the conservative element. Whether this division is accidental, or whether some religious conception underlies it, I am unable to say.

Even games rest on some basis connected with ancient creed and belief. The spring is the season when they are most played. When foot-races are held, the tribe divides into two parties. Story-telling is indulged in only during winter; it is almost impossible to get a Pueblo Indian to relate folk-tales at any other season. On a journey he may become talkative, but in the village the instances are rare when an Indian opens his mouth during summer to tell a tale of old. They have a popular saying, that as soon as the rattlesnake crawls out of his hole in spring it is dangerous to tell stories, lest he who speaks untruth be bitten.

In short, the daily life of the Pueblo Indian is a succession of performances that may be called religious, inasmuch as



they are intended to keep him on good terms with the supernatural world. He craves the good will of that world for purposes of material welfare, not for his moral good, except so far as the latter is visibly conducive to prosperity. Therefore his existence is, in reality, a miserable one, in constant dread and fear of things and forces around him, whose immediate connection with spiritual powers he exaggerates or misconceives.

What I have said of the Queres applies in the main to the Tehuas also. Having had special opportunities of becoming intimate with the latter, I may here add some details concerning them.

In customs and manner of living, there is no perceptible difference between the Tehuas and the Queres. But there is this difference in costume, that, while the Queres only tie their back hair in a short queue, most (not all) of the Tehuas braid the side-locks with worsted or fur of some kind. Otherwise the two tribes dress alike, and display the same fondness for blending their original costume with articles of modern wear.

The religious organization shows some difference. Thus, in place of the three caciques, the Tehuas have in most of their villages but two, one of whom is in service every year from the vernal to the autumnal equinox, the other from autumn till spring. The first is therefore the summer cacique, called Pay-*oj-ké*, the other the winter cacique, called *Oyi-ké*. Both are chosen for life or during good behavior; the former from the summer people, the latter from the winter people. While on the whole equal in power, the summer cacique is also called *Po-a-tuyo*, or cacique *par excellence*, and he enjoys a certain pre-eminence over his colleague. This pre-eminence is explained as follows by the Tehuas.

Their ancestors, they say, came out upon the surface of the earth at a place called Ci-bo-be, now a lagune in Southern Colorado ; thence they travelled south. On their slow migration they were guided by the two caciques, while the war captains stayed on the flanks to protect the tribe. The farther they proceeded, the deeper became the mud in the valley in which they were travelling, and at last they grew tired and refused to go farther, notwithstanding the pranks of the Koshare whom the gods had sent along to keep the people in good spirits on the march. So the Pay-*oj-ké* performed an incantation for the benefit of the people ; but the ground only grew softer, and the mire deeper, for his province was that of summer warmth and moisture. Again he tried, and matters became worse. Then the *Oyi-ké* set to work and used a strong charm, and the following morning a slight frost had thrown a thin crust over the soil. This encouraged him to increase the force of the "medicine," and in the course of a few days the earth was frozen hard, so that the people could proceed on their journey. But the cold was such that no vegetable or animal food was obtainable, and the Tehuas hungered and thirsted, for the water also was frozen. They therefore again applied to the summer cacique for relief, who dispelled the charms of his colleague and caused a thaw. Thereupon strife arose, and the tribe divided into two factions, one of which followed the *Oyi-ké* to the great eastern plains, and subsisted upon the buffalo, while the others, guided by the Pay-*oj-ké*, came into the Rio Grande valley, where they built pueblos, and, after numberless vicissitudes, were rejoined by their brethren, who had become tired of a roaming life and were glad to enjoy the benefits which agricultural pursuits, favored by the arts of the summer cacique, offered to them. Since that time the two have alternated in power annually ; but

the Pay-*oj-ké* is the superior in some respects, for he undid once what the winter cacique had done, and furthermore it is during his term that all plants that feed man grow, and the game animals become fat for man to subsist upon their flesh.

It is in consequence of this old tradition or belief that each well regulated Tehua village is divided into the summer people, or Pay-*oj-ké*, and the winter people, or Oyi-*ké*. If either of the caciques dies, there is from one to two years' mourning for him, then his successor is chosen with the assistance of the surviving colleague, — or rather invested, for the selection has usually been made during the lifetime of the deceased incumbent. At Santa Clara it is the chief medicine-man of the hunt who has control of the election in the case of the summer cacique; and if at the end of the year of mourning he refuses to confirm the new officer, the latter is rejected. I have some reasons for believing that the shaman of war has the same privilege in the case of the winter cacique, but am not yet positive of the fact.

Whereas among the Queres the three caciques proclaim the selection of the executive officers of the pueblo, among the Tehuas proceedings are different. The annual appointment of these functionaries occurring in winter since the royal decree of 1620, it is the Oyi-*ké* who selects the first office, which is that of governor, or Tuyo; the Pay-*oj-ké* then names the war captain, or A-Kong-ge Tuyo, his colleague, the assistant governor; and so on alternately, until twelve officers are appointed. The choice is then submitted to the people, who are expected to accept it. The tribe might, however, reject it; but such a case is almost unheard of, for they see in the decision of the caciques the hand of "those above," and seldom refuse to bow to it.

Still a cacique is not invulnerable, his person is not sacred in the eyes of his people. The judicial functions being vested in other functionaries, the religious heads must bow to these in turn. Not long since at Santa Clara the summer cacique was arrested at the order of the governor, and, as he resisted, severely beaten. Gross violence, however, towards a cacique, is looked upon unfavorably, and the dissensions that have disturbed the tribe for some time past are supposed by many to be a result (or punishment) of this high-handed action. True it is, again, that the cacique thus ill-treated was never regarded as "legitimate," he having been accepted by the people against the will of the Pay-oj-ké, and against the protest of the shaman of hunting.

Together with the two caciques, the Pato-abu, or highest esoteric order, corresponding to the Yaya of the Queres and the Ka-ka of the Zuñis, includes also the Tze-oj-ké, or shaman of war; the Sa-ma-yo Oj-ké, or medicine-man of the hunt, who controls the spirits of wild game; and the Tzi-hui, corresponding to the Shikama of the Queres.

I have lately discovered among the Tehuas the existence of another member of the cluster of "Pato-abu." This member is a woman. Her title is "Sa-jiu," and she wields a great, though strict'y occult power. The Tehuas are not the only Pueblo Indians among whom this office of a female chief exists. Mr. Cushing found it with the Zuñis. It stands in close relation to the now in a measure theoretical division of each village into six quarters, each with its own chiefs, while a seventh division, at whose head is a woman, represents the community as a whole. This division corresponds with the six sacramental regions which compose the Pueblo Indian world, and the fact of a woman being at the head of the last one indicates the

idea of the womb from which the whole creation is thought to have issued.

The Sa-jiu is the mother (figuratively or officially) of the Pato-abu, and therefore one of her titles is also "Pa-to-an." Although personally acquainted with one of the Sa-jiu of the Tehuas, I am far from being informed of the full attributes of her very occult office. One fact, however, has been stated to me, which is at least curious, if not perhaps very important. The woman in question is the keeper, in every village where the office exists, of a greenish liquid called "Frog water," (*Ahuela Rana*, a corruption of the Spanish,) which the Indians use as an infallible remedy against snake bites. That such a liquid exists cannot be doubted. The Moquis, who yet perform, every two years, the repulsive snake dance, in which live snakes of the most venomous kind are handled with impunity, and without previous extraction of the fangs, keep the same liquid and wash their bodies with it after, and also very probably before going through their disgusting performances with the dangerous reptiles. They are frequently bitten, but the bite proves harmless. What the liquid is, I am unable to tell.

The common belief in New Mexico, that the Pueblo Indians keep, or at least kept until recently, enormous rattlesnakes in their villages, treating them, if not with veneration, at least with particular care, is not unfounded. Gigantic rattlesnakes are killed now and then, — animals of enormous size. One of these, six feet long, was killed on the lower Rio Grande last year. In 1884, a rattlesnake, the body of which I saw myself, was killed at San Juan. It measured over seven feet in length. Tracks of gigantic snakes, or trails rather, have been met often. I saw a fresh one in the mountains west of Santa Fé that indicated a very large serpent. But

the Indians, though generally reticent concerning these facts, have confessed to me that there exists among the Tehuas a special office of "Keeper of the Snake." This office is in near relation with that of the Sa-jiu, and under her quasi control. Until not long ago (and perhaps to-day) eight large rattlesnakes were kept in a house at San Juan alive, very secretly, and it was the Po-a-nyu, or keeper, who had them in charge. When the one that I saw was killed, five years ago, the Indians of the pueblo showed both displeasure and alarm.

It will be very difficult to obtain definite information on this point, unless the snake dance of the Moquis is thoroughly studied, and the ideas underlying it become well understood. The fact of that dance, the impunity, nay, familiarity, with which the most poisonous among the reptiles are handled during its performance, as well as immediately before and after it, show that the tale of enormous rattlesnakes being kept secretly in villages is at least not improbable. Many of the snake stories current in New Mexico are, of course, as little true as snake stories may be elsewhere, but the discovery of the offices of the Sa-jiu and of the snake-keeper, although the latter may in many localities have dwindled to a mere title, gives ground for supposing that a belief existed, and still in part exists, which causes the Pueblo Indian to look upon the hateful reptile as useful to him from the standpoint of his primitive creed.

By courtesy rather than by right, the leaders of the Koshare and the Cuirana, the Kosa-sendo and the Cuirana-sendo, are also included among the Pato-abu. Both clusters possess, among the Tehuas, attributes similar to those held by them among the Queres. It is reported by tradition, that the Koshare came out of the cave or lagune at Cibobe as a special creation, made to lighten the "hearts of the

people" through their jests and jokes, and thus to render them fit for the long and painful journey on which they were to proceed. The Koshare are for the summer people, and the Cuirana for the winter people. The ritual dress of both is nearly the same as among the Queres, and, as with these, the Koshare are coarse, sometimes very obscene, clowns in many public dances.

The esoteric group of the hunters, or the Ping-pang, is fast disappearing among the Tehuas.

The warriors, or Te-tuyo, are still represented in force.

The medicine-men, or Uo-kanyi, flourish in numbers, but for those among them who more particularly perform jugglery tricks and sortileges, the rather singular name of Chu-gé is used. It is not always sure that such appellatives are of genuine Pueblo origin. Many terms have of late been borrowed by the Tehuas from their roaming neighbors, the Yutas, Apaches, and Navajos.

The Tehuas call the sun T'han, and the moon Po; and their principal deities bear the names of T'han Sendo, sun-father, and P'ho Quio, or moon-woman. I have never seen representations of them, although they are said to exist. A powerful deity is T'anyi Sendo, who, so far as I am able to discern, presides over the movements and distribution of waters in every form. The morning star is the emblem of a god called Tzi-o-ueno Ojua, and the evening star that of another deity, brother of the former, bearing the name of Tzi-tzang Ojua. From my inquiries, and from what some of their leading shamans told me when I showed them the pictorial representations of Maitzalaima and Ahui-uta, the twin gods of Zuñi, I lean to the inference that the two Tehua deities last named correspond to the youthful hero-gods of Zuñi mythology; and, as such, Tzi-tzang Ojua also bears the title of Ojua-Tentu, whereas Tla-na-Ka Tza-ma

is one of the additional names of Tzi-o-ueno Ojua. Under these titles they correspond, respectively, to A-hiu-uta and Mai-tza-la-ima of the Zuñi mythology. There is another pair of Tehua gods which is called To-a-yah, and they are active twice a year, in spring and in fall. Their fetiches are clumsy human forms, made of stone, and painted brown and white, with black faces. At first glance, one might be tempted to take them for rude pictures of Franciscan monks.

Another idol that is worshipped mostly in autumn is called Ke-mang.

All these fetiches are in the special care of the Tzi-hui, who also possesses one of the fetiches of Tzi-o-ueno Ojua, or the morning star. It is of white alabaster, and represents a man in a sitting posture. It resembles somewhat the fetich of Maseua which I obtained among the Queres, and this is perhaps an indication that the Tehua deity may be identical with the Zuñi mythological hero.

These are only a few of the idols which the Tehuas worship in secret. Each of the secret societies and every subdivision of them has its array of divinities, and the leaders of these groups are keepers of their paraphernalia and fetiches. There is no difference in this respect between the Tehuas, Queres, Zuñis, and Jemez, and it is probable that this is true of the other Pueblo groups. My experience has proved that the leaders and chief officers in general hold everything of this kind in trust only, and that they are in no manner allowed to dispose of them, unless with the consent of the society, which consent is hardly to be obtained.

An interesting insight into the beliefs and practices of the Tehuas is obtained by a glimpse of the "medicines" proper, or charms, which the leading shamans have in their possession. I was fortunate enough to be introduced, through the kind assistance of my friend Samuel Eldodt, of San



Juan, whose long residence in that village has placed him on a footing of intimacy with some of the wizards, into the arsenal of one of the Pato-abu. Thirteen powerful ingredients were shown to me in the form of powders of plants and minerals. There was a medicine for making the people happy, or rather prosperous, one for causing the tribe to increase, another against lightning strokes, still another against frost, one to make rain, one to avert hail, and so forth. Crystals, flint pieces, and belemnites were carefully kept with these powders as charms or fetiches. The mighty keeper of these magic weapons made good use of them at stated intervals, but he also employed them at particular request, accompanied by suitable remuneration, for cures, or for re-establishing friendships, or harmony in troubled families. Just as this shaman had his store of idols and medicines, so every one of his colleagues is similarly furnished. But I never was able to penetrate the secrets of the others, except in one point.

The Samayo, or shaman of the hunt, opened his heart to me in regard to a deity which belongs to his circle of supernatural protectors, and which at the same time plays a conspicuous part in Pueblo mythology in general. This is the god called Pose-yemo, and also, more properly, Pose-ueve, or the dew of heaven. He is the god around whose figure the story of Montezuma has latterly been woven. The Indian positively stated that the name of Montezuma has been given to Pose-ueve but very lately. Pose-ueve was, like the Mexican Quetzal-cohuatl, a man, an Indian shaman or successful wizard, subsequently deified. He is represented as having dwelt in the now ruined pueblo of Pose-uing-ge, at the hot springs belonging to the Hon. Antonio Joseph, the present Delegate to Congress from New Mexico. The tales of his birth and rise to the

dignity of cacique, the miracles performed by him, and his disappearance in a mysterious manner, are authentic Tehua folk-lore. Pose-ueve is said to have disappeared in wrath at the treatment he received from the inhabitants of the pueblo of Yuge-uing-ge, or Yunque, on the site of which the hamlet of Chamita (a station on the Denver and Rio Grande Railroad) now stands. That he went south is not positively stated, and the remainder of the Montezuma story is a modern addition, which my informant positively rejected. I have had the appearance of Pose-ueve described to me; the Samayo even appears (at the remarkable dance called Te-mbi Jiare) in a dress of buckskin, and with ornaments purporting to be an imitation of those worn by him. I was asked to copy, for my wizard friend, the pictorial representations of Montezuma as contained in Mexican pictographs, and he declared them to have not the slightest resemblance to the appearance ascribed to Pose-ueve by tradition.

The symbols of the Tehuas closely resemble those of the Querés and Zúñis in many points. The division into two main groups — summer and winter people — is expressed under the form of winter and summer symbols for several phenomena. Thus the winter rainbow is white, the summer rainbow tricolored; the summer sun is green, the winter sun yellow. The altar (Cen-te) used in the estufas is green for the summer months, yellow after the autumnal equinox. The clouds, the moon, lightning, and the whirlwind maintain the same hues all the year round. This brings me to speak of the symbolical colors of the six sacred regions, and their names in Tehua.

North (Pim-pi-i) is blue; east (Tam-pi-i), white; south (A-com-pi-i), red; west (Tzam-pi-i), yellow; above (O-pa-ma-con), black; below (Nan-so-ge-unge) has all colors. Here, as well as among the Querés, we must distinguish between

the heavens and the sky. The latter is a male deity called O-pat-y Sen. The earth a female deity, called Na-uat-ya Quio, and totally distinct from the conception of below.

This dualism in the ideas attached to one and the same object is illustrated also in the matter of the fetiches. A fetich in Tehua is Ta-ne, but the spirit which inhabits the fetich is Ojua, the equivalent of the Queres term Shi-uana. The Ojua are everywhere, but appear visibly above all in the cirro-cumuli scattered over an otherwise clear sky. At the close of the rainy season of the year 1885, and when the Tehuas of San Juan were preparing to dance the Te-mbi Jiare, or dance of the crops, the sky suddenly cleared, only a few groups of cirro-cumuli remaining in a sky of wonderful azure. One of their shamans called my attention to the snow-white cloudlets, smiling, and saying, "Look at the Ojua; they are good." Indeed, on the following day, a magnificent sky shone down on the weird performance.

The Tehuas have the same fetiches as the Queres. Jang-ojua is the panther, Ke-ojua the bear, Tze-ojua the eagle, and so forth. They have also figurines of the frog, the dragon-fly, the tadpole, and the fish. These fetiches they use on the approach of the rainy season, throwing them into the water-courses and irrigation ditches with prayers and incantations; for the four animals named are looked upon as intercessors for rain.

This conception arises from the intimate connection, real or apparent, which these animals have with the watery elements. The fish cannot live outside of water, neither can the tadpole. The dragon-fly always flits over stagnant pools or over water-courses, and on the approach of rain the frog cries loudly. "The frog," says the Indian, "prays for rain." So he attributes to these animals a spiritual power, makes them advocates of his in the important matter

of moisture for his crops. The four intercessors are all "Ojua," or spirits, but are active only at the time when man needs them. This time, of course, coincides with the season when the animals display their greatest vitality.

Ojua is the generic name, but there are subdivisions. Thus Ka-tzina (corrupted into Cachina) are more especially the spirits of game animals; and as the animal dances are incantations destined to cast a spell over the beast which the Indian desires to prey upon, the name Cachina for these dances is not only appropriate, but quite significant. The Tehuas dance the same cachinas as the other Pueblos, but the names are different according to the idiom. They have also very obscene dances, but it is more difficult to see them than at Cochiti or other villages. Foot races seem to be more indulged in by the Tehuas than by the Rio Grande Pueblos.

A close study of the people of each village would, in addition to the differences between linguistic stocks, of which the preceding pages present a few examples, reveal many local varieties. But, on the whole, there is a fundamental similarity between all the Pueblos, in manners, customs, and beliefs, that is very striking. Their position towards the whites is the same everywhere, and, as far as mode of life is concerned, there is the same tendency to huddle together in winter for protection and shelter, the same inclination to a change of abode in summer, in every pueblo from Taos to Isleta, from Nambe to Zuñi and the Moquis. In summer, as is well known, the pueblos are nearly deserted. The Zuñis move to Pescado, to Aguas Calientes, to Nutria, etc., at distances of ten to twenty miles from their villages; the Acomas, to Acomita, fourteen miles away; all the other tribes emigrate into their fields, leaving but a few families at home, until the time comes for housing

the crops. Then the return begins; one after another the summer ranchos are abandoned; their inmates move the few household utensils they have taken with them in spring back to their original quarters; and the pueblo, quiet and almost forsaken during the period of life in physical nature, becomes the seat of animation while nature rests. These annual changes in the abodes of sedentary tribes are interesting in two ways. They show the facility with which the village Indian, for the sake of subsistence, still changes temporarily his home; they also explain many features in archæology. We often wonder how the aborigines of old could locate their dwellings so far from arable and irrigable lands, and manifold have been the explanations offered, — climatic changes being usually the last resort of the theorizer unacquainted with the real life of the Pueblo Indian. He overlooks the fact that the Indian seeks for a place of safety for all, but that in matters of subsistence he disregards danger for the males. This custom afforded the roaming tribes a great advantage over their sedentary neighbors; they were always sure, at stated seasons, to find some victim at work at a convenient distance from the village where he might have shelter and aid. Many are the instances where the corn patch or the wheat plot has become the scene of harrowing tragedies. At present, with peace reigning around him, the Pueblo seldom takes the bow or the rifle along to his daily work, but formerly he never went out to his "rancho," as the summer abodes are called, without a full armament. That armament was usually inferior to the one which the Comanche, the Yuta, or the Apache even, had at his disposal.

As a reminiscence of olden times, when insecurity was the rule, the emigration of whole villages to their fields, so as to be in proximity to each other in case of emergency,

may also be considered. An attack upon pueblo houses, even if poorly defended, was hardly ever attempted by savages. It required too long a time to gain success. With relative impunity, therefore, the Pueblo might abandon his solid winter dwelling for a time. But the instances are rare when a single family went to live on its fields. In most cases a number of them formed a temporary settlement, going out together and returning together also. Today the plots pertaining to each pueblo are dotted with what would be called "shanties," vacant in winter, alive with inmates in summer.

I add here a few terms picked up among the Jemez, showing that, in the main, the religious organization noticed among the Queres and Tehuas also prevails with the Jemez, and presumably existed with the Pecos, as cousins of the latter, and now harmoniously living with them at their village: *Ua-buna Fui*, Summer Cacique; *Tsunta-jui*, Winter Cacique; *O-pe So-ma*, the Shaman of War; *Qui-iu To-ta*, Shaman of the Hunt; *Kui-co*, Tzihui or Shikama; *Kuen-sha-re*, Koshare; *Kui-rey-na*, Cuirana.

They have therefore the division into summer and winter people, as well as the Tehuas. Of their two estufas, one is Pa-to-ua, the other is Ua-han-chana (calabash), as at Cochiti. There was a third one, which now is in ruins.

The Jemez also recognize descent in the female line. The names of clans, so far as I could obtain them, have already been given. They are said to have originated at a lagune called Ua-buna-tota, and the souls of the dead go to rest there. At Isleta (southern Tiguas) there are two clusters corresponding to the Koshare and Cuirana, the Shure and the Ship-hung. I had no opportunity of making full investigations among these Pueblos.

After what has been said of the religious organization

of the Pueblos, there can be little wonder at the slow progress of Christianity among them. The influence of the secret clusters, and the hold which their ancient beliefs have upon them, are so strongly rooted, that the power of resistance is as mighty as that opposed to Christian missions within the boundaries of China. Arbitrary suppression of their creed would have brought about extermination; persuasion and endurance under the most disheartening circumstances were the only means for exerting an influence upon the Indian. This persuasion, this patience, most poorly supported by the gradually waning power of Spain, have still brought some fruit. To these results I have alluded in the Introduction to this part of my Report, and I need not return to it again.

One fact seems certain : the Indian, as Indian, must disappear. He may keep his language and his traditions. But it is not so much the manner of speech, nor even his physical type, that constitutes the American Indian, as his social organization and his creed, which are so intimately interwoven as to have become inseparable. These are out of place in the march of civilization, and they must perish. But they are also rooted so deeply in the mental and moral nature of the Indian, so closely connected with his material existence, that no violent extirpation can be attempted without endangering also the purely human part of his being. To the latter he is entitled, and above all from our national standpoint, by the formal declaration "that all men are created equal; that they are endowed by their Creator with certain unalienable rights; that among these are life, liberty, and the pursuit of happiness." To enable the Indian to enjoy these rights with a view to his progressive culture, patience on the part of those who have this progress in trust is above all required. We must have patience with him and

his ways. The Indian frequently becomes a criminal in the eyes of modern law, but in the great majority of cases his is unconscious guilt, resulting from natural aberration of mind. Spain recognized this and had patience. It behooves me not to enter into a discussion of recent events.

What applies to the Pueblo Indians applies in a still greater measure to the less permanently located tribes of New Mexico and Arizona, like the great Tinneh stock of the Navajos and Apaches. I place the Navajos before the Apaches, for the latter are but outlying bands of the former. To their respective numbers and location I have already alluded, and little have I to say concerning them that cannot be derived from other better informed sources, like the publications of Captain John G. Bourke and of Dr. Washington Mathews, both of the army of the United States. There exists great similarity between the religious traditions of the Navajos and those of the Pueblos;—the same absence of a supreme head for the religious figures peopling their Olympus; the same folk-lore about two herogods, twin brothers; the same emerging of the human race upon the surface through a lagune situated in the distant North. But the Navajos are far more expert than the Pueblos, as I have already stated, in those striking tricks or sleight-of-hand performances that produce such a powerful effect upon the Indian mind. They have no compact civil organization, no stable government. At present they are becoming more and more permanently located, and it cannot be denied that these tribes show greater aptitude for progress in a material sense than many of the Pueblos. This results naturally from the effects of a shifting life. As the man who has travelled is, among us, generally superior to the one who has constantly lived in the same small circle of surroundings, so is the shifting Indian more



wide awake than the villager whom custom and fear maintain spellbound in a single spot. The difference in this respect is strikingly marked in one and the same pueblo, between those who formerly took part in the annual expeditions to Sonora or to the plains, and the younger people, who grew up after the time of such journeys and before the construction of railways. Physically, there is also a difference. The Navajos especially have more of the strong build of the Northern Indian. They are more raw-boned, and, while not more enduring, still possess greater physical strength. Their mode of life, enjoying less protection from inclemencies of the weather, their lower degree of culture so far as the position of women is concerned, burdening the latter with field-work, which among the Pueblos the men perform, conspire to make them hardier and warier. The tendency to become eventually village Indians is very plain on the part of the Navajos ; it develops itself strongly to-day, under circumstances unusually favorable so far as improved implements, and other elements of progress, are concerned. As for the Apaches, they are more backward. Marauders for centuries, turned from sedentary life by their scattering on the plains with the buffalo as a guide and resource, or drifting over the mountains with the fascination which the existence of a robber has for untutored man, they are more loth to submit to the restrictions of progress. But a gradual education, to permanent settlement first, to the arts of peace afterwards, will overcome their reluctance. Both tribes enjoy over the Pueblos one great advantage. Their creed and customs have not become the sum and substance of their being so much as among the latter. Their opposition to civilization may be more violent at the outset, but the apparent docility and meekness of the Pueblos is but a blind for greater tenacity of resistance.

With these remarks, I close the first half of my Report to the Institute. The other half will be purely retrospective, inasmuch as it will contain the archæological results of my investigations, and some considerations of a more general nature, touching upon the past of Southwestern tribes, and upon their relations to other aboriginal inhabitants of the continent.



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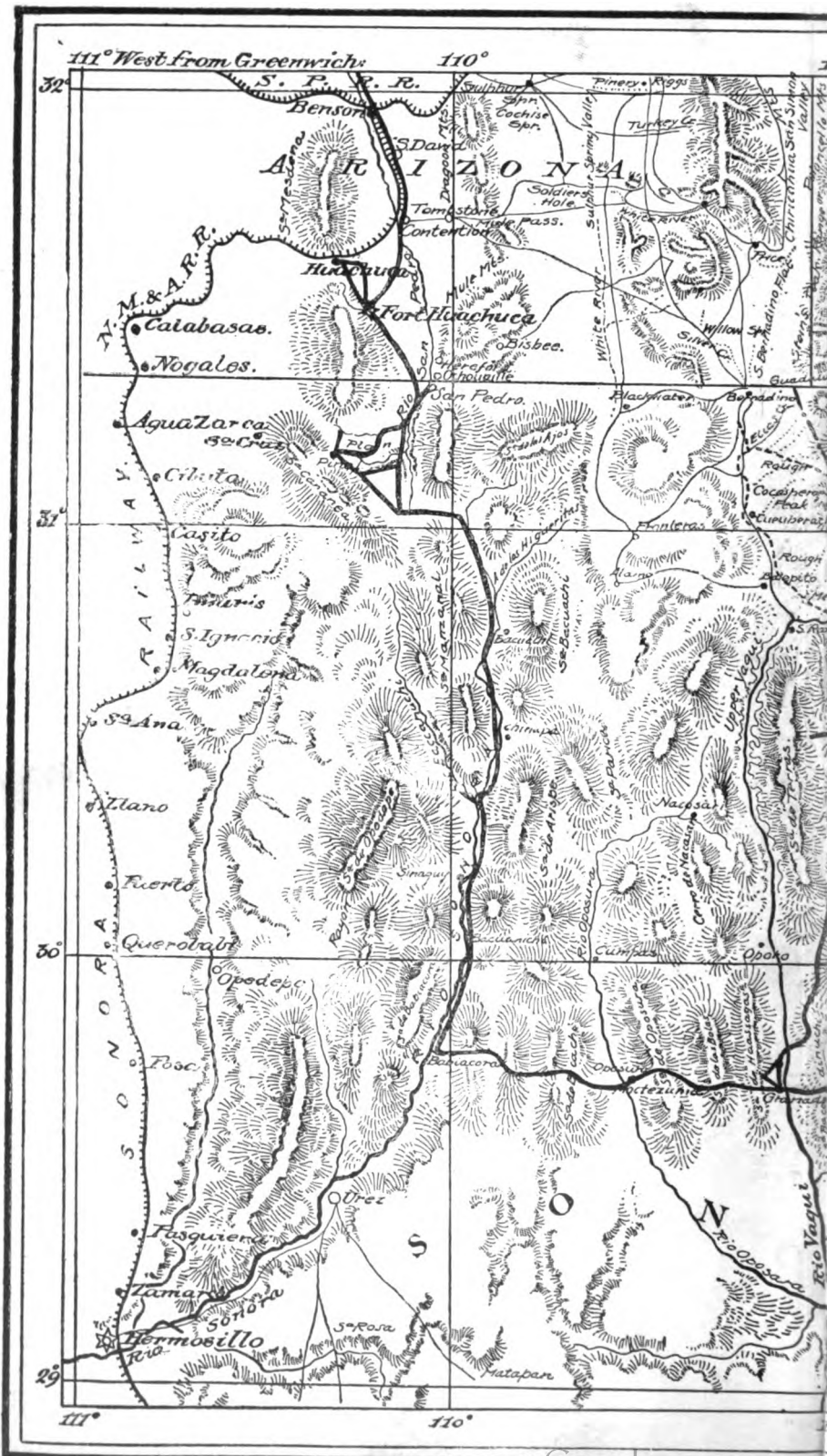
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# MAP OF N.E. SONORA & N.W. CHIHUAHUA.

Compiled from observations and notes taken by Ad. F. Bandelier, during explorations made in behalf of the Archaeological Institute of America from February to June 1882.

— Mr. Bandelier's route  
 --- Gen Crook's trail of 1883

by  
**H. HARTMANN,**

Santa Fe, N.M., October 1882.

Scale: 1 Inch = 24 Miles or 1: 1,512,000.

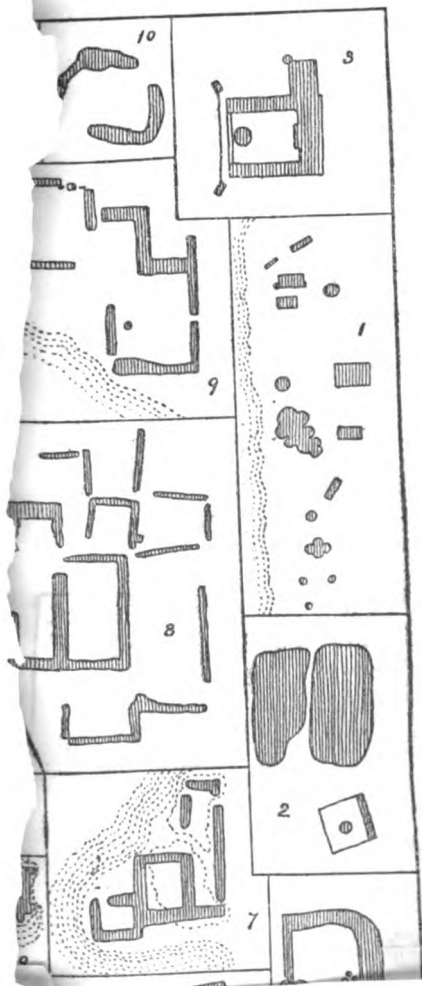




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IV.

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FINAL REPORT  
OF  
INVESTIGATIONS AMONG THE INDIANS OF THE  
SOUTHWESTERN UNITED STATES, CARRIED ON  
MAINLY IN THE YEARS FROM 1880 TO 1885.

PART II.

BY  
A. F. BANDELIER.



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FINAL REPORT  
ON  
INVESTIGATIONS IN THE SOUTHWEST.  
PART II.

I





## INTRODUCTION.

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THE search for antiquities is perhaps easier in the Southwest of North America than in any other section of the continent, at least within the limits of the United States. In consequence of the great aridity, the ruins of buildings are less exposed to rapid obliteration, and even where the walls have crumbled to mere rubbish heaps, these remain free from overgrowth for a long time, and are therefore of easy detection. Often they can be seen at a considerable distance. In New Mexico and Northern Arizona, a reddish patch in the extensive landscape spread out before the eye frequently indicates the site of a ruin, the débris taking a hue distinct from that of the soil. In Sonora, especially along the course of the Sonora, Oposura, and Upper Yaqui Rivers, a thorny vegetation has spread over the sites of former villages, and the explorer must scramble through disagreeable thickets of Mezquite (*Prosopis juliflora*), Palo Verde and Palo Blanco (*Parkinsonia*), Ocotilla (*Fouquieria*), and Cactus; among which the formidable Choya (*Cylindropuntia*) is not only annoying, but dangerous. It is beneath the scanty shade of such thickets that we find most of the vestiges of past generations of Indians. On the Lower Gila, in the delta between that river and the Salado, Mezquite bushes less dense than those of more southern latitudes have overgrown the remains of considerable build-

ings. Usually, however, on the sandy plains of Southwestern Arizona, and along the banks of the Casas Grandes River and its tributaries in Northwestern Chihuahua, the clusters of mounds to which the houses are reduced are visible from afar. Their color and shape distinguish them at a glance from natural eminences.

Fragments of pottery, flakes of obsidian or flint, and objects made of basalt, lava, or any other hard mineral, usually accompany the ruins. Still this is not always the case. The numerous ruins around Zuñi show but very little pottery on their surface; many of them none at all. This is due, as Mr. Cushing has discovered, to the custom of the present Zuñi Indians of collecting all the ancient broken pottery and grinding it to powder in order to mix it with the clay out of which they manufacture their present earthenware, to give it greater hardness. In many parts of Sonora I noticed a scarceness of potsherds also, but could not ascertain whether it was due to the same cause as at Zuñi. On the other hand, the appearance of old broken earthenware on the surface of the ground is not unmistakable evidence of the former existence of a settlement. It may be due to accidental breakage, or may indicate a spot where a certain vessel was left with sacrificial offerings, or it may be a vestige of burial. This is still more the case with obsidian, flint, basalt, or bone implements. The roaming native used the arrow-head in common with the house-dweller, manufactured it with equal care and perfection, and employed it to a more recent date than the latter. It is otherwise with the grinding slabs, or, as they are usually called in the Southwest, *Metates*. Where these are met with, the former existence of at least a temporary abode of village Indians is certain. Stone axes and hatchets, mauls and hammers, are easily lost on a journey or campaign; but

since the roving aborigines in the Southwest did not make them, it is reasonable to look upon them at least as signs of the passage of sedentary Indians. Bone implements were common to both classes of ancient Americans in the Southwest.

The existence of artificial caves or of ancient dwellings inside natural grottos or recesses, and of villages constructed upon rocky projections or platforms, the so called "cave dwellings" and "Cliff-houses," is dependent upon the geological features of the country. Erosion has acted powerfully in many parts of the Southwest, — aqueous erosion as well as atmospheric. But the nature of the rock has determined the extent of this action. The three kinds of ruins named, therefore, cannot be looked for everywhere. Artificial caves require exceptionally soft material in order to be burrowed out with primitive utensils. Light, friable volcanic tufa, or ashes, is the rock wherein the artificial cave is mostly found; and as this formation is not very common, it follows that the type of dwelling is limited in distribution. Large natural cavities or shelters cannot usually be looked for in granite, syenite, or hard porphyry; and long ledges over precipitous slopes or overlooking vertical walls are most abundant in sandstone. The explorer has therefore to pay close attention to the geological and lithological features of the country.

Intercourse with the inhabitants of the country, and if possible a certain degree of intimacy with them, are among the first requisites for successful exploration. However humble the condition may be of him who has been reared in the vicinity of objects to which our researches are directed, and however limited his intellectual faculties or the field which his mind can embrace, he still has the advantage of local experience. If he is truthful, and in most cases he

can be made such by affable treatment, he will always be able to tell us something valuable. The Indian is less accessible than the Spanish-speaking inhabitant. Ruins are a part of his folk-lore, not seldom a part of his creed. This he is loth to divulge. He goes to the ruins for many objects of his time-honored worship; many of the artificial objects are still useful to him at this day. Consequently he looks upon the investigator with a suspicious eye, eludes his direct questions, even shrinks from his company. It is certain that the past of a great number of ruins is still clearly engrafted upon the Indian's mind as folk-lore and ritual. In the First Part of this Report I have indicated how these are preserved, and what *rôle* they play in the life of the Indian. In order to be made useful for archæological research he must be approached very cautiously. The study of folk-lore in the Southwest has only been initiated; important results will undoubtedly spring from future work in that line.

As a general rule, the Indian is more prone to give reliable information about his neighbor than about himself. Therefore, by consulting such members of a tribe as have travelled, we obtain data concerning the archæology of other districts which are sometimes precious. The statements of a Tehua Indian from San Ildefonso first led me to identify Tabirá with the so called Gran Quivira; while from the Piros of Senecú, whose ancestors occupied that pueblo, I had not been able to learn anything,—not because they could not, but because they would not tell. It belonged to their own circle of knowledge, into which they were unwilling to admit me at the time. This reticence on the part of the Indian may finally disappear; still, it is quite time that their myths and traditions were collected, lest with the breaking up of customs on which that reticence is founded the memory of the past be lost.

Generally speaking, the nomadic Indian, Apache or Navajo, can impart more information on the geographical distribution of ruins than the Pueblo. The former roams, the latter stays in one spot. The former has paid no attention to settlements, except as places for plunder or trade; he may remember the manner in which a particular village was destroyed, or how its abandonment was brought about. With the Pueblo, on the other hand, the ruins are a part of his own history. Nevertheless the nomad has seen a greater stretch of territory, and he may, if he chooses, inform us of ruins of which perhaps only a dim trace is left in some mythological tale of the village Indian.

Objects of antiquity are preserved by the Pueblo Indians in many villages. Sometimes they may be obtained, but whenever they have any peculiar value for purposes of worship the native will not part with them. The Indians of Santa Clara have thoroughly rifled the caves of the Pu-yé and Shu-finné formerly made and occupied by their ancestors, and valuable "relics" have wandered into the hands of a few collectors. The leading Shamans in each village carefully preserve curious implements, very ancient sacrificial bowls, and other objects, either as particularly strong charms or as vases for sacrificial purposes. I saw in the hands of the Tzihuisendo (chief Tzihui) of San Juan<sup>1</sup> a beautiful green slab, resembling malachite or dark jade. It was said to have been brought from the south, probably from Chihuahua, and was used, together with an elliptical plate of basalt, to call to order the meeting of medicine-men on certain very solemn occasions.<sup>2</sup> The stone knives at Zuñi are antique. Medicine bowls are used in preference when they are very ancient and well preserved. In general, with the Indian, what is old or what has come from distant lands

<sup>1</sup> See Part I. pp. 305 and 309.

<sup>2</sup> The greenstone is called cua-co; the basalt, cu-cung.

very soon becomes sacred. What is great in age, and large in size or space, appeals with equal force to his superstitious feelings.

Antiquities are also occasionally found in the houses of Spanish descendants, and much information by no means to be disdained can be derived from the Mexicans. Shepherds have been of great service to me, and I have nearly always found them reliable. They travel with their flocks over great distances, and are accustomed to scan the ground thoroughly, and for a knowledge of ruins located far away from inhabited districts their information is precious. But while their geographical knowledge is usually accurate, the same cannot be said of their descriptions of architectural details. In matters of proportion and size the superlative mostly prevails; but these exaggerations are not always intentional. A ruin appears usually more extensive than it is, and the means of comparison which the average Spanish New Mexican possessed until within a few years were very scant. He compared the long, many-storied buildings of Tabirá with the hamlet where was his own little adobe house with two or three apartments, and declared the Gran Quivira to be a "city," simply because he had himself never seen a city. His artistic ideas being on the level of those of the Pueblos, he praised a quaintly decorated ancient pot or urn as a marvel of beauty. His tales about the history of certain ruins must be taken with greater allowances than an Indian tradition, for Indian folk-lore rests on the basis of definite recollections, though shrouded by a haze of mythological combinations, whereas the story of the Mexican peasant or herder lacks that basis, or contains only a greatly disfigured account of it, gathered from hearsay. It becomes the task of the investigator to sift critically all such sources of information, without disdaining or neglecting any of them.

It is self-evident that practical acquaintance with the Spanish language is essential in the Southwest. Only when we understand people, and can make ourselves understood to the full extent of our thoughts, can we expect to derive profit from intercourse with them, and to obtain their confidence; we must also be forbearing towards their manners and customs, and drop prejudices which, although traditional, are unjust, and have sprung as much from lack of direct intercourse as from erroneous statements and appreciations of history. We must forbear, all the while reflecting that that forbearance is mutual, and that there is much in our habits at which the inhabitant of the Southwest might legitimately sneer, were he not too considerate to do so.

The careful study of documents is indispensable for a successful exploration of the antiquities of the country. Numerous notices of ruined villages are scattered through the voluminous archives of Spanish rule in the Southwest. I will refer here only to the descriptions of the Casa Grande by Father Kuehne (Kino) and Father Sedelmair,<sup>1</sup> of the Casas Grandes by Rivera,<sup>2</sup> and of the ruins in Northwestern New Mexico by Father Escalante.<sup>3</sup> Such descriptions, dating back sometimes two centuries or more, enable us to restore much in these edifices to which their present condition gives no clue. Furthermore, many a ruin that has been treated as "prehistoric" becomes modern in the light of

<sup>1</sup> The reports of Father Kuehne are found in the *Documentos para la Historia de México*, 3d series, vol. iv. pp. 804, 838, and 4th series, vol. i. p. 282; also in an Appendix to the *Luz de Tierra Incógnita*, by Mange. See my *Contributions to the History of the Southwestern Portion of the United States*, p. 93. That of Father Sedelmair is found in the 3d series of the same collection, under the title of *Relacion que hizo el Padre Jacobo Sedelmair, de la Compañia de Jesús, Misionero en Tubutama*, vol. iv. p. 847\*.

<sup>2</sup> *Diario y Derrotero*, etc., 1736, p. 48.

<sup>3</sup> *Diario y Derrotero*, etc., in *Documentos para la Historia de México*, 2d series, vol. i. p. 377 *et seq.*



documentary information. We are enabled to draw the line between what is historically established, and what is earlier; the analogies in culture, as well as the differences, become more apparent.

Aridity, not sterility, is the general characteristic of Nature in the Southwest; and Mr. Cushing is justified in his designation of ancient culture there as "aridian."<sup>1</sup> The majority of ruins in New Mexico, Arizona, Chihuahua, and parts of Sonora, are found in sandy valleys, on plateaux insufficiently protected by trees, or on levels which, though fertile when watered, present at the outset a forbidding appearance. The northern limits of the region of house-builders remains yet to be definitely established. We only know that Southwestern Colorado and Southeastern Utah harbor many well preserved ruins; the eastern limits seem to be the meridian of the Pecos River; the western, the Great Colorado; and, farther south, the dismal shores of the Gulf of California. The country of village Indians is therefore characterized by scanty precipitation and irrigation, and is almost exclusively mountainous. Central Colorado is beautifully watered, and well wooded, yet I have been unable to ascertain that any vestiges of sedentary Indians have ever been discovered about the Sierra Blanca, or east of it. I shall not attempt an explanation of this. Careful examination of the physical features alone is insufficient. Causes of which we have as yet no record may have been at work, inducing the Indian to establish permanent homes under natural circumstances apparently unfavorable, and to shun neighboring sections far more inviting in resources. Lovely valleys bordered by high forests, and abounding in springs

<sup>1</sup> *Preliminary Notes on the Origin, Working Hypothesis, and Primary Researches of the Hemenway Southwestern Archaeological Expedition.* "Congrès International des Américanistes," Berlin, 1888, pp. 186, 190.

and brooks, are certainly of great promise to civilized man, who can subdue the vegetation of the temperate zone and render it profitable; but the stone axe was an imperfect tool for "clearing," and the abundance of game drew thither the nomad as well as the villager. In the struggle for possession the latter was always at a disadvantage. This is a problem which must be approached by careful investigation, and Indian tradition may yet prove to be of great, perhaps decisive importance.

Within the area over which the vestiges of sedentary culture are scattered in the Southwest, and as far into Mexico as I have been able to penetrate, it is useless to look for ruins at an altitude exceeding eight thousand feet. Consequently, very few, if any, are found in the high forests, although the northern Sierra Madre presents an exception. The cave villages on the Arroyo del Nombre de Dios, in the mountains west of Casas Grandes, lie in a region covered with beautiful pine forests. Those on the Arroyo de los Pilares and near the Rio de Piedras Verdes I have not been able to visit, but the appearance presented by the landscape, as I surveyed it from the crest of the Puerto de San Diego, indicated to me that the wooded region extends over the whole interior of the range. It is therefore not the forest growth which has prevented the establishment of permanent Indian homes above a certain limit; it is rather the climate and the lack of space for cultivation, together with the steepness of slopes and the mountain torrents raging in narrow valleys with destructive power. Altitude may have been the main obstacle to settlement in some cases, for the beautiful grassy basins, with abundant water and fair quality of soil, that extend west of Santa Fé between the ranges of Abiquiu, Pelado, and Sierra de Toledo on the east, and the Sierra de la Jara and the mountains of Jemez on the west,

under the name of "Los Valles," are destitute of ruins. There it is the long winter, perhaps also the constant hostility of roaming tribes contending for a region so abundant in game, that have kept the village Indian out. Vestiges of antiquity are met with on the highest crests and summits, but they are evidences of worship only. Prayer-plumes are found on the Sierra de San Matéo (Mount Taylor), as well as at the lagune on Lake Peak, near Santa Fé.<sup>1</sup> The Indian of to-day still makes pilgrimages to such prominent points to offer sacrifices to some of "Those above."

The lower limit of the ruins seems mostly dependent upon natural features. In the eastern parts of New Mexico the steppes have, of course, prevented the establishment of permanent abodes. Nevertheless, there are said to be traces of the existence of a succession of ruins along the Canadian River, far across the great plains. Should these indications prove true, and these vestiges of settlements continue as far east as the outskirts of the Mississippi valley, it would be a fact of considerable importance. I have seen Pueblo pottery, which, I am satisfied, was dug up on the banks of the Canadian River, some distance east of Ocaté. Buffalo hunters have assured me, that even beyond this they had seen distinct traces of ruins along the same stream, and had picked up potsherds from the surface. For some time, I have desired to make this the object of personal investigation. What I have learned will be found later, in Chapter III.

On the side of Arizona the ruins descend to within a thousand feet of the sea level, or possibly lower; but the aridity is so excessive, that it has prevented the establishment of settlements on the coast. The same must be said

<sup>1</sup> The elevation of the Sierra de San Matéo is given at 11,200 feet; that of Lake Peak at 12,405. Later measurements of the former make it 11,391 feet. The lagune on Lake Peak is of course lower than the summit.

of the "playas" of Sonora. In the Southeast I am slightly acquainted with archæological features in the vicinity of El Paso; there are caves in the neighboring mountains from which sandals of yucca strips have been extracted; about other ruins I have positive information only as far as the hacienda of San José, where fetiches have been exhumed. On the Texan side the remains, if any, are few. The altitude of the banks of the Rio Grande in that vicinity is not over 3,800 feet, and if this should prove the limit of settlement in ancient times, it is due to the barrenness of the country beyond. Of the interior of Texas I have no knowledge, except that, in the first half of the sixteenth century and since, only bands of roving Indians have occupied the State.

It must not be supposed that the area indicated as containing remains of the sedentary aborigines is uniformly covered by them. There are many districts utterly devoid of ruins, such as the plains of San Agustin in Southwestern New Mexico, the crest and heart of all the numerous mountain chains, the "Valles," portions of the plateau of the Natanes in Eastern Arizona, and many other sections. The banks of the Rio Grande, from the San Luis valley to the end of the gorge of the Embudo, appear also not to have been settled in ancient times.

The causes that produced the foundation of villages, as well as those that brought about their abandonment, are so manifold, that only a few of them can be indicated here. The Indian needs, in order to stay for any length of time in a given locality, water, wood, a limited area of cultivable soil, and reasonable safety. Water need not be always in close proximity to his village. If that village is perched on a high mesa, a spring at the foot of the height will be sufficient, provided the declivity is not too steep. In places where the tribe had, for the sake

of security, to select an inexpugnable rock as its residence, natural cavities played the part of reservoirs, and the water supply furnished by rain was artificially increased every winter by accumulating snow in the tanks. At this day we have an instance of the kind at Acoma. A distance of half a mile or a mile from the banks of a river was, and is, not looked upon as a great inconvenience by the women, whose duty it is to furnish the household with drinking water by carrying it on their heads in jars or urns. Leather bags were also used for carrying water, in quantities larger than those which the "tinaja," as the water-jar is called in Spanish, could contain. The various ruins scattered along the sand-flow, or "médano," issuing from the basin of the salt deposits of the Manzano, have as yet not revealed any springs in their vicinity, although at Tabirá (Gran Quivira) especially the search for water has been carried on repeatedly. Many are the hypotheses resorted to for an explanation of this strange feature. It has been overlooked, that every one of these ruins shows the traces of water reservoirs artificially constructed, and large enough to supply the population of each village all the year round; so that these villages of the Piros, though located in a comparatively open country, employed the same means as the people of Acoma on their cliff. To explain the former existence of villages at places where there is to-day no visible token of water supply, we need not, therefore, resort to the hypothesis of a decrease in rainfall during the past centuries.

It cannot be denied that the number of springs in the Southwest is greater than has been supposed. Such watering places, artfully closed by Indians, are now occasionally discovered in the immediate vicinity of ruins, showing that apparent aridity is sometimes misleading. I will mention a recent occurrence that throws additional light on

the question of local, and more or less permanent, changes in the conditions of water supply. The violent earthquake that visited Sonora, Chihuahua, Southern Arizona, and New Mexico in May, 1887, not only caused a sudden increase in the volume of many springs, but forced new ones to the surface in places where hitherto permanent water was unknown. But while earthquakes can augment springs or create new ones, so can they cause others to disappear; and instances of the kind are known to have occurred in the Southwest in connection with seismic disturbances.

The proximity of forests could not always be secured by the Indian when selecting a site for a home. But fuel was needed for his hearth and his estufa, both in winter and in summer. He also required timber for his roofs and ceilings, for the ladders on which he reached those roofs, and on which he descended into the interior of the houses. In Northern and Central New Mexico and Arizona, forests are frequent; also in Sonora and in Northwestern Chihuahua, as far as the Sierra Madre reaches; but in Southern New Mexico and Arizona, and in many parts of Northern Chihuahua, the sedentary Indian had to go long distances for the beams of his roof and of his ladders. Yet it should be remembered that the work of obtaining and carrying building materials was not, like that of gathering fire-wood, a constantly recurring task. It occurred perhaps once in the lifetime of an individual, perhaps only once in the lapse of several generations. Communal labor had to perform it, since there were no beasts of burden, and the individual alone was powerless. Like the opening of an irrigation ditch, or "acequia," it was a permanent "improvement," which was to last as long as the village. Distance, therefore, was not an insuperable difficulty.

Cultivable soil need not lie in the immediate neighborhood

of a village, or be contiguous to it. A pueblo might be, as is Acoma to-day, ten or even fifteen miles from its fields. The custom of emigrating *en masse* to these fields in summer, leaving at home only a small portion of the people to guard it, explains why we find ruins in places where the nearest tillable patch is quite distant. Neither was it essential that the soil should be irrigated. Of course it was preferable, and wherever groups of sedentary people could monopolize the neighborhood of a permanent stream, it was done, and irrigation ditches opened. Still the number of ruins situated in places where no irrigation was possible, and where it is also manifest that there were cultivated spots, is considerable. Indian corn, of the small variety, bushy, with long ears but a light grain, will grow without artificial watering wherever the rainy season is tolerably regular, as upon mountain slopes. The presence of ancient villages on the high mesas west of the Rio Grande, in the latitude of Santa Fé and as far north as opposite to San Juan, in places difficult of access, and almost without communication with the river banks, although the latter are only ten to twelve miles distant, need not therefore surprise us. The people who dwelt in the caves of the Pu-yé and on the mesas around it, the inhabitants of Tzi-re-ge, of the Potrero de las Vacas, etc., had their patches of corn, of beans and squashes, on the same plateau as their dwellings. They were of course exposed to the danger of periodically recurring droughts, and Indian traditions point to the fact that such periods of aridity have sometimes caused the shifting of tribes.

Similar conditions have enabled the Piros to establish their villages in the proximity of the salt marshes. At the Gran Quivira (Tabirá), considerable snow falls in ordinary winters, and during the rainy season precipitation, although of short duration, still occurs in reasonable quantities. The

people of these villages had therefore no need of irrigation for their limited crops. In the valley of Taos, on the heights above the Ojo Caliente of Joseph, at the great ruin of Sepä-uä, near the Rio Colorado, in the mountains of Central Arizona, and in the Sierra Madre of Sonora and Chihuahua, the native resorted to artificial means to store moisture in the soil, by surrounding the space which he intended to cultivate with an enclosure of stones. He also used mountain torrents for irrigation, by planting his garden beds right in their path, and keeping them clear of drift. An analogous device was resorted to by the inhabitants of the Gila valley, by opening narrow channels from the mountain slopes to the valleys in order to lead the "arroyos" to the fields established on either or both sides of such ditches. In mentioning these methods I am not indulging my imagination, for the Pimas are positive in their declarations on the subject; so are the Opatas; and the Maricopas to-day use these artificial prolongations of the beds of torrents for irrigating their crops. In the regions of Southern Arizona irrigation is essential, as the rainfall is almost exclusively limited to the mountain slopes and crests.

Last, but not least, the village Indian was influenced in his selection of the site for his home by the desire to insure safety from enemies. Permanence of abode does not preclude aggressiveness, but, even where a tribe is warlike, a strong position, in which non-combatants may be left perfectly secure, is one of the first conditions of successful offensive warfare. The pueblo of Tenochtitlan was rendered almost impregnable through its lacustrine surroundings, and Cuzco was protected by formidable mountains. In the case of the Southwestern village Indians, there is no evidence of any tribe or stock ever obtaining a preponderating influence or power akin to that of the ancient Mexicans or the Incas.



On the contrary, they seem to have always been on the defensive towards one another and the nomads. Safety is as much insured by watchfulness against surprise, as by successful resistance. To discover the approach of danger beforehand was even better than to repel an assault. The choice of an elevated site was therefore as much for seeing as for fighting "from above," by placing themselves upon a higher level than the assailant, which is the chief aim of Indian defensive tactics. It would lead me too far to enumerate all the instances of ruins found on commanding eminences. But there are also many cases in which an elevated situation for the village proper could not be secured, or where it was sacrificed to other advantages in the shape of water, timber, or arable soil, or to religious considerations. In many of these cases, lookouts, frequently watch-towers, round or rectangular, were erected in proximity to the pueblos. It is well known that such structures are frequent in the northern sections of the Southwest, but I have also found them in Arizona; and the best example of one, provided it is of Indian origin, stands on the summit of the Cerro de Montezuma, near Casas Grandes. The watch-tower, therefore, is neither a regular feature in the architecture of the Southwest, nor is it peculiar to a certain type of dwellings.

Along the banks of streams, the currents not unfrequently drove the villager to the higher dunes. On the Rio Grande near Bernalillo, the historically noted pueblo of Puaray is a good example, in which safety from inundations was combined with a tolerably commanding position. From the reports of Coronado's expedition we learn that there were several inhabited villages within sight of each other, all belonging to the same stock of people.<sup>1</sup> Puaray and the pueblo

<sup>1</sup> See Part I. p. 129.

north of it commanded a wide range of view, and in this manner acted as lookouts for those situated on the opposite bank, where the town of Bernalillo stands to-day. Cochiti, Santa Clara, and San Juan, are situated like Puaray. But the centre of a plain, or of a broad valley, is quite as favorable for defensive purposes as an eminence. From the tops of the high buildings a wide view is commanded, and the open ground is less favorable to stealthy approach. Examples of this kind are the villages in the Tempe valley of Arizona, those near Ascension in Northern Chihuahua, Taos, and modern Halona, or Zuñi.

Retreat into narrow gorges, caves, and to cliffs or ledges, indicates compulsion in location. With the artificial caves it is different. The situation of the cave villages of the Pu-yé and Shu-finné west of Santa Clara is a commanding one, the view from there being remarkable for its extent; but what induced the Tehuas, to whom the excavations are due, to resort to the place, and to the kind of architecture, was the extreme friability of the rock. It was easier to burrow a home than to build it. When deterioration set in and endangered further residence, the people built a village on the top of the castle-like rocks in the bases of which they had hollowed out their grottos. The Rito de los Frijoles is a secluded gorge of difficult access, where the Queres could dwell in the numerous artificial caverns with little danger from enemies; but it was the fertility and irrigability of the little vale, together with the easily workable pumice-stone of its vertical northern cliffs, that induced them to make their home there, and not a military necessity, as seems to have been the case with most cliff or cave villages elsewhere.

I merely allude here to a feature in methods of defence which makes its appearance in the southern portions of the Southwest, especially in Sonora. This is the erection of

places of refuge, fortified by primitive parapets, in the neighborhood of villages, or in connection with one or more groups of settlements. These "Cerros de Trincheras" are a purely military feature, which has no bearing upon the questions under consideration, namely, the causes that determined the native in the selection of his place of abode.

The element of religion cannot be overlooked. An oracle, a presage, a striking feature in landscape recalling to the Indian one of his mythological types or fetiches, may have exerted a decisive influence. Such instances will be clearly developed when the folk-lore of the Southwest becomes better known. Another element is the occurrence of a natural product prized by the Indian, for subsistence, for mechanical purposes, for decoration, or for worship. I have already mentioned the salt lagunes of the Manzano, which certainly induced the Piros and Tiguas to settle around that otherwise dismal spot. The same may be said of the salt basins south of Zuñi, where well preserved ruins testify to former habitation. The basin of Galisteo, south of Santa Fé, is far from prepossessing or favorable for agriculture,<sup>1</sup> but the neighborhood of the turquoise mines, as well as the proximity of the buffalo, have had great weight in inducing the Tanos to settle on that barren expanse. The Indians of San Felipe would be loth to abandon their location, not merely on account of its fertility and the facilities for irrigation, but also on account of the veins of ochre, used for red paint, in the volcanic mesa at the foot of which their village is built. The village of Cia enjoys to-day almost a monopoly of white apatite and flesh-colored feldspar, both of which are held in high esteem for trinkets and fetiches.<sup>2</sup>

<sup>1</sup> See Part I. p. 156.

<sup>2</sup> The localities where these minerals are found, near Cia, are said to have been closed by witchcraft.

These are only a few instances, at the present time, which enable us to conjecture about the past.

From the foregoing examination, it follows that any exclusive explanation of the causes of settlement of land-tilling aborigines in the Southwest is impossible.

I have reached the conclusion from what little knowledge I have of Indian traditions, that the number of ruins by no means indicates a considerable contemporaneous population at any given time. Mr. Cushing, in his remarkable investigations of Zuñi folk-lore, has found that, in the course of the shiftings of that tribe, they settled successively in not less than one hundred and nineteen different places.<sup>1</sup> Previous to the coming of the Spaniards the Indians of Cochiti had successively occupied the Rito de los Frijoles, the Potrero de las Vacas, the Potrero del Capulin, or San Miguel, the vale of Cuapá, the river front on the north side of the Cañada de la Peralta, and the south bank of the same torrent.

The Indians of San Juan enumerate at least three shiftings immediately previous to the sixteenth century, and their traditions point to numerous ruins on both sides of the valley as having been formerly villages of the Tehuas.

A similar story is told by the people of Cia, of Jemez, and by the Tiguas. We have not as yet many details concerning the cause of abandonment in each instance; but it is certain that warfare had much to do with it. The persistent harassing practised by the nomads upon the settlers, local droughts, freshets (as at Santo Domingo at least four times), pestilence (on the Rio Mimbres), oracular utterances,

<sup>1</sup> *Preliminary Notes*, p. 189. "Thus we find in the great migration ritual of the Zuñis . . . that even traditionally they found no fewer than something like one hundred and nineteen middles of the world ere the final actual middle of the world was discovered."

lightning strokes, internal dissensions, the formation of new clans and consequent gradual emigration, earthquakes,—all these may have been agencies in the case of ruins of which nothing but their existence is known. We have few criteria from which to deduce with any degree of probability the cause of abandonment. If we find the pottery well preserved and without traces of intentional perforations or breaking, we may, from our knowledge of Indian customs among the Pueblos, conclude with reasonable probability that the people were compelled to hasty evacuation. If in addition, as at Heshota Uthia in the Upper Zuñi valley, fractured bones or skulls are found, it is probable that a surprise, raid, or assault had driven off the people. Where the pottery is broken, or perforated at the bottom, a slow and undisturbed evacuation may be supposed. If the ruin lies on the banks of a torrent, like Gi-pu-y, the old village of Santo Domingo, and that torrent has swept through parts of it, or carried away one side, it justifies the suspicion that the abandonment was compelled by a disastrous freshet. The evidence is rarely positive enough to exclude all doubt, and the greatest caution should be exercised. In the instance just quoted, of Gi-pu-y, tradition tells us that a sudden rise of the Arroyo de Galisteo caused the people to forsake their homes, and flee to the banks of the Rio Grande.

The abandonment of many pueblos has been attributed to earthquake shocks, or to volcanic eruptions. In Western New Mexico and Arizona there are said to be ancient houses into which lava has penetrated, so that it seems safe to assume that their occupation was prior to the latest eruptions. The destruction of the often mentioned Tabirá, as well as that of the large pueblos at Joseph's Ojo Caliente (Poseuing-ge, Ho-ui-ri, and others), has frequently been attributed to seismic convulsions. I have not yet been able to elicit

any reliable information from the Tehuas, whose ancestors built and occupied the villages near Ojo Caliente; but the presence of a number of skeletons, promiscuously scattered through the rooms and in various postures, is no incontrovertible proof of a violent earthquake shock having slain the people and destroyed the houses. The condition of the latter may be the result of decay posterior to evacuation, and the corpses may be those of individuals who fell victims to an acute pestilence. Within the past century, epidemics have almost depopulated pueblos in a very short time. At Jemez, in 1728, one hundred and eight persons died in less than one month. The epidemic of 1782 caused over five hundred victims in the pueblos of Santa Clara and San Juan and vicinity in two months' time. The abandonment of Pecos was greatly due to so called mountain fever. Although previous to the advent of Europeans neither small-pox nor the measles were known among the aborigines, still instances of "great dyings" are preserved in folk-lore; and in the case of a violent scourge, the superstitious dread inherent in Indian nature might impel a tribe to forsake its homes precipitately, and without giving sepulture to the dead or care to the living. The probability that earthquakes were the cause of the abandonment of the pueblos at Ojo Caliente is as strong as any other hypothesis. In regard to Tabirá, the existence of an extensive and apparently recent bed of lava south of the Mesa de los Jumanos, and the resemblance of the sand-flow of the Médano to the bed of an extinct river, whose course might have been intercepted by an upheaval, lend color to the hypothesis that an earthquake caused the destruction of that village and partial extermination of its inhabitants. In the First Part of my Report,<sup>1</sup> I have established that Tabirá was a

<sup>1</sup> See Part I. p. 131.

settlement of the Piros, a well known mission in the seventeenth century, and that it had to be abandoned about 1670 on account of the Apaches; but I have been unable to find any trace of volcanic outbreaks or violent earthquake shocks in New Mexican archives. Still, while the fact that the Apaches compelled the evacuation of Tabirá seems beyond all doubt, the silence of documents in respect to seismic phenomena does not authorize us to deny their occurrence within historic times. In 1887 the shock was violent at El Paso, all along the Gila River, and in Albuquerque, while at Santa Fé nothing was felt. An earthquake may have been severe at the Salines in the seventeenth century, and the northern part of the Territory may not even have heard of it.

Before entering upon a discussion of aboriginal architecture and its details, I desire to offer some observations on the manner of exploring ruins. The number of those examined by me is nearly four hundred; the territory over which they are dispersed has been indicated in the Introduction to the First Part of this Report.

It is just as necessary to trace out where remains do not exist, as to determine where they are. I have therefore taken especial pains to find out, through personal inspection and well tested information of others, in what districts or sections the village Indian has left no traces. This has led me to the establishment of approximate geographical limits, by no means absolutely reliable, but subject to correction by further investigators. In pursuing this line of investigation, I was brought to inquire why there are no ruins in certain sections of the Southwest.

In undertaking explorations in a particular district, I always strove to secure ground plans of the greatest possible number of ruins, so as to obtain, not only the most

remarkable examples, but also smaller ones, which are liable to be overlooked. In addition to furnishing a more accurate idea of the number of settlements, this led me to the discovery of types different from those accepted as general through the Southwest, and finally to their original connection, and the possible evolution of one from the other. No excavations were undertaken by me, but this deficiency has been supplied, I believe, by the number of localities investigated, the many well preserved examples of architecture examined, and the consequent insight obtained into the changes wrought by decay upon the perfect form, which enabled me to detect architectural details in structures less well preserved.

With the exception of the late E. G. Squier, I believe that no investigator in Spanish America has paid sufficient attention to the size of ruined settlements. In the Southwest, it was easier to do this so long as the so called pueblo type was exclusively studied. Since General Simpson's valuable explorations in the Chaca Cañon and the Navajo country, we have had a series of complete surveys of particular ruins. The work becomes more intricate as soon as ruins are met with in which the buildings are irregularly scattered. Even where excavations have been made, they were mostly begun at the centre, instead of first attempting to establish the outline of the whole village, and afterwards making thorough investigation of details. Thus erroneous notions about the size of the ancient villages have arisen. I have striven to obtain as accurate an idea as possible of the size of each ruin, sacrificing in some cases minor details. Where the same types repeat themselves as often as in the Southwest, it has seemed superfluous to go into the same special investigations everywhere. The results of my surveys of the respective areas covered by various ruins in the Southwest



are best presented graphically, and Plate I. contains, therefore, a selection of the largest examples of each variety, and also some of the smallest, examined by me. For the sake of comparison, some ruins in Central Mexico, Oaxaca, Peru, and the Mississippi valley, reduced to the same scale, are placed by the side of the others.

In regard to the artificial objects found in ruins, imperfect specimens, if collected in numbers, yield better results than choice ones, of which only a few can occasionally be obtained. On pottery it is mostly the decoration that affords interest, since shapes are usually similar. The value of that decoration consists in that it is, if not always intentionally symbolical, still derived from well ascertained symbols; and the curious fact is revealed that the ritual and symbolical designs in use to-day among the Pueblo Indians are the same as those found on pottery from Colorado, Utah, Arizona, Sonora, and as far as Casas Grandes. At the latter place, and in the Sierra Madre as far as I traversed it, two new symbols seem to make their appearance. In regard to other objects of art, local variations will be noted further on; also the proximity as well as the distance of the material used in the manufacture of implements or weapons.

I much regret my inability to make excavations, but in regard to burials I have endeavored to gather as much information as possible, and by the help of the researches of others, who have been more favorably situated, I may yet be able to present some not uninteresting data. Burial grounds are usually difficult to detect. The Indian is quite reticent on this subject, and unless we succeed in winning his confidence, the discovery of the place where the bones of past generations lie, or where their ashes are preserved, is accidental. The same may be said of sacrificial caves. The finding of plume-sticks is not always evidence of a

shrine. At Zúñi every corn patch almost has its prayer-plumes, fastened to poles painted red, with bow and shield of the hero-god *Mai-tza-la-ima* attached to them. Individuals praying on the spur of the moment may deposit a prayer-plume on the spot. The shrines are hallowed places, and few are the uninitiated ones who enjoy the privilege of knowing where they are.

As archæology in the Southwest is yet in its infancy, it follows that the great field of research into the existence of man in quaternary times cannot be touched upon here.

I have nothing to change in the classification of aboriginal architecture suggested by me in the Fifth Annual Report of the Institute, nor have I to modify any of the general conclusions therein presented. I proceed, therefore, to report in greater detail upon the districts which I have visited and examined between the years 1880 and 1886, giving, as far as possible, the lie of the land in each case, in connection with its aboriginal remains, and such rays of light as documentary history and Indian tradition may shed upon them.



# INVESTIGATIONS IN THE SOUTHWEST.

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## I.

### THE COUNTRY OF THE TAOS, PICURIES, AND TEHUAS, IN NORTHERN NEW MEXICO.

BY the above title I wish to designate the section of New Mexico which is inhabited by the sedentary tribes thus named at the present day. It is indispensable to make this restriction, since we do not know whether these tribes, in their shiftings anterior to historic times, ever drifted beyond this region to the west, south, or east, or whether any of the ruins situated towards the northwest may yet prove to be those of their former abodes. The Tiguas of Isleta, who speak the same language as the Taos and Picuries and recognize them as kindred, have a tradition analogous to that of the Tehuas in regard to their origin. Mr. C. F. Lummis, who has given much attention to the language and folk-lore of Isleta, found that its people claim to have issued from the Lague of Shi-pa-pu in Southern Colorado. The Tehuas also know Shipapu, but call it Ci-bo-be,<sup>1</sup> and place

<sup>1</sup> It is to Ci-bo-be that the Indian Pedro Naranjo, from the pueblo of San Felipe (Queres), manifestly referred, on the 19th of December, 1681, when interrogated by Don Antonio de Otermin on the causes and beginnings of the great Pueblo rebellion. *Interrogatorios de varios Indios de los Pueblos Alzados*, MS., fol. 135. He says of the notorious Pope, that, while he was concealing himself in one of the estufas of Taos, "le aparecieron . . . tres figuras de

it almost directly north of their present range, likewise in Southern Colorado. Weird stories attach themselves to this lagune. One of my informants, a wizard of high standing, assured me that, whenever a white man approaches the lake, its waters begin to boil and overflow the shores, but at the approach of an Indian they remain placid and calm. Whenever an Indian camps on its shores over night, he hears strange sounds issuing from its depths, — the neighing of horses, mingled with the bellowing of cattle and the bleating of sheep. These are the flocks upon which the happy dead feed at the bottom of the waters. Shipapu or Cibobe is not only the birthplace of the Pueblo Indians, it is also their final resting place after death, — their paradise. These stories show the authenticity of the tradition concerning the issuing of the Pueblos from some cave or lake north of New Mexico. But they also bear the marks of corruption during historic times by the addition to the riches and resources originally attributed to that Indian paradise of goods and chattels imported by the white man. They also show how strong is the hold which primitive belief still has on the Indian mind, since he has added to his original picture of the place of bliss things known to him only for three centuries, rather than give up the primitive conception altogether in favor of modern ideas.

I have made but two visits to Taos and one to Picuries.

Indios que nunca salian de la estufa, y le dieron a entender al dicho Pope que ivan por debajo de tierra hasta la laguna de Copiala." Further on (fol. 126), the same Indian says, "Porque siempre han deseado vivir como sacieron de la laguna de Colela." I believe both Copiala and Colela to be mistakes of the copyist, and that the original manuscript read Cibobe. The copy was made at the close of the last century, and forms part of the great collection of historical manuscripts made by order of the Spanish government at a time when the Lagune of Copiala was still famous in Mexico. Hence the error. The name of the lagune is also given by the Tehuas of San Juan as "O-jang-ge P'ho-quiringe." Those of Santa Clara also call Cibobe "Shi-pa-puyna."

It is almost certain that the former tribe was what Castañeda called "Braba," being the most northerly of the Pueblos in Coronado's time. Castañeda writes of it as follows: "Twenty leagues farther on from Yuque-yunque, or Chamita, and in the direction of the north, going up the river, there was a large and powerful village which was called Braba, which our people named Valladolid. It was built on both sides of the stream, which was crossed by bridges constructed of very well hewn beams of pine timber. In that village were seen the largest and most remarkable estufas of the whole country."<sup>1</sup>

Taos, built on both sides of the swift and cool Rio de Taos is the only village in New Mexico, ancient or modern, so far discovered, the situation of which corresponds with Castañeda's description and location. He says, "Valladolid is the last one in ascending towards the northeast."<sup>2</sup>

Although the present buildings of Taos are not those of the Braba of the sixteenth century, they still preserve the appearance of the old village, and their position relative to the river and the valley is the same. Taos is therefore, together with Acoma and some of the Moqui villages, one of the best preserved examples of antiquity so far as architecture is concerned. The valley of Taos is one of the best irrigated sections in the Southwest. Several permanent water-

<sup>1</sup> *Cibola*, p. 139. He adds: "Le capitaine Hernando d'Alvarado avait déjà visité ce village en allant à la découverte de Ci cuyé. La contrée est fort élevée et très froide; la rivière qui l'arrose est fort profonde et rapide et l'on n'y trouve pas de gué." This proves that Francisco de Barrionuevo, who visited Braba in 1541, crossed the Rio Grande at Chamita and followed its course along the left (east) bank. The Rio Grande is indeed hardly fordable above Embudo, and is a very rapid and quite deep stream in some places. The Spanish officers also mistook the Taos River for the Upper Rio Grande, — a very natural mistake for one unacquainted with the country.

<sup>2</sup> *Ibid.*, p. 182. The *Relacion* of Alvarado is contained in the *Documentos de Indias*, tom. iii. p. 511.

courses flow from the high mountains that enclose it on the east towards the Rio Grande. This river is about twenty-five miles to the west of the modern town of Fernandez de Taos, which lies about three miles west of the pueblo. The aspect presented by the valley is very striking when first seen from the high plateau above the Arroyo Hondo. A plain with few undulations stretches far to the north and west, arid and bare in both of these directions. Beyond it low, dark mountains skirt the northern and northwestern horizon, and above them the Cerro de San Antonio rises in the distance, like a flat dome. In the west, beyond the deep cleft in the black volcanic rock at the bottom of which flows the Rio Grande, loom up the wooded heights above Ojo Caliente. In the southwest, the range of the Valles terminates in the pyramid of the extinct volcano of Abiquiu and in the truncated cone of the Pedernal; the south is one mass of dark pine-clad mountains; and nearly one half of the eastern horizon is covered by the imposing chain of Taos, the summits of which tower, in gigantic crags and steep cupolas, to over thirteen thousand feet above the level of the sea. Rising abruptly six thousand feet from the valley, in winter, spring, and fall, when the chain of Taos is still snow-clad, its aspect is particularly grand and solemn.

The region is also interesting from an historical and archæological point of view. The wide landscape divides naturally into areas containing ancient settlements. The western and northern sections of the valley appear at a glance to be suitable for village Indians, and therefore the ruins of the Taos people are to be sought along the base of its high mountains. One of them, to which I was told they gave the name of Mojua-lu-na, or Mojual-ua, is said to exist in the mountains, and in the plain there are said to be

considerable ruins near the Ranchos de Taos,<sup>1</sup> and also extensive vestiges of garden plots. Not having been able to examine any of these places, I can only report from hearsay. The north is said to be without traces of ancient architecture. The dark ridges in the northwest are those of Tierra Amarilla, and beyond them lies the archæologically important San Juan country, about which all historical data are as yet wanting. The cluster of hills above Ojo Caliente is the edge of an extensive region dotted with ruins of pueblos, which the Tehua Indians claim as having been their ancestral home. That region embraces all the southwestern landscape and includes the base of Abiquiu Peak, and of its southern neighbor, the Pelado, where lie the artificial caves. The dark mountains of Picuries divide the ruins in the Taos country from those to which the traditions of the Picuries are attached. From the plateau above the Arroyo Hondo, we therefore include at one glance a large portion of the territory to which this chapter will be devoted.

Many historical recollections are associated with this extensive territory. The pueblo of Taos, indistinctly visible at the foot of the gigantic sierra, recalls Coronado, Oñate, and the uprisings of 1680 and 1696. The valley around the pueblo reminds us of harrowing scenes enacted in August, 1680, and in 1766, when the Comanches raided the Spanish settlement. Ojo Caliente and Abiquiu were the scenes of similar outrages by the Yutes in 1747. Diego de Vargas passed repeatedly through the country around us. The cañon east of Taos was the spot where the faithful Governor of Pecos, Juan Yé, lost his life at the hands of the treacherous Taos Indians. Over the Picuries Mountains

<sup>1</sup> The Ranchos de Taos lie four miles from Fernandez de Taos, the modern town.



the priest of Taos fled from them in the night of the 4th of June, 1696, with a few soldiers.<sup>1</sup>

Over the some rugged chain we now have to cross, in order to cast a glance at the Picuries valley and its vestiges of antiquity.

There is a trail leading from Taos to Picuries, but I preferred the wagon road as more commodious, and as furnishing a better view of the eastern high chain. This road surmounts the crests of the Sierra de Picuries by going directly south from the Ranchos de Taos for some distance. It follows at first a pleasant valley and a lively rivulet, and then penetrates into forests of pine on the northern slopes of the Picuries chain. These wooded solitudes afforded no room for the abode of man in ancient times. The modern traveller delights in their refreshing shade, and notices with interest the animal life that fills the thickets. The jet-black and snow-white magpie flutters about; blue jays appear, and variegated woodpeckers. It is so different from the arid mesas and barren mountains that we forget the painful steepness of the road. Its general direction is now to the southwest. Once on the southern slope of the Picuries range, we strike directly for the west.

Although forests still skirt the narrow grassy vale in the middle of which the road winds, the landscape assumes an entirely different character. In place of the imposing mass of the Sierra de Taos, the east is bounded by the bald Jicarrita and the rugged peaks and crags of the Sierra de las Truchas. Both rise higher than the Taos range,<sup>2</sup> but

<sup>1</sup> I will not mention the events of 1848, as they belong almost to contemporaneous history.

<sup>2</sup> The Truchas are slightly higher than Taos Peak. The latter is 13,145 feet, the former, 13,150, — both according to Wheeler. The altitude of the Jicarrita has not, to my knowledge, been determined; but the impression of those who have ascended to its top is that it exceeds the Truchas in height.

they are farther from us and their denuded slopes ascend more gradually. The summit of the Truchas is divided into sharp-pointed peaks, recalling the "Hörner Stöcke" or "Dents" of the Alps.

From these two mountains descend two streamlets, which run almost directly to the west, parallel with each other, for many miles, divided by wooded ridges of small width. One of these brooks is the Rio del Pueblo; the other the Rio del Peñasco, and they unite at a distance of a mile below the pueblo of Picuries to form the Rio del Embudo, and thus become tributary to the Rio Grande.<sup>1</sup> Thus the Picuries tribe had at its command two long and narrow valleys, well and constantly watered, with plenty of wood, since the heights on both sides of each valley bear thickets of pines, and the abrupt Sierra de Picuries, against which the pueblo leans on the south, is covered with stately forests. It was a choice spot, but open to incursions of the Indians of the plains in summer, and to the south, where access was easy from the Truchas and Trampas. Towards the north, mountains protected it against the Yutes and their neighbors from Taos, who were not always friendly; and in the west steep ridges with partly wooded crests rendered access from the Rio Grande difficult. We wonder at this day how it is possible for loaded wagons to overcome the long and steep inclines between the little town of Embudo and the heights above the Peñasco valley.

At the time of the first occupation of New Mexico, Picuries formed a considerable village; to-day it is reduced to a mere hamlet. The ruins of a pueblo exist on one of the mesas near by, but I had no time to investigate them,

<sup>1</sup> Embudo is a small Mexican town five miles from the railroad station of the same name. Peñasco, about  $2\frac{1}{2}$  miles southeast of Picuries, is higher than Taos, while Embudo is more than a thousand feet lower.

and have only seen many fragments of pottery and of grinding-slabs from that locality. Of other remains I could not ascertain anything. It seems that Taos, with the ruins in the Sierra, and Picuries, with its surroundings, constituted the extreme northeastern corner of Pueblo territory in very ancient times as well as to-day. In vain have I inquired for ruins in the Costilla region north of Taos, and in the Sierra de los Ratones. The environs of Trinidad appear to be as devoid of remains of ancient buildings as the high mountains east of Picuries and the valley of Mora beyond them. This is a singular feature; for if it should be established that the course of Canadian River east of Ocaté is lined by vestiges of permanent abodes, it would place the origin of these remains out of connection with what I have called the northeastern corner of the Pueblo area in prehistoric times.

After this cursory glance at the districts of Taos and Picuries I pass almost due west of the former to the extensive ruined pueblos near the Hot Springs belonging to the Honorable Antonio Joseph, and, farther west still, to those near the Rito Colorado. These ruins are claimed by the Tehua Indians as those of villages built and occupied by their tribe, and abandoned long previous to the advent of the Spaniards.<sup>1</sup>

A distance of nearly forty miles separates Ojo Caliente from the settlements in the Taos valley. Taos lies 6,983 feet above the sea; Ojo Caliente is seven hundred feet lower. Between the Rio Grande on the east and Joseph's Springs, twelve miles of arid sandy plain intervene.

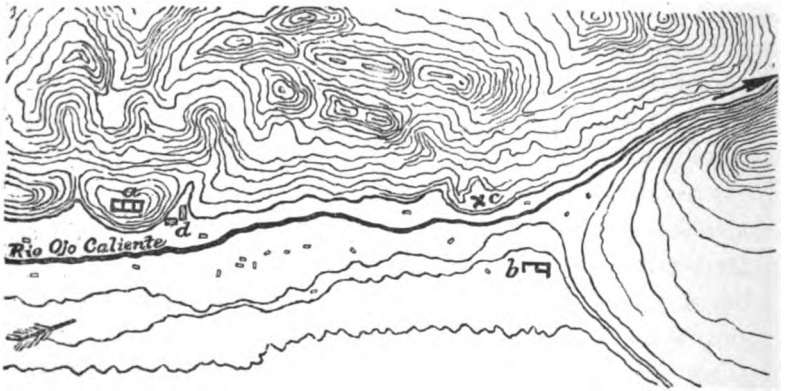
<sup>1</sup> There is no indiation that the Pueblos at Ojo Caliente were inhabited at the time of Coronado, or since. It is not unlikely that when Vargas, in 1694, passed by Ojo Caliente, he noticed the ruins, but manifestly mistook them for those of the former Spanish settlement at San Gabriel or Chamita. *Relacion Sumaria de las Operaciones militares del Año de 1694* (MS.); also Escalante, *Relacion del Nuevo Mexico* (MS. fragment).

Isolated mesas of small extent and height dominate this dreary stretch, like truncated cones or pyramids. The plain terminates on the banks of a creek whose waters are always warm. This is the Rio del Ojo Caliente, which takes its name from the remarkable medicinal thermal springs on its western banks.<sup>1</sup> The stream is permanent, running through a valley of not over half a mile in breadth, and watering a long, narrow strip of irrigable ground. The climate is comparatively mild in winter, while at Taos considerable cold prevails, and snow covers the ground for weeks. It was therefore an inviting spot for the establishment of permanent Indian homes. In addition to facilities for cultivation, the neighboring heights afford a plentiful supply of wood.

Three of the largest pueblos of New Mexico, Colorado, and Arizona lie on the banks of the Ojo Caliente stream, within a mile and a half of each other. Two of them I have figured on Plate I. Their relative situation is shown in the following topographical sketch. One of them stands on the first low terrace above the creek on the east bank, and is called in the Tehua language Ho-*ui-ri* (marked *b* on the sketch). It will be seen by referring to Plate I. Figure 6, that the houses were unusually long; that is, they formed unusually large hollow rectangles. The three pueblos, Houiri, Ho-mayo, opposite on the west bank, on a high promontory that rises at least one hundred feet over the stream, and Pose-uingge, the one immediately above the baths, are to a certain degree specimens of a kind which I have mentioned in the Fifth Annual

<sup>1</sup> These springs are highly appreciated in New Mexico. The temperature of the main spring is 114.5° Fahrenheit, and an analysis of its contents gives the following results. In one thousand parts of water: sodium carbonate, 196.05; calcium carbonate, 4.20; iron carbonate, 20.12; sodium chloride, 40.03; lithium carbonate, 1.22; magnesium carbonate, 6.10; potassium sulphate, 5.29; silicic acid, 4.10; arsenic, 10.08. Besides the four hot springs, there is a cold sulphur spring almost adjacent, and many soda springs higher up the valley.

Report of the Institute as "one or two, seldom three, extensive buildings composing the village. These structures are so disposed as in most cases to surround an interior court."<sup>1</sup> Thus Houiri constitutes two complete and two incomplete hollow quadrangles; Homayo, two complete and one incomplete; Pose-uingge, one complete and several partial ones. But the number of single buildings is in



a, Pose-uingge.

b, Ho-uirí.

c, Ho-mayo

d, Baths.

TOPOGRAPHICAL SKETCH OF THE OJO CALIENTES VALLEY.

every case greater than three. It is indeed an intermediate form between the type above alluded to and the one characterized by me as "scattered pueblos composed of a number of large many-storied houses disposed in a more or less irregular manner. . . . They are either in irregular squares or on a line."<sup>2</sup> The number of single edifices in Pose-uingge, not including the estufas, is at least ten, in Houiri seven, and at Homayo five, provided decay has not obliterated alleys, thus causing two buildings now to appear

<sup>1</sup> *Fifth Annual Report*, Appendix, p. 55.

<sup>2</sup> *Ibid.*, p. 56.

connected, which originally formed separate bodies. The outer perimeter of the great hollow rectangle of Houiri (*b*) is 415 meters (1,361 feet); the width of the rubbish mounds to which the buildings are now reduced varies from 8.6 meters (28 feet) to 14.6 meters (48 feet). This rectangle is open only on one side, where there are traces of a double row of stones. The stones are mostly thin plates set on edge, protruding but fifteen or twenty centimeters (six to eight inches) above the ground.

The pueblo was probably built of adobe, and the condition of the mounds indicates that its decay antedates that of the most southerly pueblo in the valley, the one which the Tehuas call Pose-uingge (marked *a* on the sketch).

Eight circular estufas are plainly discernible at Houiri, and there may have been ten. The great quadrangle contains three distinct ones in its interior court, and there are traces of two more. The diameter of these estufas varies between 10.4 meters (34 feet) and 15 meters (49 feet). A number of rooms still lie exposed, so that their average size can be determined. The mean of thirty-four of these cells appears to be 2.8 by 1.9 meters (9 by 6 feet).

Of artificial objects potsherds are of course most abundant. There is painted pottery, glossy with the usual figures in black and reddish brown; also corrugated ware, and incised pottery with borders in relief. Of the last sort a complete vessel, originally from the ruins of Abe-chiu, also a Tehua pueblo, is preserved in the collection of Mr. Samuel Eldodt at San Juan. The incisions are simply straight and narrow grooves, intersecting one another with a faint attempt at symmetry. The borders are indented, and seem to have encircled the upper rims of bowls, as well as the short necks of urns and jars. These vessels decorated with incised lines resemble those figured by Mr. W. H. Holmes

from Arkansas County, Arkansas; while the borders in relief are like the decorations figured by him from Pecan Point.<sup>1</sup>

Broken metates, unfinished stone axes, flint, and obsidian flakes lie scattered about the ruins; the axes are of basalt, and the metates of lava and gneiss.

Don Tomas Lucero, who lives near Houiri, assured me that thirty years ago large jars filled with meal had been excavated from the ruins, and that skeletons had also been unearthed.

The situation of Houiri is such as to command a fair view for a few miles of the valley of the Cañada de los Comanches, a gulch emptying into it from the northeast at the foot of the low terrace on which the pueblo stands, and of the bluffs and mountains that rise above the opposite bank. There is fertile soil all around, and the stream runs at a short distance only from the ruin. No traces can be seen of defensive contrivances, other than the houses themselves; and I was assured by several persons that no ancient irrigation ditches had been noticed in the river bottom. In former times this bottom appears to have been covered with trees and dense thickets, which would account for the absence of acequias, if the Indians preferred to establish their fields on higher and open ground, rather than to attempt clearing.

Opposite Houiri, on a triangular promontory jutting out from the range of bluffs that line the river on the west, stands the ruined village to which the Tehuas give the name of Homayo (Fig. 7 of Plate I., and *c* of the sketch). It is more compactly built than the other two pueblos, and appears therefore of smaller size. Probably it contained a lesser number of inhabitants, although the mounds seem to

<sup>1</sup> W. H. Holmes, *Pottery of the Ancient Pueblos*, Report of the Bureau of Ethnology, 1882 and 1883, p. 282, fig. 231. A fragment of incised pottery from Abiquiu, *Ancient Pottery of the Mississippi Valley*, *Ibid.*, p. 397, figs. 403 and 404, for the rims; p. 405, fig. 418, and p. 415, fig. 434, for the incisions. I refer only to the plastic decoration, and not to the shapes of the vases.

indicate a greater number of stories of the houses. This ruin contains seven circular depressions, six of which were certainly estufas; but the seventh, the one standing farthest from the village and nearest to the brink of the steep declivity of the bluff towards the river, may possibly have been a tank. Its diameter is 9 meters (30 feet), it is quite deep, and the top of the wall is formed of slabs of stone standing on edge. The diameters of the other estufas vary from 9.0 to 15.2 meters (30 to 50 feet). The walls of the houses, as far as exposed, are mostly of adobe, with an average thickness of 0.30 m. (12 inches). The adobe shows no trace of straw, indicating that it was made previous to Spanish times.

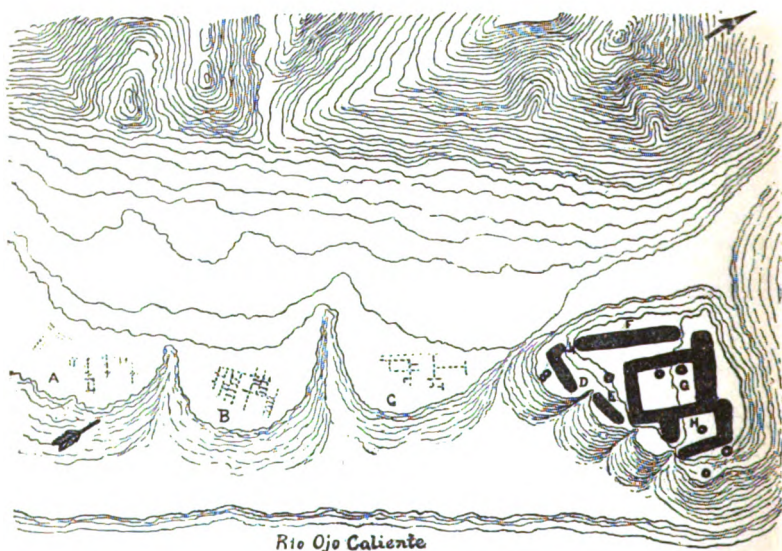
The situation of Homayo is very favorable for defence. On three sides, north, east, and south, are abrupt declivities difficult to scale, and at least forty meters high. The Ojo Caliente stream hugs its base closely on the eastern side. To the west extends a level depression about eighty meters broad and ten meters lower than the top of any of the mounds, and beyond that depression rises a steep mountain. The pueblo therefore stood higher than its immediate surroundings, and had an exceptionally good outlook to the east, south, and north. The annexed topographical sketch<sup>1</sup> shows the position of the village, and its situation in relation to three groups of what, from information gathered in Arizona and Sonora, I regard as garden plots. These are indicated on the sketch by A, B, and C. Similar contrivances are also found as a continuation of the southern end of Mound F of the ruin itself.

Of these garden beds there are two varieties. One comprises rows of stones, intersecting each other so as to form

<sup>1</sup> This sketch is made without reference to scale or measurement, with the design only of giving the topography and location.



rude parallelograms and squares, found on levels; the other, such as are met with on slopes or inclines; both exist near Homayo. In some instances the stones are not thin plates set on edge, but simply fragments of various sizes laid on the ground in lines more or less straight.



SKETCH OF THE SURROUNDINGS OF THE RUINS OF HO-MAYO.

On the same side of the river as Homayo, about a mile and a half south of it, stands the large ruin called Poseuingge, or the village of Po-se or P'ho-se, marked *a* on the topographical sketch of the whole valley. Its position is somewhat similar to that of Homayo, as it is built on a high bluff, but not projecting so much, and it stands not so close to the river. Directly at the foot are the hot springs and the baths. The height of the bluff above the Ojo Caliente River is forty-two meters (140 feet). As this ruin has been measured and the ground plan published by Mr.

Holmes, and my own measurements confirm his, I refer to that publication for a plan of the ruin on a larger scale.<sup>1</sup>

It is plain to see that it was the largest village of the three, and may have sheltered at one time as many as two thousand inhabitants. Houiri however had at least one building larger than any of those of Pose-uingge. According to the custom, prevalent in ancient times, of each clan having its particular estufa, the latter village must have had at least thirteen clans or gentes, while Houiri had but eight, or at most ten, and Homayo only six. It must, however, be taken into account, that one or more estufas may have become completely obliterated, and that the same estufa may have been used, as at Taos to-day, by two or more clans.

There has been more digging at Pose Uingge than at any of the other ruins, consequently more of the architectural details are visible. They show the walls to have been of adobe bricks made without straw. I measured one and obtained the size, 0.35 by 0.25 and 0.27 m. high (14 inches by 10 and 12). In some places a layer of thin slabs of stone is intercalated between the courses of adobe, and the latter are laid without breaking joints. The average thickness of the walls is 0.30 m. (12 inches). The rooms are small, the longest one measuring 4.1 m. (13½ feet), an average of twenty-three rooms being 2.0 by 3.1 m. (6½ by 10¼ feet). By complete excavation, there is hardly a doubt that larger apartments would be discovered.

In one of these rooms the face of one of the walls is exposed to a little less than its full height. In it the beams of the roof, or ceiling, have left the impressions of their ends, and a niche is also to be seen, and the upper part of a doorway. The walls, the arrangement of the cells, and the manner

<sup>1</sup> *Report on Ancient Ruins of Southwestern Colorado*, U. S. Geol. and Geog. Survey, Hayden, 1876, Plate XLI. and page 401.

of construction of the roofs and ceilings, are the same as in any typical New Mexican pueblo. The doorways are nowhere fully visible, but what I saw of them indicated that they were doorways, and not doors. There was no means of closing them other than by hanging hides, blankets, or mats over the opening. All were narrow at the top, widening towards the bottom, and probably narrowing again below. As in many other villages, I saw neither lintels nor door-plates; but it is not unlikely that flags of stone may occasionally have served for such a purpose. Of air-holes I saw no trace, but it is presumable that they existed. How many stories the buildings had can only be guessed.

I have already mentioned that thirteen Estufas are connected with the ruin, some of them inside, others outside, the irregular courtyards formed by the edifices. Their diameters vary between 5.5 m. (18 feet) and 13.1 m. (43 feet). One is quite remarkable in that it has an ascent to its top or roof in the shape of a solid inclined plane 10 meters (33 feet) long horizontally, and 1.7 (5½ feet) high, so that the rim of the estufa must originally have protruded nearly two meters from the ground. This kind of ascent to the roof of an estufa I have found elsewhere.

At one spot there is an excavation 2.5 m. (8 feet) long from east to west, with a niche at its eastern end 0.61 m. wide and 0.30 m. deep, walled in by thin slabs of porphyritic syenite of a reddish color. The depth is 1.9 m. (6 feet), and the roof or covering appears to have been flat. I have been told that out of this place a human skeleton was exhumed that measured, while in its original position in the ground, 2.3 m., or 7 feet and 6 inches in length. That a skeleton of unusual size was found in the ruins at Ojo Caliente seems to be almost certain, from the numerous concurring statements to that effect. The cavity, therefore, must have been

a grave, in which a niche was built for the head. The plates of syenite show no trace of superior workmanship; they are simply thin slabs laid in adobe mortar. I could not find out whether the rest of the hole had also been walled in or not.

Broken artificial objects are plentiful about the ruins of Pose-uingge. The potsherds resemble those at the other ruins in the valley. Of metates I saw one made of syenite; all the others were of lava. Stone axes of basalt and syenite have been picked up. There is little obsidian, but chips and flakes of chalcedony, jasper, and flint abound. Arrowheads are not rare. The grinders accompanying the metates were made of lava, porphyry, and gneiss; some moss agates I also noticed. It is stated that large jars filled with corn, and also charred corn, have been exhumed. Perhaps the most interesting statement made to me about finds, and one which, from its source,<sup>1</sup> I have no reason to doubt, is that in nearly every room opened, human skeletons were found. They were in every imaginable posture, and with the skulls fractured or crushed. This has given rise to the supposition that Pose-uingge was destroyed by an earthquake. So long as we have not the exact Indian traditions concerning the place, it is useless to attempt a discussion of the matter.

The site on which the ruin stands affords an excellent point of view towards the northeast, east, and southeast. The whole valley stretches out at our feet. In the northeast, the snow-clad range of the Culcra looms up above distant hills, and south of it are the mountains of Taos. Thence to the southeast, the southern ranges of the Rocky Mountains spread out in wonderful distinctness. The Jicarrita at the north, the picturesque Truchas in the centre, and the Santa

<sup>1</sup> The Hon. Antonio Joseph, Delegate to Congress, is my authority. He is himself the owner of the springs, and has resided there for a number of years at least a part of the time.

Fé range at the southern end, appear separated into well defined massive groups.

There is hardly any arable ground on the mesa occupied by the ruins, but at its northern end, where the trail comes up from the baths, there is a limited area covered with garden plots. North of the baths, separated from the eastern projection of the mesa of Pose-uingge by a deep cleft, the mountains rise with steep and denuded slopes. Still, there are promontories jutting from their base, on which, and partly on the lower end of the declivities themselves, lines of stones are to be seen forming a series of narrow parallel terraces, or larger and smaller quadrangles. As in other garden plots, the stones are plates or small slabs set on edge, or boulders and pieces of every shape and size laid on the ground in rows. Such contrivances resemble so much both the ancient garden beds of Arizona and the "Banquitos" (terraces constructed in the beds of mountain torrents) of Sonora, that I cannot but attribute to them the same object. It is interesting to find the same feature in countries as far apart as Northern New Mexico and Northern Mexico.

In close proximity to these garden plots are nearly circular concavities, resembling the vestiges of so called "dug-outs," but whether they stood in any relation to them I am unable to say. It is not impossible, however, that they were formerly abodes of nomadic Indians. The ground where the garden beds are is covered with rocky débris at the present time, but it is not barren. Low vegetation grows on it, and by keeping the surface clear from drift, it might have been made productive.

On account of the high temperature of the water of the stream, and of the hot springs issuing from the naked rock and covering them with an emerald-green stain, they were not only objects of curiosity to the native, but, like every-

thing he does not comprehend, objects of veneration, of worship. It is not unlikely that superstition prevented the ancient Tehuas of Ojo Caliente from using the warm waters of its stream for irrigation. It is quite possible, therefore, that they did not clear that valley of its forests, and that they planted their corn, beans, and squashes on the mesas, in as close proximity as possible to the villages, relying upon the summer rains for the growth of their crops. There is less danger of persistent drought in Northern New Mexico than farther south, so that the Indian might well trust to the sky for moisture. On the west bank of the stream, in the midst of a thicket, is an elliptical ring made of boulders heaped together so as to form a crude circumvallation 4.3 m. (14 feet) wide and 0.6 m. (2 feet) high. It encloses a level space measuring 8.2 m. (27 feet) from north to south, and 7.3 m. (24 feet) transversely. What the object of this enclosure, to which there is no entrance, may have been, and whether it is ancient or modern, I am unable to determine. It may be of Pueblo origin, or it may just as well be the work of the Indians of to-day as of their ancestors, or it may be of Mexican construction, the work of shepherds.

Considerable interest attaches to the ruined sites at Ojo Caliente because the myth of Pose-yemo or Pose-ueve refers to one of them as the birthplace of that personage and the scene of his main achievements. As stated in the First Part of my Final Report,<sup>1</sup> Pose-ueve, which is the proper name in Tehua folk-lore, is the person around whom the Montezuma legend has gathered, or rather he has been taken as the figure-head for that modern fabrication.

As far as I am able to learn, Pose-yemo (Moisture from heaven), or Pose-ueve (He who walketh or cometh along

<sup>1</sup> Part I. of this Report, p. 310.

strewing moisture in the morning), was the son of a girl of Pose-uingge. The story about his mother conceiving from a piñon nut that fell into her lap, may possibly be a genuine Indian legend. At all events, he remained, like the hero of the Zuni folk-tale about the "Poor boy of Pin-a-ua," a wretched pauper for a long time, until the day came when a new cacique had to be chosen. Pose-ueve was proposed in jest to the medicine-men, and accepted, to the discomfiture of those who had intended to make a laughing-stock of the poor boy. At once he began to astonish all with prodigies, for which an eagle was his principal helper. He soon became a great wizard, and the people of his village grew very rich in corn, turquoises, shells, and other valuable objects. His fame spread, and he exercised a sort of power over many of the Pueblos, which, however, does not appear to have gone beyond that of a magician. Modern history affords instances of a similar sort; for example, the notorious prophet, Tecumseh's brother, whose influence was only destroyed by the defeat of the Indians at Tippecanoe.<sup>1</sup>

Of warlike exploits of Pose-ueve I have not been able to find any traces. After remaining the great Shaman of the Tehuas for a long time, he once went to the pueblo of Yuge-uingge (Chamita) in disguise. The people were on the point of celebrating one of their dances, and failed to recognize the powerful medicine-man. So he grew angry, and pronounced a dire curse on what he considered an ungrateful pueblo, and returned to Pose-uingge, where he disappeared.

Such is the Indian part of the tale. What is told of the wizard's journey to the south is a modern addition.<sup>2</sup> Still,

<sup>1</sup> So also the case of Tchatka, an Assiniboin chief and wizard, related by Father Desmet, *Western Missions and Missionaries*, Letter XIII.

<sup>2</sup> The Montezuma story, as told me by one of the Queres at Cochiti, contains the details of his journey to the south. Another friend, a Tehua of San Juan,

many of the Pueblos of to-day believe it, and the name of Montezuma is familiar to all of them. Those "who know," however, members of esoteric societies, and principally the great Shamans, smile at the foreign importation and foreign dress, and discriminate between the Pose-ueve of their ancestors and later additions to his biography.

Mr. Cushing identifies the Pose-ueve or Pose-yemo of the Tehuas with the Po-shai-an-kiä of the Zuñis. He writes of this deity: "He is supposed to have appeared in human form, poorly clad, and therefore reviled by men; to have taught the ancestors of the Zuñi, Taos, Oraibi, and Coçonino Indians their agricultural and other arts; their systems of worship by means of plumed and painted prayer-sticks; to have organized their medicine societies; and then to have disappeared toward his home in Shi-papu-lima (from *shi-pi-a*, mist, vapor, *u-lin*, surroundings, and *i-mo-ua*, sitting place of, 'The Mist-enveloped City'), and to have vanished beneath the world, whence he is said to have departed for the home of the sun. He is still the conscious auditor of the prayers of his children, the invisible ruler of the spiritual Shipapulima, and of the lesser gods of the medicine orders, the principal 'Finisher of the paths of our lives.' He is, so far as any identity can be established, the 'Montezuma' of popular and usually erroneous Mexican tradition."<sup>1</sup>

It will be noticed that the Zuñi tradition makes of Po-shai-

also stated to me that Pose-ueve went as far as the vicinity of El Paso del Norte in Chihuahua. He said he was accompanied by his sister, Navi-Tua, and that she followed him on Christmas! Christmas in Spanish is "Pascua de Navidad," and the word "Navitua" is suspiciously like the Spanish word. The full details of the Montezuma legend, however, are found in a queer document, entitled *Historia de Montezuma* (MS.), composed in Mexico in the year 1846, about the time of the breaking out of the Mexican war, which embodies, together with much nonsense purporting to be history, some of the original tales about Pose-ueve.

<sup>1</sup> *Zuñi Fetiches*, p. 16. (Report of the Bureau of Ethnology, 1880-81.)



an-kia a god, while Tehua folk-lore considers him as an historical personage endowed with extraordinary magic powers. In addition to this, the Tehuas assign a definite locality to his mortal career. I believe both personages to be the same, and while among the Tehuas Pose-ueve appears only as a hero, among the distant Zuñis he has already become a hero-god.

The Queres know Pose-ueve very well, and some of them even give him that name; but another title is applied to him at Santo Domingo. He is called "Our Father from the East, that cometh together with the Sun." This would make the morning star his fetich. This resembles another Tehua designation, which is Po-se Ye-mo T'an Se-ndo, literally, "Our sun-father, Pose-yemo." These names are titles given in worship, and subsequent to the historic appellative, which is a genuine Indian personal name.

The Tehua folk-lore concerning Pose-ueve deserves to be closely studied, as it manifestly embodies considerable ancient history of the tribe. What I have been able to give is a mere outline, which further investigations will of necessity modify. So much, however, appears to be certain: that the village of Pose-uingge was the birthplace of the Indian hero, that he was a Tehua Shaman or wizard, and that he wielded considerable influence over the whole tribe during his lifetime.

I have not been able to secure any information concerning the other two villages of the Ojo Caliente group. What the Shamans told me at San Juan, however, leads me to believe that they were abandoned before Pose-uingge; they said that Houiri and Homayo were very ancient, and that they remembered nothing about them except the names and the fact that their ancestors built and inhabited them.

I was assured that the three ruins described were not the

only ones of the Ojo Caliente group. Some mentioned two, others as many as five more. But the rows of stones characterized by me as "garden beds" are frequently mistaken for foundations of ancient buildings, and in this way an exaggerated conception of the number of villages may have arisen, as it undoubtedly has in many other localities. From the extent of the valley, its topography and natural resources, I think that three villages, as large as those described, were all it could conveniently support.

Rugged mountains, mostly well wooded, rise west of the Ojo Caliente valley, and separate it from the nearest permanent watercourse in that direction, the Rito Colorado. I have not heard that any ruins have been noticed in this range. Its width is nine miles; a very picturesque and agreeable stroll, at the end of which the level basin of El Rito spreads out to the view. It is surrounded by wooded heights on all sides; its soil is dark red, and on its eastern edge flows the stream that has taken its name from the color of the ground. The Mexican settlement of El Rito lies at the northern end of the basin, near where the creek issues from a sombre and rocky gorge.

At the southern extremity of the plain, about five miles from the little town and thirty meters above the banks of the stream, lies the very large pueblo ruin, called by the Tehuas Se-pä-ue. I consider it to be the largest in New Mexico, and it could shelter more people than Casa Grande in Arizona. I have given the plan of the ruin on Plate I. (Fig. 8), and it clearly belongs to the type of the Ojo Caliente pueblos. The average size of the rooms appears to be somewhat larger; but as they are only exposed in a few of the rubbish-mounds, the average of 4.1 by 2.3 meters ( $13\frac{1}{2}$  by  $7\frac{1}{2}$  feet) is no criterion. The walls are of adobe without straw, and the mounds are low and flat; a sign, perhaps, of great age, but

possibly also due to heavy rains. I noticed six circular depressions, one of which measured as much as 16.5 meters (54 feet) in diameter, and has a wall of stone. The other estufas, for the former may have been a tank, measure only from 9 to 13 meters (30 to 40 feet) across. The depth of the first is  $2\frac{1}{2}$  meters (8 feet) at the present time. On the whole, Sepäue so much resembles the Ojo Caliente pueblos, particularly Houiri, that I need not go into any great detail. The artificial objects are of the same description as those at Pose-uingge, only there is a little more obsidian. Cedar posts still protrude, at intervals of from 2 to  $2\frac{3}{4}$  meters, from the edge of one of the mounds; their diameter is in the mean 0.18 m. (7 and 8 inches). Originally they may have stood erect, but they may have been beams supporting the roof, which after falling were gradually forced into an upright position by the débris accumulating around them.

On a plateau north of the ruins and separated from it by a deep gulch or arroyo are a number of garden plots incased by stones laid on the ground, the outlines of which are marked by heavier pieces than the compartments. The quadrangles are quite large in comparison with the narrow terraces at Pose-uingge and Homayo.

All the garden plots at Sepäue lie on a level, and at the same elevation above the stream as the pueblo. Many of the lines are nearly obliterated, so that it is impossible to reconstruct the quadrangles originally formed by them. The soil is covered with gravel; but wherever that gravel is removed, it proves fertile. In the very squares of the pueblo, neighboring settlers have recently planted corn and beans, which yielded exceedingly well, although there is no possibility of irrigation. The bottom of the Rito near the ruin is also too narrow and rocky to permit cultivation. In general, the soil of the valley is very fertile, but there is great

complaint about scarcity of water. While this does not affect Indian corn much, it almost precludes the cultivation of other cereals.

The Tehuas claim Sepäue as one of their ancient settlements, but I failed to obtain any folk-lore concerning it. I was also informed that another ruin existed near by, to which the Indians of San Juan give the name of P'o-nyi Pakuen. It might be the ruin of which I was informed as lying about seven miles farther west, near the road to Abiquiu. My informant told me that near that ruin there were traces of an ancient acequia.

The elevation of El Rito is 2,071 meters (6,792 feet);<sup>1</sup> there is consequently a rise of several hundred feet from Ojo Caliente to it. From any point of the Rito plain, the high peak of Abiquiu<sup>2</sup> appears prominent in the southwest. That peak and the range of the "Valles" of which it is the northern termination indicate the western limit to which the ancient settlements of the Tehua Indians at any time extended. To what tribe or linguistic stock the numerous vestiges of pueblos along the Upper Rio Chama, north of Abiquiu and west of El Rito, must be attributed, is still unknown. I have not visited any of them,<sup>3</sup> Abiquiu having been the terminal point of my excursions in that direction.

From El Rito to Abiquiu the distance is about twenty miles. The difference of level is considerable, Abiquiu being only 1,808 meters (5,930 feet) above the sea. The road mostly follows the course of the Rito, the banks of which become more sandy the nearer it approaches the Chama. Picturesque rocks, curiously eroded, line the creek bottom on the east. I could not ascertain anything about ruins between

<sup>1</sup> Wheeler's measurements.

<sup>2</sup> 11,240 feet high (Wheeler).

<sup>3</sup> While at the Rito, Don Pedro Jaramillo told me of a pueblo lying west of it, and north-northwest of Abiquiu.

the old pueblo last mentioned and the Chama. As soon, however, as the Chama valley is reached, we strike remains of Indian habitations. That valley is extremely sandy, but the soil is fertile and can always be irrigated. The bluffs lining it on the south side afford good points for observation and defence, and on these bluffs the ruined pueblos which I saw are situated.

The modern town of Abiquiu stands almost on the site of an ancient village. That town was peopled in part by "Genizaros," or Indian captives, whom the Spaniards had rescued or purchased from their captors.<sup>1</sup> The Tehuas of Santa Clara contend that most of those Genizaros came from the Moquis, and that therefore the old pueblo was called Jo-so-ge. At San Juan the name was given to me as Fe-jiu. The situation of Abiquiu is a peculiar one. The main portion of the village stands on the east side of the muddy and treacherous Chama River, and on a steep em-

<sup>1</sup> There were two settlements made at Abiquiu during the past century. The first prior to 1747, since the Yutes raided it on the 12th of August of that year, killing a number of the settlers and compelling the remainder to abandon it. It is stated by Antonio de Villaseñor y Sanchez (*Teatro Americano*, vol. ii. p. 414) that in 1748 this first settlement consisted of twenty families. A second settlement was effected in 1754 (*Merced de Abiquiu*, 1754, MS.), and Fray Juan Joseph Tobedo became the first priest. *Libro de Bautismos de Santo Tomas de Abiquiu*, MS.). But the settlers had always to contend with the Yutes, and later on with the Navajos. Governor Pedro Fermin de Mendinueta had to force them to return to their homes again in 1770. *Mandamiento Sobre el Repueblo del Puesto de Abiquiu* (MS.). According to Fray Agustin Morfi (*Descripcion Geográfica del Nuevo Mexico*, 1782, MS.), there were already Genizaros there in 1765, as he says: "La mision de Sto Tomas de Abiquiu se hallaba con 75 familias y 166 personas; y vecinos 104 familias con 612 almas." The same authority states that in 1779 it had 851 inhabitants. In 1794 it was certainly peopled by Genizaros (*Certificaciones de las Misiones que son al Cargo de la Provincia del Sto Evangelio de N. S. P. S. Franco de la Ciudad de Mexico, en esta Custodia de la Conversion de S. Pablo, Sita en esta proxa de la Nueva Mexico*, MS.): "De Indios Genizaros de diversas naciones." In 1808, it contained 122 Indians, and 1,816 whites and mestizos. Fray Josef Benito Pereyro, *Noticia de las Misiones que ocupan los Religiosos de la Regular Observancia de N. S. P. S. Francisco*, etc., MS.

bankment. On three sides it is completely shut in, — by volcanic mesas on the southeast and northwest, and by the slopes of the peak of Abiquiu on the south, — so that the only vista is to the east-northeast, where as through a gap comparatively open country is visible as far as the distant Sierra de Picuries. The ruins lie on the highest point of the present village. As far as I could discern, the pueblo formed an "L." Although it is certain that Abiquiu is a settlement dating from the past century, nevertheless I regard the pueblo as of pre-Spanish origin. It is a well established fact, that nobody dwelt there in the sixteenth and seventeenth centuries.<sup>1</sup> What further confirms me in the belief that the ruins are quite ancient are the objects found there. The pottery, of which there are handsome specimens in Mr. Eldodt's collection at San Juan, is the same as that at Ojo Caliente and El Rito. The metates are of a very ancient type, and there is much flint and obsidian. Axes of basalt and other stone have also been exhumed. I therefore suppose the pueblo to be ancient, and distinct from the settlement of the Genizaros. In that case it is quite likely that its name was Fe-jyu; while the modern village of rescued Indian captives would be the one called Jo-so-ge by the Tehuas of Santa Clara.<sup>2</sup>

A picturesque gorge or cañon terminates above Abiquiu, and from it emerges the Chama River. The ruins above Abiquiu, and on the three branches by which the Chama is formed, I have not visited. Some of them have been noticed in the publications of the U. S. Geographical Survey and of the Bureau of Ethnology, to which I refer the student.<sup>3</sup>

<sup>1</sup> I can find no trace of it as a settlement prior to the middle of the eighteenth century.

<sup>2</sup> Jo-so is the name given by the Tehuas to the Moquis.

<sup>3</sup> *Annual Report of the Chief of Engineers for 1875, Appendix LL (App. J, i),*

Three miles below (southeast) Abiquiu, at a place called "La Puente" (the Bridge), on a bluff close to the river on the south bank, stands the ruin which Dr. Yarrow of Washington examined about sixteen years ago, and of which he has given descriptions and a ground plan.<sup>1</sup> I have also figured it on Plate I. Fig. 9. The height on which the ruin stands is forty-eight meters (150 feet) above the river. Its gravelly slopes are very steep, so that for defence and observation the position was well chosen. This pueblo was built of adobe, with thin plates of sandrock intercalated in some places. An average of forty-one rooms measured gave 2.5 by 3.7 m. (8½ by 12 feet). The number of stories was certainly two, and in some places three. One single estufa is still visible. The long structures of the pueblo surround two good-sized courtyards or "squares," and rows of stones set on edge form appendixes to several of the mounds.

Nearly on the brink of the slope towards the river, between two mounds and forming the northeast angle of the principal square, stand the remains of a round watch-tower. It is connected with the buildings next to it by rows of stones forming little rectangles in one place, as if a few garden

Part ii. p. 1086, copied into *Report upon United States Geographical Surveys West of the Hundredth Meridian* (vol. vii., Special Report by Professor E. D. Cope, pp. 351 to 360 inclusive). It is also interesting to note that ruins on the Chama were also noticed in 1776 by that remarkable monk, Fray Silvestre Velez de Escalante, during his trip to the Moqui Indians by way of the San Juan country. See his *Diario* of that journey, and the *Carta al P. Morfi*, April 2, 1778 (par. 11).

<sup>1</sup> See, in the volume last referred to above (App. I, i), Part ii. p. 1065, H. C. Yarrow, *Notice of a Ruined Pueblo and an Ancient Burial Place in the Valley of the Rio Chama*, pp. 362-365. The branches of which the Chama is formed are the Coyote in the west, the Gallinas north of west, and the Nutrias north. It is said that the waters of the first are red, those of the Gallinas white, and those of the Nutrias limpid. According as one or the other of these tributaries rises, the waters of the Chama assume a different hue. The word "Chama" is properly "Tzama."

plots had extended between the tower and the nearest mound on that side.<sup>1</sup>

Near this pueblo Dr. Yarrow discovered a number of skeletons. I copy from his Report: "After carefully examining the remains of the village, we set out in search of the graves, and found that bodies had been buried within thirty feet of the walls of the town. The arroyos, as already stated, had been washed out by water, and the falling away of the earth disclosed the remains. The first skeleton found was in the right-hand or eastern arroyo, some six or eight feet below the level of the mesa, and had been placed in the grave *face downward*, the head pointing to the south. As the body lay, we had a fine section of the strata of earth above it. Two feet above the skeleton we noticed two smooth black 'ollas,' or vases, which, when dug out, were found to contain charcoal, parched corn, and the bones of small mammals and fowls, which had doubtless been placed therein at the funeral feast; and the remaining earth to the surface contained nothing but pieces of charcoal. Not a vestige of clothing, no ornaments, implements, or weapons, were found near the corpse, and apparently no receptacle had been employed to contain it. . . . A further search in both arroyos revealed more bodies similarly buried, and we secured several skeletons. But in some cases the crania were wanting. Three or four skeletons of children were also discovered; but the bones were in such fragile condition as to crumble on exposure to the air."<sup>2</sup>

The mode of burial as described corresponds to the present customs of burial of the Pueblos.<sup>3</sup>

<sup>1</sup> Although the sides of the hill are very gravelly, the summit, where the pueblo stood, has very good soil. Hence it is not improbable that a few garden plots were established in close proximity to the dwellings.

<sup>2</sup> *Notice of a Ruined Pueblo*, etc., p. 364.

<sup>3</sup> Part I. of this Report, p. 153. The custom to-day is to place a vessel filled



To this ruin the San Juan Tehuas apply the name of Abechiu, while those of Santa Clara call it Oj-po-re-ge, "Place where metates are made rough."<sup>1</sup> Abechiu is undoubtedly the original name, and the other one of more recent date.

That both of the villages just described were built and occupied by the Tehuas seems to be certain; and that they were abandoned previous to the advent of Europeans is positive. Further than this, I have not been able to ascertain anything regarding their history.

I was told that another ruin existed eight miles southeast of Abechiu, near the Chama; and that small houses were scattered over the high mesas. Indians of San Juan have given me the names of some of the ruined pueblos that lie on the mesas west and south of the Chama River; for instance, Fe-se-re and Te-e-uing-ge. They are said to be small. The ruin next to Abechiu which I investigated, is that of the Yuque-yunque of Coronado's time, on which part of the settlement of Chamita is erected, Yuge-uingge.<sup>2</sup>

Chamita lies directly opposite San Juan. The ruins form an irregular quadrangle, and even in their present condition

with corn-meal and one filled with water on each side of the corpse in the grave. This is done to supply the soul with food and drink while it wanders through the air to Shi-pa-pu. As the journey takes four days and nights, and the only danger to which the soul could be exposed is from evil sorcerers or their spirits, the place where the person expired is kept sacred for four days by placing on it a little wooden image to represent the body. To this image are added a bowl of water, one containing food, cigarettes, and a miniature war-club, by which the soul may defend itself. To lead the fiends astray, a magic circle is drawn around the figure, and marks intended for the tracks of the pheasant, or "road-runner." As they point in all four directions it is believed they will bewilder the sorcerers when they come to take the soul, and thus prevent them from following it on its journey to Shi-pa-pu.

<sup>1</sup> "Lugar adonde pican los metates." As the ancient metates were not made rough by picking, I therefore conclude that it is a modern designation for the place.

<sup>2</sup> Castañeda, *Cibola*, p. 138. Also Part I. of this Report, p. 123, note 4.

resemble the description which Gaspar Perez de Villagran has given of the village.<sup>1</sup> The valley of Chamita is fertile. Situated between the Chama of the west and the Rio Grande on the east, it enjoys exceptional facilities for irrigation. For a ground plan of the ruin, I refer to Figure 10 of Plate I. Some protruding walls show that unhewn stones and rubble laid in adobe mortar entered largely into the composition of the structure. Whether the quadrangle on which a number of modern adobe houses stand to-day constituted all the village, or whether there were buildings besides, is difficult to determine, since fields extend all around the ruins. Cultivation by the Indians of San Juan, as well as by Mexicans, has obliterated every indication that might have existed formerly. The same has happened with the Spanish abodes and with the chapel of San Gabriel erected there in the fall of 1598.<sup>2</sup> All has disappeared; yet the tradition exists that at Chamita the first settlement of

<sup>1</sup> *Historia de la Nueva Mexico*, 1610 (Canto xxvii. fol. 228) : —

“ El Pueblo, no constaua ni tenia,  
Mas que vna sola plaça bien quadrada,  
Con quatro entradas solas cuios puestos,  
Despues de auerlos bien fortalecido,  
Con tiros de campaña, y con mosquetes.”

That the village had at least two, perhaps three stories, is also indicated in the same book (fol. 228 and 229) : —

“ Al arma dando todos con gran priessa,  
Requirieron los puestos, y notaron,  
Que estaban ya los altos de las casas.”

Also : —

“ Los techos y terrados lebantados.”

<sup>2</sup> Oñate, *Discurso de las Jornadas que hizo el Campo de su Magestad desde la Nueva España á la Provincia de la Nueva Mexico* (Doc. de Indias, vol. xvi. pp. 262-264). September 8th : “ Dia de Nuestra Señora, fue la gran fiesta de la dedicacion de la dicha Yglesia de Sant Joan Baptista.” *Cbediencia y Vasallaje de San Juan Baptista* (Ibid., p. 116) : “ Y este pueblo do Sant Joan Baptista y el de San Gabriel el de Troomaxiaquino . . . y mas, la Ciudad de Sant Francisco de los Españoles, que al presente se edifican.” This might indicate that it was Oñate's intention to call the new settlement San Francisco. But it is

whites in New Mexico took place, and very old people still remember that the site was formerly called "San Gabriel del Yunque."<sup>1</sup>

Indian folk-lore has much to say about Yuge-uingge. The Tehuas relate that when their ancestors journeyed southward from Cibobe, and the division into summer and winter people occurred, of which I have spoken in the First Part of this Report,<sup>2</sup> the summer people, under the guidance of the Pay-øj-ke or Po-a-tuyo, settled at Yuge-uingge ;

abundantly proved that its patron saint was San Gabriel from the very beginning. Zaldivar, *Memorial* (Ibid., p. 198) : " Parece que con este aparato entro hasta el asiento y Villa de San Gabriel." Zaldivar was an eyewitness. Torquemada, *Mouarchia* (vol. i. p. 672) : " Despachados Don Juan de Oñate, y los suios, para la jornada del Nuevo Mexico, siguieron su camino, en demanda de aquellas tierras, y en llegando á aquellas partes, tomaron posesion, por el Rei, en ellas, y el Pueblo donde Don Juan de Oñate, Governador, y Capitan General de esta entrada, hiço asiento y puso su Real, se llama San Gabriel, el qual sitio está en treinta y siete grados de altura al Norte, y está situado entre dos rios, y con las aguas del menor de los dos, se riegan los trigos, cevada, y maiz. . . . El otro rio es grande, que llaman del Norte, que es de mucho, y mui buen pescado." Torquemada wrote not later than 1609 (*Carta Nuncupatoria*, Ibid.), and he was a contemporary of the events. He adds, on page 678 : " Ya hemos dicho, que el lugar principal donde el Governador Don Juan de Oñate hiço su Poblacion, y sentó su Real, le puso por nombre San Gabriel . . . y que tiene por vanda dos rios, vno de los quales es de menos agua, que el otro." The same author also publishes a letter from Fray Juan de Escalona, dated " De este Convento de San Gabriel de el Nuevo Mexico, á primero de Octubre de mil seiscientos y vn años." *Carta de Relacion*, p. 675. I have in my possession the copy of a document (*Peticion de los Pobladores de la Villa de San Gabriel*, MS ), executed at San Gabriel in December, 1604, which begins as follows : " Cava de Sn Gabriel de la Nueva Mexico." Fray Gerónimo de Zárate Salmeron, *Relaciones de Todas las Cosas*, MS., par. 34 : " Plantó su real entre este rio y el de Zama." Par. 44 : " Año de 1604, á 7 dias del mes de Octubre, salió D. U. de Oñate de la villa de Sn Gabriel á descubrir la mar del Sur." Lastly, Vetancurt, in speaking of the pueblo of San Juan, says (*Crónica de la Provincia del Santo Evangelio de México*, p. 318) : " Desde alli se ven los edificios de San Gabriel, primera fundacion de que se pasó á Santa Fé, á la otra parte del rio."

<sup>1</sup> Yunque is but a contraction of Yuge-uingge. Escalante says, in *Carta al Padre Morfi*, par. 2 : " Una Villa de Españoles, que era de San Gabriel del Yunque, primero y despues de Santa Fé."

<sup>2</sup> Part I. of this Report, p. 303.

but the winter people, after wandering over the eastern plains for a long while, at last went in search of their brethren, and established themselves near San Juan in sight of the other's village at Chamita. Finally it was agreed upon that a bridge should be built across the Rio Grande, and the official wizards went to work and constructed it by laying a long feather of a parrot over the stream from one side, and a long feather of a magpie from the other. As soon as the plumes met over the middle of the stream, people began to cross on this remarkable bridge; but bad sorcerers caused the delicate structure to turn over, and many people fell into the river, where they became instantly changed into fishes. For this reason the Navajos, Apaches, and some of the Pueblos, refuse to eat fish to this day.

The story then goes on to tell that both factions united and lived together at Oj-ke on the east bank. It seems, however, that Yuge-uingge was not abandoned, since Poseueve in that pueblo met with the affront that caused him to forsake this earth, as I have already related.<sup>1</sup> The village was definitively forsaken in 1598, for the benefit of the Spaniards, who established themselves in the houses temporarily, until they could build their own abodes. This occurred with the consent of the Indians, who voluntarily relinquished the place to join their brethren at San Juan; and it was partly on account of this generous action that the title "De los Caballeros" was bestowed upon the Tehuas of the latter village.<sup>2</sup>

<sup>1</sup> Yuge-uingge must have been still occupied in 1541, for Castañeda says, in *Cibola*, p. 138: "Mais ceux de Yuque-yunque abandonnèrent deux beaux villages qu'ils possédaient sur les bords du fleuve, et se retirèrent dans les montagnes. . . . On trouva beaucoup de vivres dans les deux villages abandonnés."

<sup>2</sup> *Historia de la Nueva Mexico* (fol. 141): —

"Aqui los Indios mui gustosos,  
Con nosotros sus casas dividieron,

The site of Chamita does not seem to have been much occupied during the seventeenth century;<sup>1</sup> but although the Yutes and Comanches in the eighteenth century greatly harassed the settlers of San Pedro de Chama, as the district was called after the reoccupation of New Mexico, the number of Spanish inhabitants considerably increased.<sup>2</sup> The Indians of San Juan to-day still hold a portion of the arable

Y luego que alojados y de asiento,  
Haziendo vezindad nos assentamos."

Also:—

"Hazía un gracioso Pueblo bien trazado  
Á quien San Juan por nombre le pusieron,  
Y de los caualleros por memoria,  
De aquellos que primero lebanaron,  
Por estas nuevas tierras y regiones,  
El sangriento estandarte donde Christo,  
Por la salud de todos fue arbolado."

This disposes of the fable that the title of "Caballeros" was given to the San Juan Indians for their loyalty to Spain during the insurrection of 1680. On the contrary, the Indians of San Juan were among the most bitter and cruel of the rebels; and their participation in the risings of 1694 and 1696 is well known.

<sup>1</sup> *Merced de la Villa Nueva de Santa Cruz de los Mexicanos*, 1695, MS. The Spanish dwellings existing in the valley prior to the rebellion of 1680 are all indicated in this document, and were in the vicinity of the present town of Santa Cruz, — mostly towards San Ildefonso, and between that pueblo and the one of Santa Clara. Compare also *Diario del Sitio de Santa Fé*, 1680, MS., fol. 20 *et seq.*, and *Visita que Hizo el Sor Marques de la Naba de Brazinas*, 1704, MS.

<sup>2</sup> The name Chamita dates from the eighteenth century, and was given in order to distinguish it from the settlements higher up on the Chama River. Morfi (*Descripcion Geográfica*, fol. 99) says that seventeen families peopled it in 1744. A list nearly complete of the murders committed by the roaming Indians in the Chamita (Chama) district is contained in the *Libro de Entierros de Santa Clara*, MS. In 1748 the people of Chamita applied for permission to abandon their homes owing to these hostilities. *Peticion y auto sobre abandonar los Puestos de Abiquiu, Ojo Caliente y Pueblo Quemado*, 1748, MS. This was refused. Tomas Velez Cachupin, *Auto prohibiendo el despueblo de Chama como pretendian sus moradores por ostilidades de los Yutas*, 1749, MS. In 1781 the district was visited by a terrible epidemic, which lasted about two months, and carried off a frightful number of victims. *Libro de Difuntos de Santa Clara*, 1781, MS.

lands about Chamita, and a small colony of them dwell on the west side of the Rio Grande, at the so called "Pueblito."

The delta on which Chimita is situated narrows at a short distance north of the settlement, and becomes the Chama valley,—sandy, dotted with groves of cottonwoods and flanked on the west by the mesas,—above which towers the former volcano of Abiquiu. In the east an extensive plateau, covered by a layer of black trap, separates this valley from the Rio Grande; it is called the "Mesa de la Canoa,"<sup>1</sup> and there are no vestiges of antiquity on its surface so far as I am aware, but there are rents and clefts in its eastern side that I have reason to believe are used to-day by the Indians of San Juan for sacrificial purposes. The eastern side of the Rio Grande is a level and very fertile expanse for a length of ten miles, between the "Joya" in the north, and San Juan in the south. This abuts against a barren table-land that stretches westwards from the Sierra de la Truchas. On this table-land there are said to be ruins, and three in the plain along the river, of which I have visited but one, Pio-ge, three miles north of San Juan. This is smaller than Abiquiu; but the disposition of its buildings appears to have been similar. Considerable pottery has been exhumed from Pio-ge, and handsome specimens are in Mr. Eldodt's possession. Among them are sacrificial bowls with the turreted rim that characterizes those vessels, and the symbolic paintings of the rain-clouds, of water-snakes, and of the libella. Similar fetiches of alabaster have also been unearthed. Pio-ge is claimed by the Tehuas of San Juan as one of their ancient villages, and they assert that it was abandoned previous to Spanish times. They also state that there are two ruins at La Joya, (ten miles

<sup>1</sup> A trail leads across it to the Rio Grande from Ojo Caliente.

north of San Juan,) one of which they call "Sä-jiu Uing-ge," and the other "Pho-jiu Uing-ge."

The Mesa de la Canoa descends towards Chamita in a jagged spur, along whose base runs the Denver and Rio Grande Railroad. From its bald crest is an extended view, taking in the pueblo of San Juan<sup>1</sup> on the opposite bank, which shows above the green fields and groves of fruit trees of the river bottom. Between the river on the west and the high mountains of Nambé extends the valley of Santa Cruz, with its dismal historic recollections. Barren ridges shut in the view in the south; in front of them we see the top of the black Mesa of San Ildefonso looming up like the head of a gigantic negro. All that side of the Rio Grande except the heart of the mountains is the range of the Tehua tribe, ancient and modern; and the Indians of to-day, whenever they speak with freedom, assert that the ruins scattered over it are those of the villages of their forefathers.

West of the Rio Grande high peaks like the Pelado<sup>2</sup> and the Sierra de Toledo overlook the course of the river, but in much closer proximity. Bleak mesas covered with pine timber near the foot of the mountains form their base, and crowd close on to the river bank, leaving but a narrow strip for cultivation. The Mexican houses lie mostly on the first tier of bluffs, and the fields are as near the river as possible. We catch a glimpse of the pueblo of Santa Clara, and of its ungainly church. Farther south dark ridges seem to close in on both banks. Beyond the Mesa of San Ildefonso the Rio Grande rushes into the long, wild chasm which separates San Ildefonso from Cochiti, or the most southerly Tehua village from the most northerly pueblo of the Queres.

Santa Clara, or Ka-pou, lies six miles south of Chamita,

<sup>1</sup> Elevation 5,554 feet (Wheeler).

<sup>2</sup> Elevation 11,260 feet (Wheeler).

and a long mile beyond Española, the terminus of the Texas, Santa Fé, and Northern Railway; it stands on a bluff, from which the Santa Fé range and the valley of Santa Cruz are seen most favorably at sunset. The church dates from 1761.<sup>1</sup> The former pueblo and church of Santa Clara have long since disappeared, but their site is still known to the Indians, north of the pueblo. A still older site is at the outlet of a mountain torrent called Arroyo de Santa Clara, a short distance to the west. There, say the natives, stood "old Kapo before the white man and the gray fathers came to dwell among us." But the most ancient vestiges of the Tehuas of Santa Clara lie much higher still, on the bleak table-land through which the Santa Clara Creek has cut a narrow, deep, and very romantic gorge, the Santa Clara Cañon.

There are no ruins in this cleft; for ten miles it is a sandy groove; farther west the creek is filled with limpid water, abounding in mountain trout, and stately trees cover the bottom; thence it rises, narrowing, and finally becomes a beautiful wilderness where towering cliffs and pinnacles look down upon a maze of trees and shrubbery. Twenty-five miles separate the outlet of the gorge at Santa Clara from the crest of the Valles Mountains.<sup>2</sup> The Valles proper are

<sup>1</sup> *Libro de Difuntos de Santa Clara, 1726 to 1842 (MS, fol. 34)*: "En catorze de Oete año Setezientos Sesenta y uno di sepultura en esta yglesia nueva á Maria, par bula, á Jua. Antto Chapulin Soltero, qe murió Violento, y á Phe-lipa Donbella, quien recibió los Santos Sacramentos lo qe firme Fr. Mariano Rodriguez de la Torre, Mrõ." I give the text of this entry as a specimen of these church books, so frequently disdained, and yet so valuable for historical studies.

<sup>2</sup> The distances are not absolutely accurate, but according to the statements made to me, the only means of checking them being my own experience on foot. The view from the crest, where the Pelado looms up on one side and the Toledo range on the other, is really striking. The sight of grassy levels glistening with constantly dripping moisture is something rare in the Southwest. To heighten the effect, groves of "Pino Real" and mountain aspen rise everywhere. The soil is very fertile, and there is abundant water, and yet no trace



as destitute of ruins as the heart of the eastern mountain chain; beyond them begin the numerous ancient pueblos of the Jemez tribe.

Both north and south of the Santa Clara Cañon, about a mile on either side, and twelve miles from the Rio Grande, the light-colored pumicé-stone and volcanic ashes of which the mesas are mostly formed rise in abrupt heights. On the north side a castle-like mesa of limited extent detaches itself from the foot of the Pelado. The Tehuas call it the *Shu-finné*, and I have seen it distinctly from a distance of thirty miles. It is not the absolute height of the rock, (I should estimate it at not over 150 feet above the mesa,) but the almost perfect whiteness of its precipitous sides and lower slopes against the dark mass of mountains that makes it so conspicuous. The perimeter of the *Shu-finné* is not very large, and its base is surrounded by cedar and juniper bushes with a sprinkling of low piñon trees.

Two thirds of the elevation of this rock consist of a steep slope covered with *débris* of pumice and volcanic tufa. Along the base of the vertical upper rim small openings are visible, which are the doorways of artificial caves. The *Shu-finné* contains a complete cave village, burrowed out of the soft rock by the aid of stone implements. During my last visit to Jemez I passed quite near this natural castle,—near enough to see the doorways easily, and to notice that in some places two tiers of grottos were superposed; but I had not time to ascend and examine the caves themselves. This was unnecessary, since three years previous I had investigated the other locality of artificial cave dwell-

of ancient abodes has been found. The winters are long in the Valles, and there is too much game not to attract the cupidity of a powerful tribe like the Navajos. This may serve to explain why the Valles remained uninhabited in ancient times. I suppose that no ruin on the flanks of the chain, both east and west, is to be found at an altitude exceeding 7,500 feet.

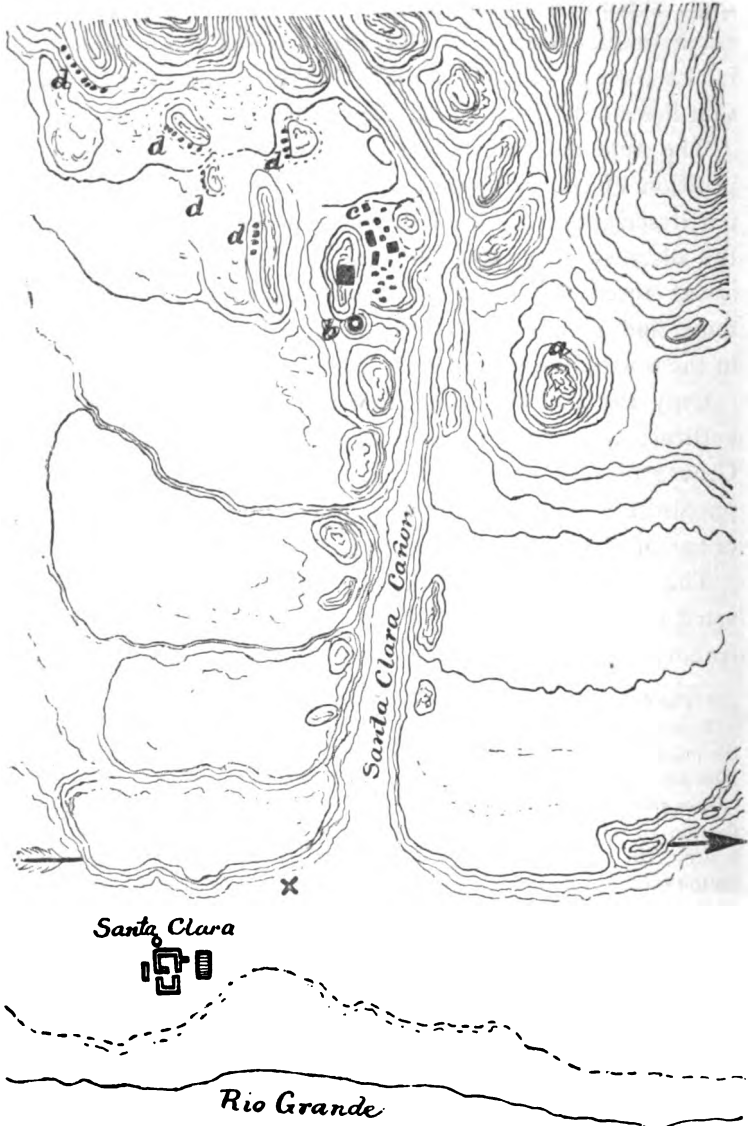
ings, separated from the Shu-finne by a distance of only three miles. This other locality is called the "Pu-yé," and is also a mesa of pumice-rock; but it rises from the plateau that lies south of the Santa Clara Cañon.

The annexed sketch will give a better idea of the relative position of the Shu-finne (*a*) and the Pu-yé (*b*) than any written description. It is made without reference to scale, but the distance separating the two rocks from each other is about three miles. The Pu-yé lies lower than the Shu-finne, and as seen from it the latter looms up conspicuously in the north, like a bold white castle.

Only the southern and eastern sides of the Pu-yé are vertical; towards the north and west the slope is gradual. Groves of pine partly cover the summit; and quite a large pueblo ruin, with its walls of pumice still intact to the height of two stories, crowns the top of the cliff.<sup>1</sup>

The vertical wall in which the caves (*d*) have been excavated varies in height. In places it may be only six meters (twenty feet); in others it attains as many as sixteen (fifty

<sup>1</sup> The following description of this ruin, by the late Mr. James Stevenson, relieves me from the necessity of giving any details regarding the appearance of the pueblo (*Illustrated Catalogue of the Collections obtained from the Indians of New Mexico in 1880*. Report of the Bureau of Ethnology, 1880 and 1881, p. 432): "Upon the top of the mesa of which these cliffs are the exposed sides we found the ruins of large circular buildings made of square stones, eight by twelve inches in size. The walls of some of these structures remain standing to the height of ten to twelve feet, and show that from four to five hundred people can find room within each inclosure. One of these buildings was rectangular, and two were round structures. The latter were about 100 and 150 feet in diameter; the rectangular, about 300 feet square. Many small square rooms were constructed in the interior from large cut bricks of the tufa of which the bluffs are composed. These rooms all opened toward the centre of the large enclosure, which has but one general doorway. From these ruins we secured great quantities of pottery, arrow and spear heads, knives, grinding-stones, arrow-smoothers, and many of the small flint adzes, which were undoubtedly used for making the blocks for the structures on the mesa, and for excavating the cave dwellings. Among the débris in the dwellings are found corn cobs, and other evidences of the food used by the inhabitants."



SKETCH OF SANTA CLARA CAÑON, THE SHU-FINNÉ, AND THE PU-YÉ.

feet). The incline on the other hand is twenty meters (sixty-five feet) on the western, and as many as fifty meters (one hundred and sixty feet) on the eastern end. As the denuded faces of the cliff are those of the south and east, it follows that the caves extend around it from the southwestern to the northeastern corner, forming a row of openings along the base of the vertical wall. There are also scattered groups of caves in other heights near by (*d*). I did not count their number, but since they extend at irregular intervals on a line nearly a mile long, counting both faces, and there are sometimes two and occasionally three rows, they must have been capable of harboring at least one thousand people. In some places beams protrude from the rock, showing that houses had been built against it alongside of cave dwellings. There was also a level platform all along the base of the vertical declivity, wide enough at one time to afford room for at least one cell if the rock were used as a rear wall. This rock is soft and friable, and can easily be dug into by means of sharp and hard substances, such as obsidian and flint. The volcanic formation of the mountains affords sufficient quantities of both materials, but chiefly of obsidian. Basalt chisels rudely made have also been found in connection with the caves. That the caves are wholly artificial admits of no doubt, and it was in fact easier for the Indian to scrape out his dwellings than to build the pueblo whose ruins crown the summit of the cliff. Since Mr. J. Stevenson examined the Pu-yé in 1880,<sup>1</sup> the locality has been frequently visited,

<sup>1</sup> Mr. Stevenson says in regard to the manner in which the rooms were excavated (*Ibid.*, p. 431): "The process, from the evidences shown inside, of carving out the interior of the dwelling was by scraping grooves several inches deep and apart, and breaking out the intermediate portion; in this way the work progressed until the room reached the desired size." At the same time Mr. Stevenson was making these observations at the Pu-yé, I was arriving at similar

and but few specimens of broken objects are obtainable. I refer to the Catalogue published by the Bureau of Ethnology for a description of the collections made on the spot by Mr. Stevenson in 1880.<sup>1</sup> Mr. Eldodt has in his possession several valuable specimens from the Pu-yé.<sup>2</sup> These relics have nothing to distinguish them from those found in pueblo ruins in general; but the pottery is not so well decorated as that of Ojo Caliente and Rito Colorado. Fragments of a coarsely glazed variety are very abundant, and I know of but one specimen of incised ware found at or about the artificial caves.

The ascent to the caves is tedious, for the slope is steep, and it is tiresome to clamber over the fragments of pumice and tufa that cover it. Once above, we find ourselves before small doorways, both low and narrow, mostly irregularly oval. I measured a number of the cells and found their height to vary from 1.47 (4 feet 10 inches) to 2.03 m. (6 feet 8 inches). Most of them, however, were over five feet high. The outer wall was usually 0.30 m. (1 foot) thick, like most of the pueblo walls. A single doorway sometimes serves as entrance to a group of as many as three cells, connected by short, narrow, and low tunnels, large enough for a small person to squeeze through. I noticed little air-holes and also loop-holes in the outer walls, but no fireplaces, although, as Mr. Stevenson also observed,<sup>3</sup> the evidences of fire are plain in almost every room. Altogether these caves must have been uncomfortable places of abode. In summer the hot sun strikes full on the face of the rock,

conclusions concerning the artificial caves at the Rito de los Frijoles, nearly thirty miles farther south, in the same mountain region.

<sup>1</sup> *Ibid.*, p. 441.

<sup>2</sup> The most interesting are several stone axes, and one war-club with head of stone, — all with their wooden handles, — and the stone arrow-smoothers.

<sup>3</sup> *Ibid.*, p. 431.

and the line of grottos lies high above the tallest trees in the arroyo beneath. In winter smoke must have made them extremely disagreeable. The ceilings of the caves are black from soot. The floor is 0.05 m. (2 inches) thick, and appears to have been an ordinary coating of adobe mud spread on the rock and washed with blood to render it hard and smooth. Niches are frequent, and there are traces of a coating of whitewash of gypsum on the walls. On the whole, the interior of these cells resembles that of a pueblo room now of ancient type. There are even the holes where poles were fastened, on which hides, articles of dress, or dance ornaments were hung,<sup>1</sup> as is still the custom of the Pueblo Indians. In one room I noticed what may have been a stone frame for the metates. The interior chambers may have been used for store-rooms, or the largest of them may also have served as dormitories.

Every feature of a Pueblo household is found in connection with these caves. They form a pueblo in the rock, and there are also a number of estufas.

I have not succeeded in ascertaining that any artificial cave pueblos have been discovered north of the Shu-finné, nor are there any south of the parallel of Cochiti. But the country intervening between these two points — thirty miles from north to south, and ten miles on an average from east to west, lying west of the Rio Grande valley and east of the high crests of the Sierra de los Valles — all belongs to the peculiar volcanic formation that rendered the excavation of abodes easy. Cave villages of the kind described are consequently quite numerous, occupying an area of about three hundred square miles. They are merely a local feature,

<sup>1</sup> *Ibid.*, p. 431: "Near the roofs of many of the caves are mortises, projecting from which, in many instances, were found the decayed ends of wooden beams or sleepers, which were probably used, as they are now in the modern Pueblo dwellings, as poles over which to hang blankets and clothing, or to dry meat."

to which the Indian was induced to resort by the nature of the prevailing geological formation.

The Shu-finné and the Pu-yé seem to form the northern limit of this peculiar region, — peculiar archæologically as well as geologically. The two cliffs form two distinct settlements, but they are so close together that, if they were inhabited at the same time, as seems probable, relations, either friendly or hostile, must have been frequent. But the Shu-finne stands alone; I was unable to find any traces of ruins around it on the north side of the Santa Clara Cañon, while the Pu-yé is surrounded in every direction by vestiges of ancient Indian abodes.

About two miles west of it, at the foot of the high mountains called the Sierra de Toledo, a part of the Valles chain,<sup>1</sup> bare cliffs show, on their eastern and southern faces, the marks of former caves, the front of which has completely fallen, leaving only arched indentations in the rock. I did not find a trace of pottery in these localities, and they all bear the marks of having been very long abandoned.

South of the Pu-yé extends a level space, whose soil appears to be quite loamy and fertile, and on this level are traces of garden plots. On a grassy plain northwest of the cliff, between it and the cañon, there are not only garden beds encased by rows of stones, as at the Rito and Ojo Caliente ruins, but considerable mounds, in one of which the

<sup>1</sup> As I shall have occasion to refer frequently to the different sections of the Valles Mountains under their current Spanish names, I give here a list of them from north to south. The northern end of the range is formed by the Sierra de Abiquiu, with the peak of the same name; then follows the Cerro Pelado; afterwards come the Sierra de Toledo, Sierra de San Miguel, Sierra de la Bolsa, and, lastly, the Sierra de la Palisada. As seen from Santa Fé, they seem to constitute one long chain of contiguous heights. West of this range, at an elevation of at least eight thousand feet, extend the grassy basins of the "Valles"; beyond it rises the high Sierra de la Jara, sometimes called Sierra de Jemez, because the Jemez region lies on its western base.

remains of a wall made of pumice-stone is still visible. The buildings were evidently made of blocks of this stone, and were at least two, if not three, stories high, forming hollow quadrangles and long, low mounds.

There is little pottery about these ruins, and their condition is such as would be produced by a period of decay much longer than that which both the caves and the ruin on top of the cliff appear to have suffered. In some of the enclosed spaces which I believe to have been garden plots, trees have grown up. These ruins, as well as the almost obliterated artificial caves on the base of the mountain, seem to be much older than the cave villages of the Shu-finné and Pu-yé, and the pueblo that stands on the summit of the latter.

I have spoken of the apparent fertility of the soil; but fertility alone is not sufficient for successful cultivation. Moisture also is required, and there is no possibility of irrigation on the whole mesa, north, south, or west. Towards the east it is thirteen miles to the Rio Grande. Still there is no doubt that the inhabitants had their fields around the cliffs. The cañon affords no space for cultivation sufficient for the number of people that must have occupied either one of the two rocks; but it is certain that, so near the mountains, the quantity of rainfall is sufficient, in ordinary years, to enable corn and the other indigenous staples to be grown. But in case of protracted droughts, such as are known to occur in the Southwest, the Shu-finné, the Pu-yé, and all the country around must have become uninhabitable.

For drinking purposes, a small spring lying to the northeast of the Pu-yé afforded a limited supply. The beautiful waters of the Santa Clara Creek flow at too great a distance, and access to them might frequently have been impeded.<sup>1</sup>

<sup>1</sup> The descent to the cañon is through woods and steep valleys, where an ambushade might easily be laid.



But a large tank had been constructed by the inhabitants of the villages, and the vestiges of it still exist. The locality therefore, fulfilled all the requirements for an Indian settlement: a good military position, arable soil, wood, and water for household purposes.

As lookout places, both cliffs are magnificently situated, commanding in every direction a superb view. The slopes of the mountains may be scanned for any living object not concealed by forests. The Rio Grande valley is visible from north of San Juan to San Ildefonso, and from Santa Clara to the gorges of Chimayo. The whole eastern chain stretches out in the distance, from Taos to its most southerly spurs below Santa Fé. In case of imminent danger, the inhabitants of one rock could signal to those of the other, night or day, as there was nothing to obstruct the view. As defensive positions they were beyond danger from assault by an Indian force. Only an ambush prepared under cover of darkness could injure those who descended from their lofty abodes in order to fetch water or till the fields. Nevertheless, constant harassing might at last compel the inhabitants to abandon even such impregnable positions, and to retire to places more distant from the range of their enemies.<sup>1</sup>

Who were the people that lived upon and around these two cliffs? For two consecutive years I inquired of the Tehuas of San Juan and San Ildefonso if they knew anything about the cave dwellers, and they invariably told me they did not. At last, in 1888, I became acquainted with the people of Santa Clara, and during three protracted stays at their village I

<sup>1</sup> There was not always danger of their being followed by the foe, in case of the removal of the whole village. Well authenticated cases are known in which the Apaches, after compelling the Pueblos to evacuate a certain position, did not disturb them in their new homes for a number of years.

succeeded in gaining the confidence of several of their principal Shamans. These medicine-men assured me that the pueblo on the summit of the Pu-yé, and the cave dwellings in that cliff and at the Shu-finné, were the work and abodes of their ancestors. Subsequently I questioned the medicine-men of San Juan, and they acknowledged that what their neighbors had told me was true, but that it was no part of their local traditional history. The same was said to me afterwards by one of the wizards of San Ildefonso. The Indians of Santa Clara also informed me that drought and the hostility of nomadic Indians had compelled the final abandonment of the sites. The statements of these Indians were so emphatic, that I am strongly inclined to believe them. The cave-houses and the highest pueblo appear therefore to have been the homes of that portion of the Tehua tribe whose remnants now inhabit the village of Santa Clara, in days long previous to the coming of Europeans.

I was not unprepared for such a result. While I lived at Cochiti, the Queres, after numerous evasive answers, and even formal denials, had acknowledged to me that the caves of the Rito de los Frijoles were the work of their tribe, many centuries ago. But while the people of Santa Clara were positive about the Pu-yé and the other cliff, they remained silent about the ruined cave villages higher up the mountains and the much deteriorated pueblos on the level around the Pu-yé. All I could elicit from them was that they "supposed" their forefathers made these also, but so long ago that they had neither recollection nor tradition concerning them. This statement of the Indians is corroborated by the general appearance of the ruins. There seem to be, therefore, the vestiges of two distinct epochs, marked by two different architectural types, — artificial caves, and communal pueblos built in the open air.

Whether the Tehuas were the builders of the older remains it is at present impossible to decide. One Indian of San Juan assured me that all the ruins on both sides of the Rio Grande, from the western slope of the Rocky Mountains to the eastern of the Valles chain, were those of former Tehua villages. Such sweeping statements must be taken with a great deal of allowance.<sup>1</sup> Concerning the Shu-finné and the Pu-yé, the following problems still present themselves: —

First, Were the two cliffs simultaneously occupied?

Second, Were the caves of the Pu-yé and the village on the summit inhabited contemporaneously?

Third, What caused the abandonment of these settlements?

First. I have already expressed my belief that the Pu-yé and the Shu-finné were inhabited at the same time. The appearance of both cliffs, and the amount of decay, indicate that probably only a short time elapsed between the abandonment of both. The isolated position of the northern cliff favors the hypothesis that it had to be evacuated sooner than the southern.

Second. Here two possibilities arise; one, that the pueblo is more recent than the caves; the other, that the former was the *summer*, the latter the *winter* village of the same population. I doubt very much if the pueblo is older than

<sup>1</sup> He mentioned, it is true, two successive occupations of the country by the Tehuas. In the first, the tribe kept along the heights for the reason that the bottom and valley of the Rio Grande was too moist for habitation; then they spread to the south as far as the region of San Pedro, and, turning back, settled again near the sites of their earliest abodes: lastly, they descended into the Rio Grande valley. This tale is by no means to be rejected, but further investigation is necessary before we can pass judgment upon it. The ruin at San Pedro marks the southern limit of the range of the Tanos, who were the southern branch of the Tehuas; and on the west side of the Rio Grande, Tehua ruins lie within twenty miles north of Cochiti. On the east side, Tanos ruins are found three miles east and northeast of the latter pueblo.

the caves, for it is in a better state of preservation, and the majority of the artificial objects were found there, and not in the grottos. There is nothing improbable in the hypothesis of a winter and summer village, as the caves must have been excessively hot and close during the summer months.<sup>1</sup>

Third. The Santa Clara people stated to me that drought and wars were the causes of the abandonment of the cliffs and the pueblo. The former reason especially seems highly probable, but there may have been still another. The rock is exceedingly friable, and its deterioration from atmospheric action is rapid. Still, comparatively few caves are so far gone as to have lost the front walls. The older cave dwellings, however, about which the Tehuás could give me no positive information, show such disintegration of the face of the rock very plainly. Whenever it set in, there was no remedy for it, and the inhabitants were compelled to move. This may have been one of the causes why the pueblo on top of the Pu-yé was built; the inhabitants may have seen that their cave dwellings were becoming untenable.

The country south of this interesting spot abounds in artificial caves; in nearly every gorge the southern and eastern cliffs show the traces of such abodes. With but one exception these gorges have no permanent water as far south as the Rito de los Frijoles; but springs have been discovered here and there on the long and narrow mesas that separate the cañons, and also in the river bottoms. These bottoms are frequently well wooded, and the forests encroach also

<sup>1</sup> At the present day the Indians of Acoma have their summer village, Acomita, at a distance of fourteen miles from the rock, and nearly the whole population emigrate thither every year. The Zúñis move to Pescado, to Aguas Calientes, and to Nutria, so that their pueblo is almost deserted from spring to fall.

upon the mesas the nearer we approach the latitude of San Ildefonso. I heard of no pueblo ruins except caves on the mesas immediately south of the Pu-yé, but a little above San Ildefonso stands quite an extensive ruin, through one angle of which the track of the Texas, Santa Fé, and Northern Railroad is carried. Pe-ra-ge, as the Indians of San Ildefonso call it, lies not far from the river, on the first terrace of the bluffs. The pueblo was built of rubble and stones, and consisted of several apparently connected quadrangles. It is therefore of the type of Se-pä-ue and Abe-chiu, but not as large as the former. The Tehuas of San Ildefonso state that it was inhabited by their ancestors before the coming of the Spaniards, and that they removed thence to the east bank of the Rio Grande. This change of location occurred previous to the sixteenth century. We have therefore in this tale about Pe-ra-ge a fragment of the ancient history of San Ildefonso, just as the lore about Chamita affords a glimpse into the past of San Juan, and the tales concerning the Pu-yé and vicinity throw light upon that of the Santa Clara tribe.

The country west of the Rio Grande, between Pe-ra-ge in the north and the vicinity of the Rita de los Frijoles in the south, is wild, with deep cañones traversing it like gashes cut parallel to each other from west to east. They are mostly several hundred feet in depth, and in places approaching a thousand. On the northern walls, facing the south or east, caves, usually much ruined, are met with in almost every one of them. There are also several pueblo ruins on the mesas, about which I have only learned from the Indians that they were Tehua villages, and that their construction, occupation, and abandonment antedate perhaps by many centuries the times of Spanish colonization. The Tehua names for these ruins are, respectively, Tzi-re-ge, Sä-ke-yu, and Po-tzu-ye.

Almost opposite San Ildefonso begins the deep and picturesque cleft through which the Rio Grande has forced its way. It is called "Cañon Blanco," "Cañon del Norte," or "White Rock Cañon." Towering masses of lava, basalt, and trap form its eastern walls; while on the west those formations are capped, a short distance from the river, by soft pumice and tufa. As far as I could ascertain, the last two pueblos mentioned lie near the line where the two formations touch each other. Tzi-re-ge<sup>1</sup> stands on a higher level, and is built of pumice and volcanic tufa. The plateau on which this ruin is situated slopes towards the east, and is of inconsiderable height. Its southern side is abrupt, and numerous cave dwellings have been excavated in it. Southeast of the ruin in a bottom lies a spring, with forests all around, though not immediately adjacent to the ruin. Tzi-re-ge was quite large, and comprised several quadrangles, after the manner of the northern Tehua pueblos, but I was not able to make measurements of it. I have seen considerable pottery from it, chiefly black ware, decorated with indented rims, and other simple plastic ornamentation. In a straight line Tzi-re-ge lies seven miles from San Ildefonso, and its altitude above the river I estimate at one thousand feet, if not more.

South of Tzi-re-ge, there are caves in the deep Cañada Ancha and other gorges. On the summit of the Mesa del Pajarito I found ruins of small houses with garden plots. The Mesa del Pajarito<sup>2</sup> forms the northern rim of a deep gorge called Rito de los Frijoles. In the cliffs of this romantic mountain valley, the largest and best preserved cave villages of the whole region are to be seen. These caves are no longer claimed by the Tehuas, but by the Querces.

<sup>1</sup> It is also called "Pajaro Pinto," from a large stone, a natural concretion, found there, slightly resembling the shape of a bird.

<sup>2</sup> The Querces call it "Tziro Ka-uash," of which the Spanish name is a literal translation.

What tribe erected the buildings on the Mesa del Pajarito I could not learn. Here the ancient range of the Tehuas terminates on the west side of the Rio Grande, and I turn to cast a glance at the antiquities on the east side of the river.

A volcanic plateau skirts the Rio Grande, beginning south of San Ildefonso, and extending to a few miles southeast of Cochiti, twenty-five miles long from northeast to southwest, and fifteen miles transversely. This plateau is surmounted near its southern end by the isolated height of the Tetilla.<sup>1</sup> This peak is only 2,153 meters (7,060 feet) high, and presents on all sides the appearance of a pointed cone resting on a gracefully curved basis. North of the Tetilla lie several ancient craters, whose sides have crumbled and are now rounded eminences or jagged humps. A layer of trap and lava covers the cretaceous formation to a depth of a hundred feet or more. The nearer we approach San Ildefonso, the wilder the scenery becomes, and the broad cañadas that traverse it are without permanent water. I know of only one ruin in this region, which stands three miles northeast of Cochiti on a rocky bluff of volcanic origin in the so called "Caja del Rio." Whether the Tehuas, the Tanos, or some other unknown tribe, were the builders of it, I am unable to say. The people of Cochiti disclaimed all knowledge of its former occupants.<sup>2</sup> The amount of arable soil in the vicinity is sufficient; for the population, as I estimate it, could not have exceeded four hundred. (See Plate I. Fig. 12.) The appearance of the mounds, to which the ruin is now reduced, is exceedingly ancient. Over them opuntias have grown, and indicate from a distance their shape and extent. The

<sup>1</sup> "Shkasi-sku-tshu," in Queres the pointed height; Ta-pu, in Tehua, which has an analogous signification."

<sup>2</sup> They call the ruin simply, Ti-tji Hân-at Ka-ma Tze-shu-ma, "The old Houses in the North," or Chin-a Ka-na Tze-shu-ma, "The old Houses on the River."

usual remnants of pottery and stone implements, including obsidian, are scattered about the ruin. The walls were of rubble, and I noticed only two estufas. The position is a good one for observation and defence. To the west especially the view is striking, the sombre cañones opening directly opposite, beneath the bold crest and peaks of the Sierra de San Miguel. The height of the ruin above the river must be several hundred feet, and the declivities are perpendicular in part, so that the stream seems to hug the base of the rock on which the pueblo was perched. On the waterless plateau called El Cuervo, farther north, I know of no ancient vestiges, and both the Cañada Ancha and Cañada Larga, at the foot of that wide and long mesa, I have been informed, are devoid of all remains of former Indian habitations.

Neither the Queres of Cochiti nor the Tehuas of San Ildefonso gave me any traditions concerning the volcanic phenomena of which the Tetilla and the ancient craters bear testimony; but I do not think that this silence was intentional on the part of the Tehuas, as they spoke without reserve concerning other volcanic phenomena near San Ildefonso.<sup>1</sup> They say that "once upon a time," very, very long ago, smoke issued simultaneously from four different points. From the heights on the Mesa del Cuervo, or To-ma, from the "Gigantes," or the black cliff of Shyu-mo south of San Ildefonso, from the Tu-yo, or the black Mesa of San Ildefonso north of the village, and from another point in high mountains, which I could not locate. Of earthquake shocks, fire, or lava, they told me nothing; neither could I find out how long ago this happened.

<sup>1</sup> The Tehuas call the Mesa del Cuervo, and the heights which crown it, To-ma, and the gigantic rocks forming the entrance to the Rio Grande gorge south of their village, Shyu-mo.



The pueblo of San Ildefonso, or Po-juo-ge, offers nothing of archæological interest. After the uprising of 1696, when the church was ruined by fire,<sup>1</sup> the village was moved a short distance farther north, and the present church is located almost in front of the site of the older one, to the north of it. Neither does the black mesa called Tu-yo, two miles from the village, deserve attention except from an historic standpoint. It was on this cliff that the Tehuas held out so long in 1694 against Diego de Vargas.<sup>2</sup> The ruins on its summit are those of the temporary abodes constructed at that time by the Indians. On the steep side of the Tu-yo there is a cave about which some fairy and goblin stories are related, which may yet prove useful for ethnological and historic purposes.

San Ildefonso lies eight miles south of the town of Santa Cruz, and in a direct line about twelve south of San Juan. Between the latter pueblo and Santa Cruz I know of no ruins; but the valley, or cañada, at the outlet of which this Mexican settlement is situated, has a number of sites which the Tehuas claim. In some cases, near Santa Cruz, for in-

<sup>1</sup> This occurred on the 4th of June, 1696. Two priests, Father Francisco Corbera and Father Antonio Moreno, were murdered by the Indians, who during the night closed all the openings of both church and convent, and then set fire to the edifice. Several other Spaniards also perished. The facts are too well known to require reference to any of the numerous documents concerning the events.

<sup>2</sup> No documentary proof of this is needed. Vargas made four expeditions against the mesa, three of which proved unsuccessful. The first was on the 28th of January, 1694, and as the Tehuas made proposals of surrender, Vargas returned to Santa Fé without making an attack upon them. But as the Indians soon after resumed hostilities, he invested the mesa from the 27th of February to the 19th of March, making an effectual assault on the 4th of March. A third attempt was made on the 30th of June, without results; and finally, on the 4th of September, after a siege of five days, the Tehuas surrendered. Previously they had made several desperate descents from the rock, and experienced some loss in men and in supplies. The mesa is so steep that there was hardly any possibility of a successful assault.

stance, every vestige has disappeared from the surface. Higher up toward Chimayo, there are said to be well defined ruins on the mountain sides, the names of two of which are Po-nyi Num-bu and Yam P'ham-ba.<sup>1</sup> The former is very ancient, but Yam P'ham-ba was a village which the Tanos constructed in the vicinity of Santa Cruz after the uprising of 1680, when they forsook the Galisteo region and moved north in order to be nearer to their kindred, the Tehuas.<sup>2</sup> There is also a ruin in that neighborhood, I-pe-re, or San Lázaro, which dates from the same period. Both were abandoned after the reconquest, San Lázaro in 1694, and Yam P'hamba or San Cristobal in the same year. It was subsequently reoccupied, and finally deserted in 1696, after the murder of the missionary Fray José de Arvizu on the 4th of June.<sup>3</sup> In the Cañada of Santa Cruz, consequently, there are ruins of historic, as well as of pre-historic pueblos; a fact which future explorers should bear in mind.

The sandy Arroyo Seco, between Santa Cruz and Pojuaque, has neither permanent water, arable soil, nor ruins.<sup>4</sup> But the banks of the Pojuaque stream, from its sources at the foot of the Sierra de Nambé to its outlet into the Rio Grande at San Ildefonso, are lined with the débris of former Tehua pueblos. Upon this same stream there are two inhabited pueblos besides the one last mentioned, Na-i-mbi, or Nambé, and P'o-zuang-ge, or Pojuaque.

The valley in which the former of these two villages stands is not only very fertile, but very well irrigated. The Rio de

<sup>1</sup> The site of Yam P'ham-ba is probably that of the so called "Puebla," two miles east of Santa Cruz.

<sup>2</sup> Vargas found them there in 1692, when he made his first successful dash into New Mexico.

<sup>3</sup> With him was killed the priest of Taos, Fray Antonio Carboneli.

<sup>4</sup> The Arroyo Seco was the scene of the engagement in August, 1837, in which Governor Perez was routed by the insurgents from Taos and Northern New Mexico.

Pojuaque, called in its upper course Rio de Nambé, is a swift and limpid brook that leaves the mountain gorges but a short distance above the Nambé pueblo. Mesas with abrupt sides border upon the valley in the east, and on these there are pueblo ruins. The Indians of Nambé assert that they were reared and occupied, as well as abandoned, by their ancestors prior to the establishment of Spanish rule in New Mexico. They also gave me some of the names: T'o B'hi-päng-ge, the former village of the Nambé tribe, eight miles northeast of the present pueblo; Ke-gua-yo, in the vicinity of the Chupaderos, a cluster of springs about four miles east of Nambé in a narrow mountain gorge; and A-ga Uo-no and Ka-ä-yu, both in the vicinity of the Santuario in the mountains.

Around the Pojuaque of to-day cluster ancient recollections. A large ruin, called by the San Juan Indians Te-je Uing-ge O-ui-ping, occupied the southern slope of the bleak hills on which stands the present village. The Tehuas claim that this pueblo marks the centre of the range of their people, and that the division into two branches, of which the Tehuas became the northern and the Tanos the southern, took place there in very ancient times. Certain it is that in the sixteenth century the Tehuas already held the Tezuque valley ten miles south of Pojuaque, as they still hold it to-day.

Pojuaque, or P'o-zuang-ge, was inhabited when Oñate occupied New Mexico. After the rebellion of 1680 it was abandoned, and only resettled in 1706 by order of the Governor Don Francisco Cuerdo y Valdés.<sup>1</sup> The student of antiquities should therefore bear in mind that at Pojuaque he will find pre-historic and historic remains in close proximity to each other.

<sup>1</sup> *Testimonio de Diligencias sobre la Fundacion de Albuquerque, de Sta Maria de Grado, de Pojuaque y Galistéo*, 1712, MS. The settlement began with only five families of Indians in 1706.

On the south side of the Pojuaque River, between that village and San Ildefonso, two ruins are known to exist; Jacona, or Sacona, a small pueblo occupied until 1696,<sup>1</sup> and I'ha-mba, of more ancient date. I have not heard of any others in that vicinity.

Near Pojuaque the Tezuque stream enters that of Pojuaque from the southeast. On its banks, about three miles from the mouth, stand the ruins of Ku Ya-mung-ge. This Tehua village also was in existence until 1696, when it was finally abandoned.<sup>2</sup> Higher up, in the Tezuque valley proper, are various sites which the Indians of Te-tzo-ge (Tezuque) state are those of settlements of their forefathers. I have not been able to learn their names of these ruins, most of which are almost obliterated.

With the valley of Tezuque the range of the Tehuas in the southeast, as it was in the sixteenth century, terminates. I would not be understood to claim that I have enumerated all the ruins scattered over this area, nor to assume that all of them are of Tehua origin. Even where positive tradition claims an old pueblo for the Tehuas, it must be taken with a grain of allowance until that tradition has been confirmed in different ways. It is also probable that the Tehuas drifted at one time farther south than the Tezuque valley, which would account for the spread of the Tanos as far as San Pedro.

Nearly six miles separate the Tezuque village from a high crest in the south, from which a magnificent view is enjoyed over the whole country of the Tehuas. Looking south from

<sup>1</sup> In 1680 Jacona was an "aldea" only. Vetancurt, *Crónica*, p. 317. It belonged to the parish of Nambé. After its abandonment, it became the property of Ignacio de Roybal, in 1702. *Merced de Jacona*, MS.

<sup>2</sup> In 1699 the site of the pueblo was granted to Alonzo Rael de Aguilar; in 1731 it was regranted to Bernardino de Sena, who had married the widow of Jean l'Archévêque or Archibeque.

the "divide," as this point is called by the people of Santa Fé, the landscape is different. A wooded declivity seems to overhang a wide and arid plain. The last spurs of the Santa Fé range border this plain on the east, and separate it from the Pecos valley. Mountains with jagged profiles cluster together in the southwest. Behind them a broad mass looms up, the Sierra de Sandia. The bleak looking expanse and the rugged mountains beyond were the country of the Tanos, to which and to its ancient remains the next chapter will be devoted.

## II.

## THE COUNTRY OF THE TANOS.

ANTONIO DE ESPEJO in 1582 called the Tanos "Maguas," and described a part of their country as follows: "There they have no river, neither have they running brooks nor springs of which they make use. They have much maize and many fowls of the country, and supplies like those of the province spoken of before, in great abundance. This province borders upon the country of the cows called the cows of Cibola."<sup>1</sup>

A truer and at the same time more concise description of the basin of Galisteo, which constitutes the principal portion of the former Tanos country, could hardly be framed. The Galisteo plain, however, constituted only the eastern portion or half of the range of the southern Tehuas, or, as

<sup>1</sup> *Relacion del Viage* (Doc. de Indias, vol. xv. p. 114). *Expediente y Relacion* (Ibid., p. 176). "A qui no alcanzan rio, ni tienen arroyos que corren y fuentes de que se siruen, tienen mucho maíz y gallinas de la tierra, y bastimentos y otras cosas como in la provincia dicha antes de esta, en mucha abundancia; esta provincia confina con las vacas que llaman de Cibola." The "provincia dicha antes de esta" was that of the Tiguas, or the Rio Grande valley about Bernalillo. I would call attention here to the difference in text between the two documents above quoted, which are the original reports of Espejo, and the corrupt version in Hakluyt's *Voiages*, vol. iii. The latter says: "Y a dos dias de camino toparon con vna prouincia donde vieron onze pueblos, y en ellos mucha gente, que a su parecer passaua en numero de quarenta mil animas; era tierra mui fertil y bastecida, cuyos confines *estan inmediatamente juntas con las tierras de cibola, donde ay muchas vacas*" The Italics are mine. This is sufficient to demonstrate the complete change in the text. The original versions speak of the "Cows that are called cows of Cibola," while Hakluyt's version says that the country was "Cibola." Such perversions are common in the document in question, and I caution students as to its use.

they are called, the Than-u-ge, or Tanos. Those Indians also claimed the environs of Santa Fé, and the ruins of their villages are scattered as far as San Pedro in the south, the Rio Grande valley in the west, and the mesa of Pecos in the east.

The Rio de Santa Fé flows from east to west through the northern section of this area, and the San Pedro, or Uña de Gato, irrigates its southwestern corner. But the waters of neither of these streams reach the Rio Grande except during heavy rains. The first named "sinks" twice: between Agua Fria, southwest of Santa Fé, and the Cienega; and again, farther west, between La Bajada and Cochiti. The San Pedro dwindles down to the sandy Arroyo del Tunque, twelve miles east of the Rio Grande. Mountain torrents traverse the district in its centre, such as the dangerous Arroyo de Galistéo.

The plateau of Santa Fé is not barren, although generally arid. Rain will at once, in summer, develop on it a peculiar vegetation, and aboriginal crops could prosper in ordinary seasons. But it cannot compare in facilities for irrigation and in fertility with the delta of Chamita or the San Juan valley, or even with the little vales of Nambé, Pojuaque, and Tezuque. Its altitude is considerable, (2,000 meters or 6,500 feet on an average,<sup>1</sup>) and the climate is correspondingly cool, with short seasons, and it is of exceptional salubrity. Cool winds temper the summer's heat, without ever assuming the character of destructive tempests.

The gorge through which the Santa Fé River issues from the high eastern range<sup>2</sup> is said to contain ancient ruins.

<sup>1</sup> The altitude of Santa Fé signal station is 6,862 feet (Wheeler); of Agua Fria, six miles to the southwest, 6,486 feet; of Cieneguilla, twelve miles southwest of Santa Fé, 6,011 feet.

<sup>2</sup> Two of the highest peaks of the southern Rocky Mountains rise within a comparatively short distance of Santa Fé, — Baldy, 12,661 feet, and Lake Peak, at the foot of which the Santa Fé River rises, 12,405 feet.

Vestiges of a pueblo have been noticed on the site of Santa Fé itself, but they are now obliterated. It is certain that when the Spaniards removed to Santa Fé from Chamita, in 1605, the place was deserted, and had been in that condition for at least a century.<sup>1</sup>

The Tehuas call the site of Santa Fé by at least two differ-

<sup>1</sup> Not one of the pueblos mentioned by Castañeda, or by any other of the chroniclers of Coronado's expedition, corresponds to the situation of Santa Fé. Espejo approached this site, but not near enough to see it. Oñate, *Obediencia y Vasallaje de San Juan Baptista*, also *Discurso de las Jornadas*, is absolutely silent about it. The last document is decisive, as it establishes that Oñate went from San Marcos directly to San Ildefonso through an uninhabited country. Had there been a village at Santa Fé, he could not have avoided stating it. Benavides, *Memorial*, 1630, p. 26, only speaks of the "Villa de Santa Fé, cabeça deste Reino, adonde residan los gobernadores, y Españoles, que seran hasta dozientas y cinquenta, aunque solos los cinquenta se podran armar por falta de armas . . . á este presidio sustenta V. M. no con pagas de su caxa real, sino haziendo los encomenderos de aquellos pueblos, por mano del gouernador; el tributo que les dan los Indios, es cada casa una manta, que es una vara de lienço de algodón, y una fanega de maiz cada año, con que se sustentan los pobres Españoles; tendrán de seruicio setecientas almas de suerte, que entre Españoles mestizos, y Indios acerca mil almas." This "seruicio" consisted of Mexican Indians, not of Pueblos. The abodes of these were on the south bank of the little river, and the church of San Miguel was the chapel of the Mexican Indians, and not a pueblo church. *Diario del Sitio de Santa Fé*, 1680, MS., fol. 24, August 13th: "Y á otro día por la mañana se descubrio el egercito del enemigo en el Llano de las Milpas de S: Miguel, y casas de los Mexicanos saqueandolas." *Diario de la Retirada de Don Antonio de Otermin para el Paso del Norte*, fol. 54, 55. Diego de Vargas, *Autos de Guerra de la segunda Entrada al Reino y Provincias de la Nueva Mexico*, 1693, fol. 71: "Pase á reconocer la Yglesia o ermita que servia de parroquia á los Yndios mexicanos que viuian en esta dha Uilla con el titulo de la abocacion de su Patron el arcangel Sn Migl." *Relacion Anónima de la Reconquista* (Documentos para la Historia de México, Tercera Série, p. 141): "Pasó á la capilla de San Miguel, que antes servia de parroquia á los Indios Tlaxcaltecas." Escalante, *Carta al Padre Morfi*, par. 3: "Día 15 sitiaron á esta los Tanos de San Marcos, San Cristóbal y Galistéo, los Querés de la Cienega, y los Pecos por la parte del Sur, se apoderaron de las casas de los Indios Tlascaltecas, que vivian en el barrio de Analco y pegaron fuego á la Capilla de San Miguel." Analco is the place where there is now the so called "oldest house"; but this name was given to it only in the past century. Fray Agustin Morfi, *Descripcion Geográfica*, MS., fol. 96. Compare also Part I. of this Report, p. 125.



ent names: Kua-p'o-o-ge, the place of the shell-beads near the water, and Og-a-p'o-ge. The former name comes from San Juan, the latter from Santa Clara. They also acknowledge that a Tanos village stood on the spot; but this may possibly refer to the pueblo constructed after 1680 by the Tanos from Galisteo, on the ruins of the old "palace" of Santa Fé.<sup>1</sup> Nevertheless, I regard the fact that a Tanos village also existed here in pre-historic times as quite certain.

Five miles south of the capital of New Mexico, on the southern bank of a deep and broad gulch called Arroyo Hondo, stand two ruins, called Kua-kaa or Kua-kay by the Tanos,<sup>2</sup> who affirm that their ancestors built them. The larger of the two has been figured on Plate I. Fig. 21; the smaller one lies about a mile to the east of it, at the upper end of a rocky gorge through which the Arroyo Hondo has cut its deep bed. It is a so called "one-house" pueblo; the outer perimeter of the well defined mounds was 154 meters (505 feet); and it was certainly two stories high. The larger pueblo was capable of lodging about two hundred households, or seven hundred persons. The walls were made of broken stones, and there is much pottery, — black and

<sup>1</sup> *Relacion Anónima, Tercera Serie*, p. 139. "Entró en el Pueblo de los Tanos y [de] Galistéo, puesto desde el alzamiento en las casas reales de dicha villa." *Ibid.*, p. 144: "Desalojar á los Indios Tanos de grado ó por fuerza del pueblo que en las casas reales habian fabricado y en que actualmente vivían." Father Escalante, who, as Mr. H. H. Bancroft very judiciously remarks, was probably the author of these "Relaciones," had at his command the complete journal of Vargas. Now there are only fragments at Santa Fé, but among them the description of Santa Fé as it appeared in 1692 and 1693 is not found. Escalante says, in his *Carta al Padre Morfi*, par. 10: "En Santa Fé estaban fortificados los tande de Galistéo." Lastly, there is a description of the Tanos village at Santa Fé in the *Autos del Cabildo de Santa Fé, justificando á Don Diego de Vargas*, 1703, MS.

<sup>2</sup> These names in the Tehua language were given to me by an old Tanos Indian living at Santo Domingo. There are a number of Tanos still residing at that village among the Querés, and some of them speak Spanish in addition to the Tehua and Querés languages.

white, red and black, black, red, white, and orange; also, corrugated and indented ware; but no incised specimens. The usual fragments of stone implements are found; also obsidian, flint, bones, and some charred corn. The situation is a good one for observation and defence, commanding a wide view down the arroyo, and to the west and southwest across the plain. To the south is a level expanse, and on the north lies the arroyo, at a depth of nearly fifty meters. The pueblo stands on the brink of the declivity, which is very steep, and a spring rises at the bottom. For cultivation, the people of Kua-kaa had to resort to the plain around their village, since irrigation is impossible, either below or above. This pueblo bears the marks of long abandonment; the mounds are flat and at most two meters (six feet) high, or generally lower. The Tanos claim that it was pre-Spanish, and documentary evidence as well as the nature of the objects found there corroborates the statement.

I know of no vestiges of antiquity south and east of the Arroyo Hondo nearer than those at Peñas Negras, and in the vicinity of Lamy on the Atchison, Topeka, and Santa Fé Railroad. Before treating of these, I prefer to dispose of such ruins as lie to the west and southwest of Santa Fé.

We meet with a considerable one at the Cienega, near where the Santa Fé stream enters a narrow defile called the "Bocas." This is the pueblo of Tzi-gu-ma, or Tzi-gu-may. Until 1680, this village, under the name of "La Cienega," belonged to the ecclesiastical jurisdiction of the mission of San Marcos.<sup>1</sup> It was abandoned during the time that the Pueblos were independent, and an effort to repeople it was made by Diego de Vargas after the pacification of New Mexico in 1695, but with little success.<sup>2</sup> Tzi-gu-ma is there-

<sup>1</sup> Vetancurt, *Crónica*, p. 324.

<sup>2</sup> *Relacion Anónima*, p. 167. In 1782 there were no Indians there. The four

fore an historic pueblo. Nevertheless, I am in doubt as to which stock its inhabitants belonged. They are mentioned as being Queres in such documents as are at my command,<sup>1</sup> but the people of Cochiti do not regard them as having been of their own stock, but as belonging to the Puya-tye,<sup>2</sup> or Tanos. Furthermore, the name Tziguma is a Tchuva word signifying a "lonely cottonwood tree," in Spanish "alamo solo." Until the question is decided by further researches among the Tanos of Santo Domingo, I shall hold that the pueblo was a Tanos village.

The same difficulty exists in regard to San Marcos. This ruin I have not seen, but descriptions by intelligent persons represent it as a very considerable village, and as having formed several quadrangles. Its name in Queres is Ya-tze,<sup>3</sup> but the Tanos call it Kua-kaa, the same name as the one on the Arroyo Hondo. In 1680, at the breaking out of the insurrection, it had six hundred inhabitants.<sup>4</sup> The name San

distinct settlements still in existence to-day in that vicinity, Cieneguilla, Alamo Solo, Golondrinas, and Cienega, were all peopled by Spanish families. Morfi, *Descripcion Geográfica*, fol. 98.

<sup>1</sup> *Diario del Sitio de Santa Fé*, fol. 12. Otermin makes a distinction: "Que se han alzado los Indios Tanos, y Pecos, Cienega, y San Marcos." But Vargas, *Autos*, fol. 25, after having previously (fol. 24) spoken of them as attacking Santa Fé from the south, and enumerating the four tribes, adds: "Con que se pusieron en fuga los dichos Tanos y Pecos." Escalante (*Carta*, par. 3) is quite positive: "Los Queres de la Cienega."

<sup>2</sup> Puya-tye is the Queres name for the Tanos. It is a sobriquet applied to this tribe on account of their custom of doing penance by pricking their bodies with cactus, and other spines. This, however, is of later origin, and is derived from "Púa," thorn or spine.

<sup>3</sup> It appears under the name of "Yates" in the *Obediencia y Vasallaje de San Joan Baptista*.

<sup>4</sup> Vetancurt, *Crónica*, p. 324: "Tenía seiscientos cristianos, de nacion Queres." On the other hand, Escalante (*Carta*, par. 3) writes as follows: "Dia 15 sitiaron á ésta los Tanos de San Marcos, San Cristóbal y Galistéo, los Queres de la Cienega, y los Pecos por la parte del sur." Vargas (*Autos de Guerra de la segunda Entrada*, MS.), mentions repeatedly Queres Indians from San Marcos. It may be that there were both Queres and Tanos in the pueblo, but I consider

Marcos appears to have been given to it in 1591 by Gaspar Castaño de Sosa.<sup>1</sup> It was abandoned by its inhabitants during the siege of Santa Fé, in August, 1680;<sup>2</sup> and in 1692, when Diego de Vargas passed through it, it was in ruins, with only a few of the walls still standing and a portion of the church edifices.<sup>3</sup>

Near San Marcos lies the celebrated locality of Callaitc, called popularly the "turquoise mines." The turquoises are imbedded in a white porphyritic rock, and a high authority on gems, Mr. George F. Kunz, has informed me that the New Mexican turquoise bears greater resemblance to the Egyptian than to the Persian specimens of that mineral. Beautiful stones have been found occasionally;<sup>4</sup> also very large masses of an inferior quality. The Tanos of Santo Domingo regard themselves as the owners of the site and visit it frequently to procure the stones that are so much esteemed by them. As to the popular belief in ancient mining of turquoises, it is, like many others of the kind, a myth. The Tanos obtained the mineral by knocking it out of the rock with stone mauls, axes, and hammers, many of which have been found in this locality. They also dug and burrowed, but their excavations were made at random, and went but little beneath the surface. Still less did the Spaniards compel the Indians to "mine" the turquoise for

the village to have been a Tano village, just as to-day Santo Domingo is counted among the Queres, although there are many Tanos among them, and Isleta among the Tiguas, although a good portion are Queres from Laguna.

<sup>1</sup> *Memoria del Descubrimiento que Gaspar Castaño de Sosa, hizo en el Nuevo Mexico*, Doc. de Indias, vol. xv. p. 248.

<sup>2</sup> *Diario de la Retirada de Otermin*, fol. 28.

<sup>3</sup> *Autos de Guerra de la segunda Entrada*, fol. 138: "Y halle despoblado y se conservan algunos aposentos y paredes de los quarteles y viuyendas de el y asimismo se hallan las paredes y cañon de la Yglesia buenas con las de el conuto."

<sup>4</sup> Some exceptionally handsome ones are in possession of my friend, Abraham Spiegelberg, in Santa Fé.

them. Very little attention was paid by the whites to the green and blue stones, the latter of which are comparatively rare; since they regarded the New Mexican Callaite as of a base quality, and therefore as of no commercial value.<sup>1</sup> Nevertheless, the turquoises of the Cerrillos were quite a resource for the Tanos, so far as aboriginal commerce went.

<sup>1</sup> This was already noticed by the members of Coronado's expedition. *Relacion del Suceso de la Jornada*, p. 320. It is strange that none of the chroniclers of that journey mention the turquoise locality at Cerrillos. Neither does Espejo, who visited the Tanos. Castaño (*Memoria*, p. 248) speaks of the mineral (ores) found there by some of his men: "Truxo metales mui buenos, al parecer." Oñate also is silent, or at least makes no account of the green stones. In the documents of 1636, concerning the violent strife then going on between Governor Martinez de Baeza and the Franciscan priests in New Mexico, the latter accuse him of collecting tribute in an abusive manner; but they mention only piñon nuts, hides, and cotton mantles. Fray Pedro Zambrano, *Carta al Virey*, MS. Fray Antonio de Ybargaray, *Carta al Virey*, MS.: "Porque desde que entro en el gouierno solamente a atendido á su aprouchamiento, y este con gran exceso y daño de todas estas prouinas en el trabajo excesivo que a dado á estos pobres resien combertidos en mucha cantidad de mantas, y paramentos que a mandado hazer y pintar, y assimismo cantidad de camiças que les a echo buscar y resgatar, y cantidad de Piñones que les a echo a carrear." *Carta al Virey, del Custodio y de los Definidores del Nuevo Mexico*, MS. Fray Andres Suarez, *Carta á su Magestad*, Nambé, October 23d, 1647, MS. In none of these severe accusations against the governors is the mining of turquoises or of any other mineral mentioned; neither do the Indians themselves speak of it in their depositions of the years 1680, and 1681. *Diario de la Retirada*, fol. 32. *Interrogatorios de varios Indios de los Pueblos Alzados*, 1681, MS. Otermin, *Ynterrogatorio de Preguntas*, 1681, MS. Also *Declaracion de vn Indio Picuri*, 1683, MS. In 1626, Fray Gerónimo de Zárate Salmeron wrote about the turquoises of New Mexico, *Relaciones de todas las cosas que en el Nuevo México se han visto y sabido*, MS., par. 34: "Y minas de Chalchihuites que los Yndios benefician desde su gentilidad, que para ellos son Diamantes y piedras preciosas. De todo esto se rien los Españoles que allá están." The term "minas," in older Spanish, is used to designate the localities where minerals are found, equivalent to the German "Fundorte," and not *worked* mines, in the English sense of the term, or the French. This has caused a misunderstanding which misled the majority of prospectors. Vetancurt, *Crónica*, p. 286: "Hay minas de plata, de cobre, de azabache, de piedra imaná, y una de talco trasparente á modo de yeso. que lo sacan como tablas, y adornan las ventanas con ellas como si fueran de cristál." No mention is made of turquoises. Benavides, *Memorial*, 1630, p. 44: "Toda esta gente [the Pueblos] . . . con gargantillas y oregeras de turquesas, que tienen minas dellas, y las labran, aunque imperfectamente."

Returning now to the Cienega, and following the course of the Santa Fé River westward through the pass of the Bocas, we emerge from that gorge at the so called Bajada, or "descent."<sup>1</sup> The Bocas themselves offer hardly anything of archæological interest except some rock carvings of which it is impossible to say whether they are due to Pueblo Indians or to nomads. It is a narrow cañon, picturesque in places, with little spots of fertile soil, occasional cottonwood trees, and usually permanent water. At the Bajada the river sinks nearly always during early summer, and a plateau five miles wide spreads out to the west, to within a mile of the banks of the Rio Grande at Peña Blanca; northwards it extends not more than four miles, being encompassed on the north and east by a high and very abrupt mesa, from which rises the cone of the Tetilla peak. At the Bajada the slope of this mesa is almost vertical, and about five hundred feet high. Where the stream makes its southwestern angle, cretaceous rocks are exposed in snow-white strata. Above them tower lava and trap, black, craggy, and chaotic. To the Indian this was and still is an important locality, for white alabaster is found there; a mineral that serves for whitewashing the rooms of his pueblo and for the manufacture of his fetiches. We need not be surprised therefore to meet opposite the little settlement of La Bajada, on the declivity sloping from the west towards the bed of the Santa Fé River, the ruins of the old pueblo of Tze-nat-ay, as the Tanos call it to-day.

Low mounds, in places hardly distinguishable, a faint depression indicating an estufa, and the usual fragments of stone implements, obsidian, and earthenware, are all that

<sup>1</sup> The altitude of the Bajada is 5,515 feet, 500 feet lower than the Cieneguilla on the eastern base of the high mesa of the Tetilla, nine miles to the east, and 345 feet above Peña Blanca, six miles to the west, on the banks of the Rio Grande.

is left on the surface. The walls were of volcanic rocks, rudely broken, and of rubble. It was a village of medium size, probably sheltering five hundred people. Its situation was good both for safety and cultivation; but timber was rather distant, and, although the soil is fertile, it is entirely dependent upon the rain for moisture. Tze-nat-ay commanded a wide view, and from the tops of the many-storied houses its inmates could scan the plateau for fully twenty square miles. At the mouth of the cañon, from the bed of the river meandering to the northwest along the base of the mesa, no enemy could approach unnoticed in the daytime. But it was also a dreary spot. In summer the hot glare of the sun was reflected from the white level, and when the southeast wind arose clouds of sand and dust enveloped the village.

Tze-nat-ay is not the only ruin on the banks of the Rio de Santa Fé. Between the Bajada and the outlet of the stream opposite Cochiti, not less than three others are found along its course. One lies about equidistant from the two points named, and was a communal pueblo like Tze-nat-ay; but the houses were smaller, and I saw only a single estufa.

At the second ruin I did not notice any estufa. The pottery is the same in both, and so are the other objects. Tze-nat-ay appears to have been quite a large pueblo, and it was probably three, if not four, stories high.

Neither the Tanos nor the Queres of Cochiti could give me any information concerning the smaller pueblo. Neither of the two tribes claimed it. Tze-nat-ay, the Tanos say, was one of their ancient villages; but whether it was abandoned previous to the sixteenth century, I cannot determine. It is also designated in Spanish as "El Pueblo Quemado," the village that was burned, and such a Tanos village appears in the list furnished by Oñate in the year

1598.<sup>1</sup> The "Bocas de Senetu" are also mentioned in 1695, though not the ruins.<sup>2</sup>

The other ruins are situated near the mouth of the Santa Fé River, and belong to a different type of architecture. I reserve a more detailed notice of them for another place, and return to the ruins south of Santa Fé.

The ruin at Peñas Negras, eight miles south-southeast of the capital of New Mexico, I have only seen, not explored. It seemed to me to be that of a small communal pueblo. A considerable collection of relics from this locality was made by a Mr. Cole, and is at present in possession of the Historical Society of Santa Fé. Incidentally I learned that the Tehuas (or Tanos) claim the pueblo at Peñas Negras as belonging to their ancestors. It lies on an eminence west of the Pecos road, near the edge of the forest, with a fair view to the southwest, and there is a spring in its vicinity.

At the railroad station of Lamy, where the branch road to Santa Fé turns off from the main line of the Atchison, Topeka, and Santa Fé, I noticed, in the summer of 1882, little mounds covered with potsherds, which recalled to me forcibly ruins of the so called "small houses," of which I have treated more extensively in a former report to the Institute.<sup>3</sup> The fragments of pottery are clearly distinguishable from such as are found in the Tanos ruins.

<sup>1</sup> *Obediencia de San Juan Baptista*, p. 114: "La Prouincia de los Cheres con los Pueblos de Castixes, llamados Sant Philepe y de Comitre, y el Pueblo de Santo Domingo y Alipoti, Chochiti; y el de la Cienega de Carabajal, y el de Sant Marcos, Sant Chripstobal, Santa Ana, Ojana, Quipana, el del Puerito y el Pueblo Quemado." The name of Pueblo Quemado is given to several ruins in New Mexico; but the one mentioned in the above document lay in or near the Queres district, or in that of the Tanos.

<sup>2</sup> *Merced de la Bijaada*, 1695, MS.: "Y desde la casa del Ojito para el oriente asta las Bocas que llaman de Senetu."

<sup>3</sup> *Fifth Annual Report*, p. 65: "A second architectural type even more prevalent is that of detached family dwellings, either isolated or in groups forming



The mounds lie on the north side of the railroad track, and are fast disappearing. It is useless to speculate upon their origin, but they certainly antedate the time when the sedentary Indians of this district adopted the large house type of architecture.<sup>1</sup> They cannot have been mere summer dwellings of Pueblo Indians, for the pottery is different from that found in other ruins; or, rather, a certain kind of pottery which always accompanies the remains of Tanos villages is never found in connection with the small houses. We cannot admit that the sedentary native had a particular earthenware for summer use and another for the cold season.<sup>2</sup>

The fragments of earthenware found at Lamy, I have described as follows: "It is harder and better, white, gray, or red, with simple but not badly executed geometrical figures painted black, and, so far as I could detect, without gloss. This pottery is decidedly superior in quality and in finish to the glossy kind. Along with it the corrugated and indented ware abounds." The larger ruins in Central New Mexico, and especially those belonging to historic times, are generally covered with a profusion of potsherds, "coarsely painted, the decorations being glossy; some of it is undecorated and plain black."<sup>3</sup> Southwestern pottery shows two kinds of gloss or glaze; one is thin, and displays a fair polish; the other, the kind exclusively applied on decorative lines or figures, looks like a coarse varnish laid on very thick, so as frequently to overrun the outlines. The latter is the variety that I have always found wanting in the small house ruins,

villages." Also, pages 61, 62. I first gave an account of this class of buildings in the *Bulletin of the Archaeological Institute of America*, 1883 (p. 28), and refer to those publications for a description of them.

<sup>1</sup> Compare on this point my Report in the *Fifth Annual Report*, 1884, p. 78; also, *Bulletin*, 1883, p. 31.

<sup>2</sup> *Bulletin*, p. 30 *et seq.*

<sup>3</sup> *Ibid.*, p. 29.

whereas at the Pu-yé in the Tanos country, and in the Queres, Tigua, and Piros pueblos, it is abundant.<sup>1</sup> Corrugated and indented ware is rarer among the large type pueblos south of Santa Fé than farther north and in the small houses; and while the small house pottery also occurs among ruins of the communal type, it is not abundant there.<sup>2</sup>

Ruins of two other pueblos lie east and southeast of Lamy, at some distance in the mountains. I have not seen them,

<sup>1</sup> That is to say, in the more recent ruins, principally those of the past three centuries. Further on, I shall refer to an old Queres pueblo, where the potsherds all belong to the painted small-house variety.

<sup>2</sup> Still, in the ruins of Colorado, Utah, and Northwestern New Mexico, it is the only painted kind found. On the Rio de las Animas, and in the Cañon de Chaca, the coarsely glazed variety does not seem to exist. Compare the plates in Simpson, *Journal of a Military Reconnaissance from Santa Fé, New Mexico, to the Navajo Country, in 1849* (Senate Executive Document, No. 64, 1850). The red painted pottery with black decorative lines, and the white or gray also decorated with black lines, both with a fair gloss, were found in the ruins of the Chaca Cañon and of the Navajo country in general; and along with it, plain, corrugated, and indented ware. Also in the Tze-yi or Cañon de Chelly (*Illustrated Catalogue of the Collections obtained from the Indians of New Mexico and Arizona in 1879*, pp. 419 *et seq.*). I refer with particular pleasure to the Monograph of Mr. W. H. Holmes, *Pottery of the Ancient Pueblos* (Bureau of Ethnology Report of 1882 and 1883, pp. 308 to the end). This close student of Southwestern pottery says very justly (p. 321), in regard to the pottery found on the Rio Colorado Chiquito of Arizona: "Beside the *archaic white ware and its closely associated red ware*," (the Italics are mine,) other associations of colors are also found in the older ruins, but never the coarsely glazed kind; whereas the latter is frequently mentioned as being made by the Pueblos in the sixteenth century, at least by some of the Pueblos. Castañeda, *Cibola*, p. 138. When Francisco de Barrionuevo visited Yuge-uingge in 1541, he found "de la vaisselle de terre très-belle, bien vernie et avec beaucoup d'ornements" (p. 185). "Dans beaucoup de villages on trouva des morceaux de minéral d'argent qui servaient aux naturels pour vernisser et pour peindre les vases de terre." I call attention to this sentence only to warn students against using it in their researches. Ternaux-Compans has inserted the words "vases de terre" without the slightest foundation. He claims that the Spanish original is illegible; but when Dr. Moore, the Superintendent of the Lenox Library, showed me the original, and the word which Ternaux could not decipher, I found it as plainly legible as print. It reads "para pintar los Rrostros." Any one slightly acquainted with Spanish knows that "rostro" means the face; consequently the blue or green silver ore was used, not to make a glaze, but simply to paint the faces, as it is sometimes

and therefore speak from hearsay only. The gentleman who mentioned and described them to me inquired about them of a well known Indian of San Ildefonso, who informed him that they were respectively called Uap-i-ge and Dyap-i-ge, and are those of very ancient Tanos villages.

Lamy lies at the mouth of a narrow pass through which the railroad emerges from the Pecos valley. The two ruins last mentioned seem therefore to have been on the border of the Tanos range, and on the confines of that of the Pecos Indians. South of Lamy, however, spreads the Galisteo basin, which has been always considered as the proper home of the Tanos tribe until the past century.

The elevation of Lamy is 6,458 feet, that of Galisteo 6,117, so that the rise from Santa Fé in a distance of twenty-two miles is almost nine hundred feet. In that direction, due south, the Tanos pueblos extend as far as six miles below Galisteo, to the southern border of the basin.

Two ridges parallel to each other, surmounted by shaggy crests called "crestones," traverse the Galisteo plain from east to west; one of them lies six miles south of Lamy, the other on the southern limits of the basin. It is a bleak and arid level, just as Espejo has described it. The northern base of the northern crest is hugged by a dangerous torrent, the Arroyo de los Angeles, frequently, and more appropriately, called the Arroyo del Infierno. About a mile and a half from the modern Galisteo settlement, on the north bank of this treacherous dry creek, lie the ruins of the Tanos village called T'a-ge Uing-ge, and by the Spaniards Santa Cruz de Galisteo. What is the origin of the word

by the Indians to-day. Gaspar Castaño de Sosa, *Memoria del Descubrimiento*, pp 236 to 238) mentions in the first village which he visited, and which was either a Tanos or a Pecos pueblo, "Mucha loza bien vidriada." I have not yet been able to ascertain what the composition of this coarse glaze is. It appears to be a "lost art."

Galisteo, I am ignorant. It first appears as "Glisteo," in 1598.<sup>1</sup> The church and mission may have been in existence as early as 1617,<sup>2</sup> it is certain that they were in 1629.<sup>3</sup> When the Indian outbreak took place on the 10th of August, 1680, the Father Custodian of New Mexico, Fray Juan Bernal, resided at Galisteo, and he was one of the first priests killed by the Indians. With him perished Fray Juan Domingo de Vera; and in sight of the pueblo the Indians murdered Fray Manuel Tinoco, the priest of San Marcos, and Fray Fernando de Velasco, the missionary of Pecos. Both were coming to Galisteo from opposite directions to inform their superior of the designs of the natives.<sup>4</sup> Several Spaniards also suffered

<sup>1</sup> *Discurso de las Jornadas*, p. 258: "Fuimos á Glisteo, que llamamos Santa Ana." Castaño (*Memoria*, p. 248) had christened it "San Lucas."

<sup>2</sup> In the *Cédula Real* of May 20, 1620, MS., the King says: "El Cabildo de Santa Fé del Nuevo México en carta que me escribió en 3 de Octubre del año pasado de 1617, refiere . . . que hay once Yglesias fundadas con pocos ministros." It may be that Galisteo, being near Santa Fé, was one of them.

<sup>3</sup> Benavides (*Memorial*, p. 24), says that the Tanos numbered four thousand, but that only a single convent had been established among them; this was the house occupied by the priests at Galisteo.

<sup>4</sup> There is a detailed account of the manner in which Fray Juan Bernal was killed, in a sermon delivered at the city of Mexico and printed there, but I have not the book to refer to. Otermin (*Diario del Sitio*, fol. 22) only says: "Que se han alzado los Indios Tanos, y Pecos, Cienega, y San Marcos, los quales se dice haber muerto al R. P. Custodio F. Juan Bernal, y á los Padres predicadores Fr. Fernando de Velasco, Fr. Manuel Tinoco, y Fr. Domingo de Vera con el Teniente de Alcalde mayor Juan de Leyva." But a Tanos Indian who was captured near San Marcos during the retreat to El Paso is more explicit in his declaration, saying (*Diario de la Retirada*, fol. 323): "Hizo que habian muerto en el dicho pueblo de Galisteo á los padres al Padre Custodio, al Pe Fr. Domingo de Vera, y en el campo á la vista del Pueblo á los Padres Fr. Manuel Tinoco, ministros guardianes de Pecos, y S. Marcos." That Father Velasco had been warned by one of the Pecos Indians, who offered to save his life, is told as follows by the Custodian Fray Salvador de San Antonio, and the other priests of New Mexico, *Protesta á Don Diego de Vargas*, December 18, 1693, MS.: "Dijo á su ministro el Padre Fray Fernando de Velasco; padre la gente se alza para matar á todos los Españoles, y religiosos; y así, mira á donde quieres irte, que yo te daré mozetones para librarte, como de hecho lo hizo." This Indian who warned and attempted to save the priest was Juan Yé, afterwards

death; as Galisteo was an "Alcaldía mayor," or one of the several judicial districts into which New Mexico was divided, and although strictly an Indian pueblo, the lieutenant of the "Alcalde mayor," Juan de Leyva, resided there with his family and a few other Spanish colonists.<sup>1</sup> After the Spaniards had been driven out of the country, the Tanos of Galisteo removed to the site of Santa Fé, whence they were expelled by Vargas. In 1706 Governor Cuerdo established the pueblo again, under the name of Nuestra Señora de los Remedios de Galisteo. It remained a very inconsiderable Indian village until the latter part of the past century, when the Tanos, decimated by the persistent hostilities of the Comanches and by small-pox,<sup>2</sup> removed to Santo Domingo, where their descendants still live, preserving the language of their ancestors and in part their tribal autonomy.<sup>3</sup>

A plot of the ruins is given on Plate I. Figure 20. They are low, red mounds, but with walls protruding here and

Gobernador of Pecos in 1694, and murdered by the Taos Indians for his fidelity to the Spaniards. It seems that Fray Velasco fled to Galisteo right into the jaws of death.

<sup>1</sup> The names are given in the *Diario del Sitio*, fol. 22: "El Teniente de Alcalde mayor Juan de Leiva, el capitan Jose Nieto, Nicolas de Leyva, y á todas las mugeres, y niños de sus familias." Further details are in the *Diario de la Retirada*, fol. 33.

<sup>2</sup> The Comanches continued to harass the inhabitants, and about 1748 surprised the men in the fields outside of the village, and killed eight of them. *Libro de Entierros de Nuestra Señora de Remedios de Galisteo*, MS. Another attack was made on December 3, 1751, but it was repulsed. Marqués de Altamira, *Diccionario*, 1752, MS. The establishment of the pueblo of Galisteo in 1706 is mentioned in *Testimonio de Diligencias sobre la Fundacion de Albuquerque, de Sta Maria de Grado, de Pujuaque y Galisteo*, 1712, MS. Ninety Indians were the original settlers; six years later it had 110; in 1748 there were fifty families. Villaseñor y Sanches, *Teatro Americano*, vol. ii. p. 420. Morfi (*Descripcion*, p. 98) mentions 52 in 1782. The Indians abandoned it between that year and 1794. It is neither mentioned in the *Certificaciones de las Misiones* of the latter year, nor in the *Relacion de las Misiones* of 1808.

<sup>3</sup> It is said that the Tanos maintain a separate tribal government within the pueblo.

there. I failed to discover the site of the church or of the convent. In 1680 Galisteo is stated to have had a "handsome" temple, that is, for New Mexico.<sup>1</sup> Its population may have amounted at one time to over one thousand souls.

East of Galisteo, on the borders of the basin, in a picturesque valley surrounded by woods and supplied with permanent water, stand the ruins of Yam-p'ham-ba or San Cristobal (Plate I. Fig. 22). It was inhabited until 1680, and formed a "visita" dependent upon the parish of Galisteo; and in that year it had eight hundred inhabitants. After the expulsion of the Spaniards, the Tanos of San Cristobal settled in the vicinity of Santa Cruz,<sup>2</sup> as already related. Most of their descendants are now among the Moquis.

On the other side of the Arroyo de San Cristobal, which runs at the foot of the gentle slope on which the pueblo stands, lies another group of ruins. The pueblo proper still shows many of its walls, and it is plain to see that they were generally 0.27 m. (11 inches) thick, and made of thin plates of sandstone. The second ruin, which lies a short distance southwest of the other, is reduced to compact mounds of earth. The stream has manifestly carried away a part of it, but it is not possible to determine whether this occurred recently or in olden times. The appearance of the mounds denotes long decay, and it may be that they are older than the historic San Cristobal. There are two estufas,

<sup>1</sup> Vetancurt, *Crónica*, p. 323.

<sup>2</sup> Could the hostile attitude of their neighbors the Pecos have caused the Tanos to forsake their old homes? Escalante says, *Carta al Padre Morfi*, par. 7: "Los Queres, Taos y Pecos, peleaban contra los Tehuas y Tanos." *Relacion Anduima*, p. 127: "Los Tanos, que cuando se sublevaron vivian en San Cristóbal y en San Lázaro, dos pueblos situados en la parte austral de la villa de Santa Fé despues por las hostilidades de los Apaches y de los Pecos y Queres se trasladaron y fundaron con los mismos nombres dos pueblos, tres leguas largas de San Juan." The number of inhabitants is from Vetancurt (*Crónica*, p. 323), who says it was a "visita" of Galisteo.

while the village proper shows but one; but it is not certain whether this was the only one, as not all the estufas were round, and not all were subterraneous. Still the round form seems to have been the "archaic" one, where it was possible to excavate for the purpose. I suspect that the group of mounds southwest of the principal ruins are the remains of an older village, abandoned prior to the other.

The church was built of the same material as the pueblo, thin plates of sandstone, but the walls were more substantial. In 1882 the rear part of it was still standing to the height of about four meters. It is a chapel only, measuring 16.0 by 7.4 meters ( $52\frac{1}{2}$  by  $24\frac{1}{4}$  feet). In front of it lies a church-yard, and other buildings seem to have been appended to it on the south. The main pueblo stands between the chapel and the more ruined vestiges on the south side of the arroyo, another indication that the latter were forsaken at an earlier date, perhaps before San Cristobal had been visited by the Spaniards. The first authentic visit by a Spaniard was made in 1690, by Gaspar Castaño de Sosa, who gave the village the name by which it still continues to be known.<sup>1</sup>

San Cristobal lies in what might be called a sheltered nook. There is little cultivable ground contiguous to it, but at a very short distance, on the edge of the Galisteo plain, there is tillable land that can also be irrigated. The site is not favorable for observation, but the heights surrounding it afford good lookouts. For defence the houses had to suffice, and there are traces of a double stone wall connecting several of the edifices. On the whole, the buildings seem to have been smaller than usual, and nowhere could I see indications of greater height than two stories. It has in fact the appearance of a pueblo of to-day; whereas the

<sup>1</sup> *Memoria del Descubrimiento*, p. 247 et seq.

ruins on the south bank of the arroyo belong to the compact older pueblo type.

Six miles west of Galisteo, on the eastern slopes of the picturesque Sierra del Real de Dolores and on the southern bank of the Arroyo del Chorro, stand the ruins of I-pe-re, or San Lazaro, another Tanos village, which was abandoned after the uprising in 1680 and never occupied again. The three historic pueblos of the Galisteo group thus stand in a line from east to west eleven miles long. The ground around San Lazaro is much broken. The ruin stands on bluffs that are not abrupt, and the arroyo winds around their base. The disposition of the buildings is similar to that at San Cristobal and traces of stone walls connecting them with each other are visible. It seems to have been smaller than either Galisteo or San Cristobal, and was built of stones. The houses were so disposed as partly to encompass an elliptical enclosure of stone built around a slight depression. The perimeter of the enclosure is about 140 meters (460 feet). Only two buildings appear to have been connected with it, and in the depression which the wall surrounds are still two circular sunken areas of small dimensions.

At San Cristobal there are also, in connection with some of the mounds, enclosures made of roughly piled stones. I can only suggest a probable object of these unusual structures. The Tanos possessed flocks, mostly sheep, and the enclosures may have served for keeping them in safety over night. Quite analogous enclosures of stones, usually reared against the steep acclivity of a mesa or other height, so as to require building only three sides, are made by shepherds in treeless districts. The stone enclosures at San Lazaro and San Cristobal may have been constructed for the same purpose. Both villages



were very much exposed to attacks by the Apaches from the side of the plains as well as from the mountains west of the Galisteo basin.

On the southern border of the Galisteo basin there are three more ruins, lying in a line from east to west. I visited none of these, but the Tanos of Santo Domingo, who claim that they were villages of their tribe, gave me their names. The Pueblo Colorado was called Tzc-man Tu-o; the Pueblo Blanco bore the name of Ka-ye Pu; the next was called Shé; and they are all within three to five miles south and southeast of the town of Galisteo. From descriptions by persons who have seen them frequently I gather that they belonged to the communal type, and were villages of reasonable size for Pueblos. I have seen some artificial objects purporting to have come from these ruins consisting of stone axes and coarsely glazed pottery.

The Galisteo plain is bordered on the west by the Sierra de Dolores; south of this mountain rises the Sierra de San Francisco; and a long and waterless valley, running from east to west, separates the two ranges. This arid cañada is partly covered with coniferous trees, though in most places it is grassy, and haunted by antelopes. A little beyond the entrance to it lies the "Pueblo Largo," called by the Tanos Hish-i, — a large ruin indicating a considerable village situated on both sides of a mountain torrent. The main portion of the ruins is to the north of the arroyo, and, as at San Cristobal, the water has washed it, chiefly on the south side, exposing some of the rooms. They are usually 2.8 to 3.5 m. long by 2.1 to 2.5 m. wide (average in feet,  $9\frac{1}{2}$  by 7); the walls are 0.25 m. (10 inches) thick, made of thin plates of sandstone. The village formed several quadrangles, and it may have accommodated fifteen hundred people, upon the supposition that both sides of the arroyo

were occupied simultaneously. The southern ruins, however, show more and apparently longer decay than the northern, and it is not safe to assume for Hish-i any comparatively large population.

At least five estufas can be detected within the squares of large court-yards formed by the edifices. In the neighborhood of one of these estufas there is a very peculiar arrangement of ten stones, in three parallel lines. The stones are parallelepipeds, or prisms about 0.75 m. (34 inches) long by 0.30 to 0.40 wide, and 0.20 to 0.30 broad. Two thirds of their length is set in the ground so that only about 0.25 m. protrudes: they stand at quite regular intervals and two of them are connected by a row of smaller stones set on edge. Their proximity to an estufa renders the presence and arrangement of these slabs mysterious, but they resemble common headstones on graves. Still, I could not ascertain that anything had been discovered beneath one of them which has been excavated. Their shape is not artificial, but due to natural cleavage alone, as I satisfied myself by inspecting a rocky hill near by, where ledges of the same material crop out.

Whether the Pueblo Largo was occupied within historical times I am unable to answer. In 1630 Fray Alonzo de Benavides stated that the Tanos occupied five pueblos.<sup>1</sup> This number agrees with that of the historically known villages of the Tanos, provided San Marcos and the Cienega were inhabited by them, and not by the Queres. If, however, San Marcos and the Cienega belonged to the latter tribe, there would be room for Hish-i among the historical settlements.

<sup>1</sup> *Memorial*, p. 24. He ascribes to the Tanos four thousand souls. I hold this estimate to be reasonable, although probably a little above the true number. Eight hundred inhabitants is a high average.

When the insurrection of 1680 broke out, these settlements occupied the eastern portion of the Tanos range. The comparatively arid basin of Galisteo was the latest home of that tribe. West of it, between the San Francisco and San Pedro Mountains in the east, and the great Sandia chain,<sup>1</sup> and separated by the last from the valley of the Rio Grande, several ruins are found, which the Tanos say are those of their former villages. Some of these may have been inhabited as late as the beginning of the seventeenth century.

South of the portion of the Atchison, Topeka, and Santa Fé Railroad that lies between the stations of Cerrillos and Wallace, a bleak expanse, neither valley nor plain, gradually rises towards the foot of the Sierra de Dolores and the Sierra de San Francisco.<sup>2</sup> At Golden, or Real de San Francisco, where the Arroyo del Tuerto emerges from a narrow mountain valley, and where gold washing has been carried on sporadically, two sites of former pueblos are pointed out. These are called El Tuerto and Valverde, and both lie within one mile to the north of Golden. The villages were small, and the Tanos of Santo Domingo gave me their names as Ka-po and Sem-po-ap-i. Barely distinguishable mounds indicate the sites, and I found neither pottery nor obsidian on them, only fragments of basalt and other rocks. Both these pueblos may have been inhabited in 1598, according to the list given to Oñate by the Indians at San Juan, on the 9th of September of that year.<sup>3</sup>

<sup>1</sup> The respective altitude of these chains are, Dolores 8,827, the San Francisco and San Pedro about the same, while the Sandia rises to 10,609 feet.

<sup>2</sup> Cerrillos is 5,667 feet in height; Wallace, 5,246 feet.

<sup>3</sup> *Obediencia y Vasallaje de San Juan Baptista*, p. 114: "Y el de la Cienega de Carabjal, y el de Sant Marcos, Sant Chripstobal, Santa Ana, Ojana, Qui-pana, el del Puerto y el Pueblo quemado." But it may be that, instead of "Puerto," Tuerto was intended; or Puerto may have applied to the entrance of the Bocas at the Bajada. Further on, I shall refer to a singular passage in the *Memoria* of Castaño de Sosa, which may relate to these two villages.

The same is true also of the ruins called O-jan-a and Ki-pan-na. I have not visited them; but they lie south of the settlement of Tejon, in the hilly country separating the Sandia chain from the San Francisco. That they were Tanos villages there can be no doubt, and the catalogue of pueblos which I have mentioned includes them. Still, this is no absolute proof that these four pueblos were occupied at the time of Oñate. The list was made at San Juan among the Tehuas, and they may have given the names of villages abandoned some time previous without their knowledge. Intercourse even between kindred tribes in ancient times was irregular, and frequently interrupted. Several pueblos might have been given up in one section of New Mexico without a neighboring stock hearing of it for a number of years afterwards.<sup>1</sup>

Whether the large ruin called El Tunque, three miles north of the Tejon, at the northeastern extremity of the Sandia chain, must be considered as that of a pre-historic settlement or not, is also a matter of doubt. That it was a Tanos village is well ascertained, and its proper name was Tung-ge, or Village of the Basket.<sup>2</sup> It lies on a gentle bare slope near the banks of a stream which in the mountains farther south is called Rio de San Pedro, lower down Uña de Gato, and here takes the name of Arroyo del Tunque. A little beyond the ruin the stream sinks and becomes a dry mountain torrent for twelve miles, to its mouth opposite the present pueblo of San Felipe. Tung-ge seems to have been the last Tanos village towards the west, in pre-

<sup>1</sup> An instance of this kind is found in the report of Fray Marcos of Nizza about Marata. The fugitive Zuñi Indian whom he found among the Sobaypuris told him that the people of Marata (Ma-kyat-a) were still holding their own: whereas it is amply proved that their pueblos were abandoned and in ruins in 1540.

<sup>2</sup> Tung is the Tehua word for basket or tray.

historic times. It was also a very extensive pueblo, to be compared for size and plan with the large and extended villages of Se-pä-ue and Ho-ui-ri of the northern Tehua country. It formed a number of irregular squares, and sometimes two and three separate buildings constitute one side of a quadrangle. The population was therefore not as large as the area covered by the ruins might indicate. I was not able to find a single circular estufa. The walls were mostly of adobe, and had the usual thickness (0.30 m., or one foot). Rubble foundations are visible, but a portion of the ruins consists merely of low mounds. This is particularly the case in the north and east, or on the highest ground. In the western portions the interior of the first story is partly exposed, showing the roof or ceiling made in the usual pueblo fashion by round beams supporting rough splinters, and these in turn a layer of earth. The average of eighty-four rooms measured gave 3.4 by 3.2 meters (11 feet 2 inches by 10 feet 6 inches).

The buildings were two stories high in most places; but the existence of a third story is not impossible. Pottery is scattered about in profusion, and it shows no difference from that at Galisteo and other points of the Tanos country where the pueblo type of architecture was represented. I noticed a great deal of obsidian and basalt, fragmentary and complete arrow-heads of both materials, also stone axes, corn grinders, and a few stone chisels and knives; even a spade made of basalt was picked up at Tunque, and is now in my possession. I have not heard of metallic objects. The various objects indicate a primitive culture, one probably anterior to the coming of Europeans; but this is by no means sufficient evidence to justify the conclusion that the pueblo was not also inhabited during historic times.

The former fields of the pueblo can be traced along the

Arroyo del Tejon, and along the dry Arroyo de la Yuta, in places at a distance of two and three miles from the ruins. Little watchhouses of which only the foundations are visible indicate their location. These watchhouses, equivalent to the "summer ranchos" of the Indians of to-day, are usually quadrangular and of one room only; still I found one with two rooms and of an L shape. Their average size corresponds nearly to that of single rooms in a pueblo of the ancient pattern, with two exceptions. These two, being very small, may have been guardhouses merely, where the crops were watched in the daytime or at night, whereas the other may have sheltered entire families during summer.<sup>1</sup> The foundations are rubble, and the same kind of potsherds are scattered about as at the pueblo.

The Arroyo del Tejon has permanent water as far as these structures are found. I have not noticed any trace of ancient acequias; but there is no impossibility that such existed, and that the Tanos of Tunque cultivated by irrigation. Along the Arroyo de la Yuta the banks are too steep and the water flows ten to fifteen feet below the surrounding levels. But the soil is fertile, and at the present day the people of Tejon raise good crops with the aid of summer rains alone. For agricultural purposes the situation of Tung-ge was well chosen. Wood was not far off, and water always at hand, and from a military standpoint the location was not bad. The highest parts of the pueblo commanded a fair range of view in almost every direction.

I have been unable to find any notice of the pueblo of Tung-ge or Tunque in the older documents. It is mentioned

<sup>1</sup> Even to-day, people at the Tejon sleep out of doors in summer, as do most of the Pueblos while out on the ranchos. The house (or shanty) is only used for cooking, for sheltering the tools and household articles, and in case of rain or exceptionally cool weather.

in a petition of the year 1770 as an "ancient pueblo."<sup>1</sup> I doubt, therefore, if it was occupied at the time when the Spaniards first came.

Although there may be other ruins yet in the valleys east of the Sandia chain, I know of only one, that of the village at old San Pedro, south of the mining camp of that name. This pueblo is called by the Tanos "Pa-a-ko."

The narrow valley of the Upper San Pedro resembles somewhat that of the Pecos, but the stream is not as large, and the scenery decidedly grander. The forests descend into the bottom, and the peaks of the San Pedro range, covered with beautiful pines, rise at a short distance in the east. In the west, the slopes of the Sandia chain sweep upwards like an enormous slanting roof terminated by a long shaggy crest. There is not much space for cultivation, yet enough for the inhabitants of a good-sized pueblo. The ruins lie on the west bank, and almost at the edge of the woods. They show considerable decay. The walls appear to have been of rubble. Pottery and other objects similar to those of the other Tanos villages lie on the surface.

It was a village of the more compact type, which may be due to the nature of the ground on which it was built and to the lack of space. The mounds are high enough to admit the supposition that the buildings were over two stories in height, at least in some places. Three circular estufas are plainly visible, and three enclosures like those noticed at San Cristobal and San Lazaro. These enclosures were without doubt made for the purpose of confining flocks, and if they are coeval with the pueblo, and not subsequent additions, Paako belongs to the category of historic pueblos. But

<sup>1</sup> The *Petition* of the authorities of Santo Domingo and San Felipe jointly for a tract of land bounded in the east, "por el oriente con un pueblo antiguo llamado el Pueblo de Tunque," MS., September 20, 1770.

I was unable to investigate, while in that vicinity, whether shepherds may not have reared these stone enclosures in modern times. When, on the 12th of October, 1598, Juan de Oñate received the submission of the Pueblos lying along the western border of the Salines of the Manzano, Paako is mentioned as being among them.<sup>1</sup> This is significant, though not conclusive. In 1626, Fray Gerónimo de Zárate-Salmeron, in speaking of the murder of Fray Juan de Santa Maria in 1581, at some place east of the Sierra de Sandia and three days' journey south of Galisteo, attributes the deed to "the Tigua Indians of the pueblo that now is called San Pablo."<sup>2</sup> Zárate's commentator, the Jesuit José Amando Niel, changes that name into "San Pedro."<sup>3</sup> I infer, therefore, that there was an inhabited pueblo near the place where Fray Santa Maria perished, which place must have been in the vicinity of the "old" San Pedro of to-day.<sup>4</sup> Niel may have been right in changing the name, or the copyist of Zárate's manuscript may have made a mistake.<sup>5</sup>

<sup>1</sup> *Obediencia y Vasallaje a su Magestad por los Indios del Pueblo de Acolocu*, October 12, 1598 (Doc. de Indias, vol. xvi. p. 118). Four villages are mentioned: Paako, Cuzayá, Junétre, and Acolocú. If the first was the one at San Pedro, the other three may have been the Tigua pueblos "Cuar-ay," "Ta-ji-que," and "Chil-i-li."

<sup>2</sup> *Relaciones de todas las cosas que en el Nuevo Mexico se han visto y sabido*, 1626, MS., par. 7: "Y salió detras de la Sierra de Puaray, para atravesas por las Salinas, y de alli cortar derecho al paso del Rio del Norte, 100 leguas mas acá del Nuevo México; más no llegó á colmo su buen intento. Por que al tercero dia que se despidió de sus compañeros hermanos llegando á sestear debajo de un árbol. los Indios Tiguas del pueblo que ahora se llama Sn Pablo lo mataron. y quemaron sus huesos."

<sup>3</sup> *Apuntamientos que sobre el terreno hizo, etc.*, written in 1729 (MS.). Niel is very unreliable in everything touching upon New Mexico, but he knew Sonora, part of Chihuahua, and California.

<sup>4</sup> Three days' journey south of Galisteo brought the monk, travelling on foot, to San Pedro, or between San Pedro and Chilili.

<sup>5</sup> An error in copying is quite likely. The copy of Zárate's MS. in Mexico contains glaring blunders of that sort. For instance, "el Capitan Nemorcete," instead of "De Morlete, &ca."



The earlier testimony indicates that the ruin just described and called by the Tanos Paako is that of a village inhabited at least as late as 1626, which assumption is not negatived by the presence of the stone enclosures in question.

The documents referred to above make of Paako a village of the Tiguas. My Tanos informant at Santo Domingo declared that it was a Tanos pueblo. Which is right? It is a case similar to that of San Marcos and Cienega. Paako lies at the extreme southern limits of the Tanos range, and its position in relation to the Tigua settlements of Chil-i-li and Ta-ji-que is analogous to that of the pueblos of San Marcos, Cienega, and Bajada in reference to the Queres towns of Santo Domingo and Cochiti. I incline, however, to the belief that it belonged to the Tanos. A high ridge, densely wooded, the Sierra de Carnué, separated it from the nearest Tigua pueblo in the south, Chilili. The distance in a straight line is at least twenty-three miles, a long day's journey, owing to the intervening mountains. From San Pedro to the nearest Tanos villages in the north, at Golden, was only a few hours' travel.<sup>1</sup> I believe, therefore, that my Tanos informant is right, and that Paako was a settlement of his own people, which was abandoned for reasons as yet unknown at some time between 1626 and the great uprising in 1680. That it was no longer occupied in that year seems certain.<sup>2</sup>

<sup>1</sup> The proximity of a pueblo of one stock to one of another linguistic group, and its greater distance from the nearest kindred village, however, is not impossible. Cia, a Queres village, is only five miles from Jemez, while a greater distance separates it from Santa Ana, another Queres village. Sandia, a Tigua pueblo, lies only thirteen miles from San Felipe, while at least thirty miles separate it from the next Tigua town, Isleta. But in ancient times, when the stocks were more on the defensive towards each other, such cases hardly ever occurred. Acoma, however, is one, being nearer to the Zuñis than to its own people at Cia; but Acoma was impregnable to Indians.

<sup>2</sup> It was abandoned even previous to 1670. In that year began the emigra-

There is another ruin, smaller and more compact, a few hundred meters south of the one described; and on the opposite bank of the San Pedro there are also traces of buildings, but I had not time to examine either. With the notice above given of the principal ruin of San Pedro, my sketch of the Tanos country and its antiquities must terminate, although it is incomplete. There are other ancient vestiges which I have not touched upon. Sacrificial caves are spoken of in the vicinity of Cerrillos, and I have also heard of grottos showing traces of having been formerly inhabited. Documents of the year 1763 mention a ruin situated to the west of Carnué in the mountains.<sup>1</sup>

So far all the pueblo ruins scattered over the Tanos country<sup>2</sup> may be considered as those of villages built and inhabited by that tribe, whether their abandonment antedated the Spanish occupation of New Mexico or not. If we consider Tung-ge, the four villages south of Galisteo, the ruins near Lamy, at Peñas Negras, on the Arroyo Hondo, and at the Bajada, as pre-historic, it would seem that the Tanos had, in times prior to the middle of the sixteenth century, receded from the eastern, southeastern, and western boundaries of their range, and clustered about the basin of Galisteo and the Cerrillos, with Ojana, Kipana, and Paako, as isolated outposts in secure mountain fastnesses. This concentration was certainly a slow and gradual process, and the same causes have not produced it everywhere. The tendency of tribal society being segregation and isolation of local groups, it was natural for the Tanos to recede from their kindred, the Tehuas, in course of time. In the west, the proximity of the Piro and Tiguas from the Salines; and Paako is not mentioned among the villages that were abandoned after that date.

<sup>1</sup> *Real Posesion de Sn Miguel de Laredo*, 1763, MS.

<sup>2</sup> Under the term "pueblo ruins," I do not include here the small-house type of buildings found at Lamy and described in this chapter.

Queres had something to do with the concentration of the Tanos upon San Marcos and Cienega. Unfortunately, we have no traditional information upon these points. It is different in regard to the southeast. I heard while at Cochiti a folk-tale current among the Indians of Santo Domingo, which may throw light upon the past of the ruined pueblos lying on the southern border of the Galisteo plain, those called to-day Pueblo Colorado, Pueblo Blanco, Pueblo Shé, and Pueblo Largo. The substance of this tradition is as follows.

A long time ago, and before the Spaniards came to New Mexico, some wild tribe from the plains made a sudden irruption into the valley of the Rio Grande. They were called the Kirauash, and they seriously threatened Santo Domingo, or (as it was then called) Gi-pu-y.<sup>1</sup> Among the people of that village were wicked sorcerers, who entered into negotiations with the Kirauash for the purpose of delivering the pueblo into their hands. Some of the men of Santo Domingo, however, began to suspect their doings, and one night, when the principal men of the pueblo had gathered in council at an estufa, they noticed that one of the wizards stole out of the village. This looked very suspicious, for the Kirauash were in the neighborhood, and it was dangerous to stray from the houses. So they followed the sorcerer, and soon heard him exchange signals with the savages. Thereupon one of the men of Santo Domingo bade his comrades wound him slightly with their arrows, so as to cause his blood to flow, and then leave him on the ground as if he was dead, while they concealed them-

<sup>1</sup> The old pueblo of Guipuy lay on the banks of the Galisteo torrent a short distance east of Wallace, and was inhabited in 1598. Eighty years afterwards Santo Domingo stood on the banks of the Rio Grande, Guipuy having been wrecked by a flood.

selves near by. Soon a prairie wolf approached, sniffing and barking, and, as he smelt the blood, began to talk like a man, but in an unknown tongue. Cautiously the animal drew nearer and nearer until he touched the body, licked the blood from its wounds, and finally grasped it with its fangs. Thereupon those in concealment seized him and held him fast, calling out to their companions, who rushed up at once. The wolf was tied, gagged, carried to the pueblo, and down into the estufa, where the council was still in session. There the wolf was laid on the floor and untied; he then sat up, dog-fashion, and gazed stolidly into the fire. Only when the incantations began for breaking the charm by means of which men can change themselves into animals did he show signs of uneasiness. A roll of mountain tobacco was forced between his teeth, and at the first puffs the wolf vanished and a warrior of the Kirauash stood in its place.<sup>1</sup> Then the whole plot was revealed; some of the traitors were taken and punished, others had already fled. The savages, seeing their plan frustrated, made a desperate attack upon the neighboring village of Cochiti, which was repulsed. Enraged at their failure, they withdrew toward the plains. Their retreat carried them past the most southerly pueblos of the Tanos, which they were able to surprise and utterly destroy.

This piece of Indian folk-lore, which I give with the reservation elsewhere expressed, appears genuine; but there are usually several versions of one story. The source, however, from which I obtained this is one which I have learned to respect and to trust. Some weight attaches to it from its resemblance to a statement of Coronado's chronicler, Pedro

<sup>1</sup> This is a truly Indian tale, as transformation into animals at the will of one's self as well as of others is one of the chief faculties ascribed to sorcerers. The Navajos, formerly at least, made complete wolf's costumes and wore them occasionally on nocturnal scouts and raids.

de Castañeda. Speaking of the pueblo of Tshi-quit-e or Pecos (Cicuiq) and of the villages lying between the Pecos valley and the Rio Grande, he expresses himself in the following manner: —

“Between Cicuyé and the province of Quirix [the Queres] is a small village very well fortified, which the Spaniards have called Ximera, and another one in appearance very large, but which is almost completely abandoned. A single quarter of it is still inhabited; the rest appears to have been destroyed by violence. That place was called Silos, on account of the number of subterraneous rooms [probably estufas] that were found there.

“Farther on, there was another large but totally ruined village, in the courtyards of which we found a considerable number of stone balls of the size of a leather pouch containing one arroba [twenty-five pounds]. It appeared as if they had been thrown by machinery, and had served to destroy the village. All we could learn was, that five or six years previous there had appeared in this province a very numerous nation called the Teyas, who had taken and wrecked all the villages. These strangers had also besieged Cicuyé without succeeding in taking it. Before they left the country, they made a treaty of alliance with the inhabitants. It seems that they were very powerful, and had siege engines. The Indians did not know whence they had come, and only believed that they had arrived from the direction of the north. They call this nation Teyas, that is to say, valiant men, in the same manner as the Mexicans called themselves Chichimecas or braves. The Teyas whom we met later on were well known to the inhabitants of Cicuyé.”<sup>1</sup>

<sup>1</sup> *Cibola*, p. 179. He adds: “Ils viennent même hiverner sous les murs de ces villages; mais les habitants n'osent pas les y laisser entrer car ce sont des gens auxquels on ne peut pas se fier.” This implies that they were

The military engines which Castañeda attributes to a tribe of nomadic Indians from the plains must be regarded as purely imaginary. I will quote his description of these Teyas, whom he afterwards met on the steppes of North-eastern and Eastern New Mexico: —

“There are in these plains, as I have stated in the first part, a small number of roving Indians, who hunt the bison and tan the hides, which they sell in the villages. In the winter they come in bands to the villages that are nearest, some to Cicuyé, others to Quivira or close to Florida. These natives are called Querechos and Teyas. . . . These nomadic Indians are braver than those of the villages; they are taller and more warlike; they live in tents like the Arabs, and have large troops of dogs which carry their baggage. . . . These Indians eat raw meat and drink blood, but they do not touch human flesh.”<sup>1</sup>

Coronado says of the Teyas: “They have their faces and bodies covered with designs, are very tall and well formed, and eat meat raw like the Querechos, and like them they live and travel with the cows [buffaloes].”<sup>2</sup> I think that Castañeda attributes to the Teyas an incursion into Central New Mexico which was really made by another tribe from the plains, the Querechos or Apaches.<sup>3</sup> Ever since the Pueblos have been known, and long before, the Apaches have been the scourge of the sedentary Indians, and they were superseded by the Comanches only in the beginning of the past century. Between Querechos and Kirauash there is quite a similarity in sound. At all events, Castañeda refers to the

really the Teyas of the plains. I believe, notwithstanding, for reasons which will be given further on, that he meant the Querechos or Apaches, and not the Teyas.

<sup>1</sup> *Ibid.*, p. 189 *et seq.*

<sup>2</sup> *Carta al Emperador Carlos V.* (Doc. de Indias, tom. iii. p. 363).

<sup>3</sup> For identification of the Querechos with the Apaches, see Part I. of this Report, p. 179.

destruction of several Tanos villages by Indians from the plains, and in this his statements resemble the folk-tale which I have related.

The name "Tanos" is not mentioned by Castañeda; but the pueblos lying between Pecos and the Rio Grande must have belonged to that tribe. Besides the three spoken of above, "seven more are to be found between the Sierra Nevada and the road; there is one subject to Pecos which was partly destroyed by the nation of which I have just spoken."<sup>1</sup>

By "the road" he means the route taken by Coronado's force in 1541, when they marched from Bernalillo, or Tiguex, to Pecos, on their way to the plains. The ten villages mentioned by Castañeda must therefore have been situated in the following order: three along the route, and seven to the north of it; for the "Sierra Nevada," or Snowy Mountain, was the Sierra de Santa Fé, which is the highest one in sight, and the only one that in April and May sometimes deserves the appellation of Sierra Nevada. As seen from Tunque, from Galisteo, or from Pecos, the Santa Fé chain stands in the north.

Another document, written in New Mexico in the autumn of 1541, before Coronado's return from Quivira, states that "from the province and river of Tiguex in four days' journey they met with four pueblos: the first had thirty houses; the second is a large and good village destroyed in their wars; the third had about thirty-five houses occupied. These three are after the fashion of those of the river in every respect: the fourth is a large village, situated among mountains, and is named Cicuiq."<sup>2</sup>

<sup>1</sup> *Cibola*, p. 179. On page 182, in enumerating all the pueblos which he knew, he says: "Dans les montagnes neigeuses, Seipi, Ximena, trois."

<sup>2</sup> *Relacion Postrera de Sivola* (MS.): "Desde la provincia y Rio de Tiguex á quatro jornadas toparon quatro pueblos; el primero tenia treinta casas; el segundo es buen pueblo grande, destruido de sus guerras; tenia hasta treinta y cinco casas pobladas el tercero; hasta estos tres son de la manera de los del rio en todo;

It will be noticed that this narrative confirms that of Castañeda in the principal points, the number of villages which the Spaniards touched on their route, and their condition, except that Castañeda makes the ruined pueblo the last, that is, the one nearest to the Rio Grande, while the other authority calls it the second after leaving Pecos.

I have not found anything more explicit in other documents relative to Coronado's expedition. The above data are hardly precise enough to establish his line of march across the Tanos country. A gentleman whose long experience in New Mexico and intimate acquaintance with its topography gives great weight to his opinions, Mr. R. B. Willison, C. E., of Santa Fé, has suggested that Coronado may have taken the following route: from Bernalillo to Tunque possibly by way of the "Plazitas," in which case he would have diverged from the Rio Grande and remained out of sight of the Queres village of San Felipe; from Tunque to San Lazaro around the northern base of the Sierra de Dolores; from San Lazaro to the old pueblo of Galisteo; and from the pueblo of Galisteo to Pecos, passing three miles north of the pueblo of San Cristobal.

This route is indicated by old Indian trails, which make his suggestion quite plausible. If true, the following conclusions might be drawn: — 1. That the pueblo of Tung-ge was in ruins in 1541, having been abandoned a few years previous to that date in consequence of an attack by nomadic Indians from the plains. 2. That the pueblo of San Lazaro had also suffered from the same source. 3. That the pueblo of Galis-

el quarto es un pueblo grande, el cual está entre unos montes llamase Cicuic." Mota-Padilla (*Historia de la Nueva Galicia*, chap. xxxiii. p. 164) also mentions "Zitos por los muchos que tenian en que guardaban maíz; el otro se llama Jimena, y otro Coquite, y todos se mantuvieron fortificados, sin permitir si quiera que se les hablase." He was able to consult some papers left by Don Pedro de Tobar, one of Coronado's lieutenants.



teo, or Tage-uingge, was at that time only a small village, and was called by the Spaniards "Ximera."<sup>1</sup>

To identify the seven villages "between the road and the Sierra Nevada" is more than I can do, nor are we authorized to conclude that they were all inhabited. The Indian indicates and names the *sites* of his pueblos, irrespective of whether they are still occupied or not. To find out which are the inhabited ones he must be specially interrogated, which the Spaniards were unable to do, owing to lack of time and ignorance of the language. Taking the well known sites of Tanos pueblos north of the route followed by Coronado, it is easy to pick out seven, some of which, like San Marcos and Cienega, were undoubtedly inhabited in 1541, while the others were probably in ruins.

No mention is made of any pueblos south of the route. San Cristobal the Spaniards could not see from the trail, still less the four villages on the southern border of the Galisteo plain. The village of Paako lay far to the south; so did Ojana, Kipana, and the pueblos near Golden. To the north the country is open, while to the south rugged mountains arise in close proximity, producing the effect of an uninhabited wilderness.

It appears at least plausible that the withdrawal of the Tanos from the southeastern confines of their original range was due to an irruption of nomadic Indians, which happened but a short time previous to the arrival of Coronado in New Mexico, possibly between the years 1530 and 1540.

Of the pueblos south of the route, apart from the four probably destroyed by the Teyas, I hold that Paako, or old San Pedro, remained inhabited until after the first half of the

<sup>1</sup> Ximera, although the Spaniards gave that name to the pueblo, may have been a Tehua or a Pecos word misunderstood, and therefore incorrectly reported.

seventeenth century. It is also likely that Ojana and Kipana were occupied at least until 1700. In regard to the pueblos near Golden, the Tuerto and Valverde, I will refer to a passage in the journal of Gaspar Castaño de Sosa, of the year 1591. Castaño had established his headquarters at a village which he called Santo Domingo, situated on the left (east) bank of the Rio Grande; and while it is certain that its inhabitants belonged to the Queres, it is just as likely to have been the former pueblo of San Felipe as Guipuy, or old Santo Domingo. From one or the other of these the Indians guided Castaño on an excursion into the mountains where he "found two villages abandoned but very few days previously on account of war, as the Indians who were with us gave us to understand by signs; and we saw clearly that it was so, from the many dead bodies. In these villages were much maize and stores of beans."<sup>1</sup>

The mountains Castaño visited on this excursion can only have been those of the Tanos country. The two villages close together were therefore the two pueblos at Golden. They are the first ones which he would have met coming from Wallace or from the present Santo Domingo, and also the first ones on his route from old San Felipe into the mountains, as the pueblo of Tung-ge had been in ruins for nearly sixty years. I therefore consider myself justified in assuming that the pueblos near Golden, Sem po-ap-i and Ka-po, or Valverde and Tuerto, were abandoned in the beginning of the year 1591 on account of a raid by other Indians;

<sup>1</sup> *Memoria del Descubrimiento*, p. 256: "Fué por entre unas sierras donde halló dos pueblos despoblados de muy pocos dias atrás, los cuales estaban despoblados, respeto de que por guerra de otros, habian dejado sus pueblos, como en efeto hera, por que otros Indios que con nos iban, nos lo diéron á entender, é lo vimos claro ser asi, por las muestras de muchas muertes que habia señales; habia en ellos mucho maiz y frisol." The hostilities might have arisen from Pueblo Indians as well as from wild tribes.

but to what tribe or stock they belonged, it is impossible to determine.

In the east the Tanos range joins that of the Pecos. Although the large Pueblo of that tribe was examined by me in 1880 for the Institute, and a full report upon those investigations published, I deem it advisable to devote the next section of this Report to the Pecos valley, and to the question of the eastern limit of the Pueblos at the beginning of the historic period, as well as in times anterior to the coming of Europeans.

III.

THE UPPER VALLEY OF THE RIO PECOS, THE  
RIO GALLINAS, AND THE EASTERN LIMITS  
OF THE PUEBLO COUNTRY.

IN my report to the Institute upon the aboriginal ruins in the valley of the Pecos, I stated that the large ruin known as the old Pecos pueblo was not the only one in that beautiful mountain valley. Since that report was published, I have visited several of these ruins: that at Las Ruedas near the railroad station of Rowe, formerly Kingman; the one at San Miguel de Pecos, farther southeast; and that at San Antonio del Pueblo, three miles down stream. I have also heard of a ruined pueblo near El Gusano, and of ruins higher up the valley than the historic Pecos or Tshi-quit-e.

The Pueblo de las Ruedas is called by the Pecos Indians Ku-uäng-ual-a.

The ruins of Ku-uäng-ual a lie near the bed of the small creek called Arroyo Amarillo, and consist of low mounds of rubble. The village was manifestly built of that material, and forms three quadrangles connected with one another, and with only two entrances. I found no trace of estufas; and the appearance of the ruins shows long decay. The potsherds looked to me quite ancient, and I noticed no coarsely glazed specimens; but corrugated earthenware, as well as white and black and red and black, was abundant. The spot is a sheltered depression, with forests around it and water near by; and the pueblo may have contained, at most, four hun-

dred souls. Skeletons have been exhumed in the immediate neighborhood of this village, but I was unable to ascertain anything definite concerning them. It was a compact pueblo and well constructed for purposes of defence, but commanded no distant view, since it lies at the foot of the abrupt wooded mesa that skirts the Upper Pecos valley on the southwest, and is encompassed by forests on all other sides. The site was selected on account of the proximity of wood and water. Lookouts could be established at some distance from the pueblo, but even these commanded only a limited portion of the valley, the near slopes of the mesa, and the Tecolote chain.

From the testimony of the chroniclers of Coronado's march, it would appear that Tshi-quit-e was the only pueblo inhabited by the Pecos tribe in the middle of the sixteenth century.<sup>1</sup> The "last of the Pecos," now living at Jemez, make the same assertions. But in 1583 Antonio de Espejo mentions three villages of the Tanos, as he calls the Pecos tribe.<sup>2</sup> Fifteen years later Oñate speaks of only one;<sup>3</sup> and

<sup>1</sup> *Cibola*, chap. vi. p. 182: "Cicuyé un." In chapter v. page 179, he says, however: "On compte sept autres villages entre la route et la Sierra Nevada; il y en a un soumis à Cicuyé qui fut à moitié détruit par la nation, dont je viens de parler." That "nation" was the one called by him Teyas. But as he only states that the village was "subject to" Pecos, and reports from hearsay, there may have been one of the Pecos villages destroyed previous to 1540, and never reoccupied. On page 182 he says again that Cicuyé (Tshiquite) was the last pueblo to the east, "de là à Cicuyé qui est le dernier village." (It is given upon Plate I. Fig. 17.)

<sup>2</sup> *Relacion del Viage* (Doc. de Indias, vol. xv. p. 122). He says there were three pueblos, but clearly identifies one of them with the Ciquique — Cicuyé, Cicuic (the Tshiquite of to-day) — of Coronado. This is alone sufficient to identify the Pecos with the "Tamos"; but, in addition, we have the statement of Oñate in *Discurso de las Jornadas*, p. 258: "Al gran pueblo de los Peccos, y es el que Espejo llama la prouincia de Tamos."

<sup>3</sup> *Discurso*, p. 258. *Obediencia y Vasa'laje de San Juan Baptista*, p. 113: "La Provincia de los Pecos con los siete Pueblos de la Cienega que le cae al oriente."

so does Benavides in 1629.<sup>1</sup> Seven years later, however, the priest of Pecos, Fray Antonio de Ybargaray, mentions a "Visita de Indios," dependent upon the parish of Pecos, where he had gone to say mass.<sup>2</sup> It is therefore not absolutely certain that Tshiquite was the only Pecos settlement occupied in the earliest times of Spanish colonization, although it is possible that Espejo was misled, attributing to the Pecos pueblos inhabited by some other stock. The "Visita" spoken of by Father Ybargaray in 1636, may have been a settlement then recently formed, and subsequently abandoned.<sup>3</sup>

Between the great Pecos pueblo and the Pecos River I noticed in 1884 a number of ruins of small houses which had probably been built of stone; and I had seen similar ones in 1880 in another direction from the pueblo. I then believed them to be burial places, but I am now positive that they were houses of the small type. At the little town of Pecos I found one ruin with three apartments measuring respectively, 2.2, 2.2, and 3.8 by 3.7 meters, thus forming a house 8.2 by 3.7 meters (27 by 12 feet). I measured in all nine which were much smaller; the largest one being 4.0 by 3.5 meters (13 by 11½ feet). Hardly any pottery was visible about these ruins.

I was informed that on the extensive mesa separating the Pecos valley from the Galisteo basin there are two pueblo ruins, both much decayed. One was said to lie at the Ojo de la Vaca, the other in the Valle de San Miguel. The mountain torrents near which these ruins are situated are

<sup>1</sup> *Memorial*, p. 25.

<sup>2</sup> *Carta al Virrey (Escrita por el Ministro de Pecos, Fray Antonio de Ybargaray, November 20, 1636, MS.)*: "Sobre que vn domingo . . . la missa adonde yo abia ido a decirla a vna bisita de Yndios."

<sup>3</sup> There are several such instances in the environs of Zuñi. In the last century those Indians formed various pueblos at some distance from their large one, which were subsequently abandoned.

both tributaries of the Arroyo of San Cristobal. This might imply that the villages belonged to the Tanos group, but in default of precise information on that point, I refer to them here, as they lie nearer to Pecos than to the ruins of the Galisteo group.

Near the former railroad station of Fulton, southeast of Rowe, at a place called El Gusano, stand ruins which the Pecos Indians call Se-yu-pä, which they claim as one of their ancient villages. Not having visited the spot myself, I cannot decide whether this ruin may not be the same as the one near Pajaritos to which the Pecos give the name Se-yu-pä-lo. The similarity of the two Indian names is so great, and Pajaritos and El Gusano lie so close together, that I am inclined to believe there is but one ruin in that vicinity.

The distance from Rowe to San Miguel is seventeen miles to the southeast; Fulton lies about midway between. At San Miguel there were two pueblos, and two at San Antonio del Pueblo, three miles to the south; so that, including the great village of Tshiquite, there are along the course of the Upper Pecos River at least seven pueblo ruins within a distance of twenty-five miles.

The two ruins at San Miguel are small, and much obliterated. One lies a quarter of a mile east of the town, and on the slope of a low embankment, quite close to the Pecos. All I could find of it was a long mound, from which a rude stone wall protruded. This wall had a length of 34.5 meters (113 feet), and the mound was 6 meters (18½ feet) wide. Two partitions are also visible, three meters apart, and the end of a long wall parallel to the main one, and two meters distant from it, also crops out. The pottery was corrugated, and white with black decorative lines, — that is, of the older kind. Gray obsidian and much flint were scattered about the mound.

The other ruin, if it had not been for the potsherds with which it was covered, I should have overlooked, so low and indistinguishable had it become. This pottery is decidedly of the older type, corrugated, black and white, and red and black.

For the ruins near San Antonio del Pueblo, three miles southeast of San Miguel, I refer to Figures 18 and 19 of Plate I. Both seem to belong to the "one-house" pueblo pattern. The one on top of the mesa (Fig. 19), east of the little hamlet of San Antonio, is a rectangular stone-heap, from which walls protrude in only one place. These walls are built of pieces of the red sandstone of which the mesa is composed, and are only 0.22 m. (9 inches) thick; three partition walls are also visible, respectively 2.1 and 2.8 m. (7 and 9 feet) apart. No *estufa* can be seen, but in the centre of the chaotic mass of rubbish there is an open space measuring 7 by 4 m. (22 by 13 feet), showing that the pueblo had once an interior courtyard. This pueblo is one of the most compact I have ever examined, and occupied nearly the whole surface of the cliff, which is almost vertical towards the west, but with a less slope on the east. Its height above the Pecos is 32 meters (105 feet), and the distance from its base to the river's edge about two hundred meters, which space is occupied by fields. The situation of the village was such as to command a beautiful view. The valley widens towards the north and northwest, and in the distance loom up the snow-capped summits of the Santa Fé Mountains. In the southeast, wooded heights close in upon the Pecos, and in the west rise frowning and bleak mesas. Everything requisite for secure and prosperous habitation, according to the ideas and wants of the Pueblo Indian, is realized in a small compass.

In the very village of San Antonio, on the west bank of the



Pecos, lies the other ruin, represented on Plate I. Figure 18. It is reduced to flattened mounds, encompassing a courtyard which is open to the southwest. Very little pottery covers those ruins, and, as at the one on the mesa, it is of the older type. I found many flint arrow-heads here, but only a single piece of obsidian. One of the inhabitants of San Antonio, however, presented me with two handsome stone axes that had been found on the spot, which, like those found in all Northern ruins, had the crease or groove for fastening the handle cut all around the axe. The same person assured me that years ago a number of skeletons had been exhumed on the east side of the lower ruin, towards the river. They were rather closely packed, and the bones of each body, including the skull, lay in a heap, leading to the inference that they were buried in a sitting posture, with the face to the east.

The Pecos told me that they called one of the villages at this place Pom-o Jo-ua, leaving me to conjecture which of the two it was. They said at the same time, that the pueblo at El Gusano, nine miles higher up, was the last one of their tribe in that direction. The Pecos also assert that they came into their valley from the south or southeast, gradually moving up, and that Tshiquite was the last village built and occupied by them. There is nothing improbable in this. The incursions of the tribes from the plains tended to drive the Pueblos into the mountains, little by little.

Before turning to the important question of the eastern limit of the Pueblos, I will give a brief summary of what I have heard about ruins said to exist below San Antonio, as well as to the east of the Pecos valley.

I have been informed that on the banks of the Pecos the ruins do not extend much farther than *La Cuesta* or *Anton Chico*; and that there are distinct vestiges near the

former of these two points has been repeatedly stated. The character of these vestiges is said to be that of "pueblos," in the sense of communal large-house structures. Beyond Anton Chico remains, in appearance very ancient, and buried beneath the surface, are found in the so called Cañada Pintada: a long, bleak gorge, with natural tanks and water-holes, but destitute of springs. The sides of this gorge, as its name indicates, bear pictographs on the rocky surface. The Cañada lies west of the Pecos River, and on the opposite side there seem to be no ruins in latitude 35°, or farther south. I shall therefore assume that this parallel of latitude is the southern limit of ancient pueblos along the Pecos.

The Rio Gallinas, a mountain creek rising above Las Vegas, joins the Pecos a short distance below Anton Chico. The Pecos flows from northwest to southeast, the Gallinas nearly due south, with a slight deviation to the east. Between the two streams are other watercourses: the Rio de la Vaca, Rio del Toro, and the Tecolote. The country is wooded and mountainous; along the streams are fertile patches, and it is said that traces of ruins are met on all three of these watercourses.

In the Valles de San Gerónimo, eighteen miles west of Las Vegas, I satisfied myself of the presence of former Indian habitations. They seemed to belong to the small-house pattern, were mostly obliterated, and showed very little pottery. Near Las Vegas there were traces of ruins in three places, on both banks of the Gallinas River, between the town and the entrance to the gorge of the hot springs. The pottery of these ruins belonged to the oldest type, corrugated, black and white, and red and black. I found obsidian, flint, and fragments of metates and of slabs that had served as door-sills, the latter appearing very crude and

much worn. From an old resident I learned that two of the villages, at the Plaza Arriba and at Los Vigiles, consisted of about thirty small houses each, irregularly scattered, and that each had a round estufa. The walls were of adobe on rubble foundations, and their thickness exceeded not 0.25 m. (10 inches).<sup>1</sup> On the lower course of the Gallinas, between Las Vegas and the junction with the Pecos, there are said to be ruins at Romero and near the Chaperito. Whether there are traces of pueblos farther east, and as far as old Fort Bascom, I am unable to say.

North of Las Vegas, it seems that neither in the vicinity of Mora on the slopes of the high eastern range, nor in the Sierra de los Ratones, still less in the plains, have pueblo ruins been discovered. On the other hand, Mr. William Kroenig, in his Report to the Territorial Bureau of Immigration of New Mexico, in 1881, makes the following statement in regard to Mora County in general: "The county shows in many places traces of former occupation by an agricultural people. Their mode of building differed in so far from that of the present Pueblo Indians that their villages were of smaller dimensions, and as in all the excavations made earthenware pots filled with charred corn were unearthed, it may be presumed that these villages were destroyed by the wild Indian tribes of the prairies. All these ruins show large quantities of pottery, well made arrow-points of flint and obsidian, hand mills (metates), etc. The cañons also show the remains of cliff houses."<sup>2</sup>

<sup>1</sup> Possibly every trace of them has now disappeared. Two of the sites lay on the left, and one on the right bank of the Gallinas, all three above East Las Vegas. I was also told that in former times the Pecos Indians were accustomed every summer to spend a short time at the site of Las Vegas. A creek in the neighborhood still bears the name of "Arroyo de los Pecos."

<sup>2</sup> Wm. Kroenig, *Report as to Mora County*, 1881, p. 4. Mora County lies on the eastern slope of the mountains, and extends as far as the eastern boundaries of New Mexico, embracing also a part of the plains. It lies approximately between latitude  $35\frac{3}{4}^{\circ}$  and  $30\frac{1}{4}^{\circ}$  N., and longitude  $102^{\circ}$  and  $105\frac{1}{4}^{\circ}$  W.

I place full reliance on Mr. Kroenig's statement, which tends to show that whatever ruins still exist in Mora County belong to the small-house type of architecture, a type which was no longer constructed by the New Mexican Pueblos in the sixteenth century. On the other hand, I have been informed that the ruins at Chaperito are those of a typical pueblo.

Hence the limit of Pueblo architecture seems to extend as far east as longitude  $105^{\circ}$ , possibly to  $104^{\circ}$ , between the parallels of latitude  $35\frac{1}{2}^{\circ}$  and  $35^{\circ}$ . North of  $35\frac{1}{2}^{\circ}$ , their limit appears to follow the western slope of the high sierra, or approximately the meridian of  $105\frac{1}{2}^{\circ}$ .

There is documentary information of the sixteenth century which bears upon this question as to the eastern limit of the pueblos.

Hernando de Alvarado was the first Spanish officer who visited Pecos in 1540, and his report conveys the impression that Pecos was the last pueblo toward the east.<sup>1</sup> This impression is confirmed by the descriptions of the route taken in the following year by Coronado and his force, when they marched into the plains in search of Quivira. Their course from the Pecos pueblo was to the northeast, and they crossed the Pecos River a short distance beyond the village, but although they must have traversed the Tecolote chain and its partly irrigated valleys, it is positively asserted that no other pueblo was met with by them.<sup>2</sup> When the main body under Arellano returned from the plains, they struck the Pecos River about thirty leagues (eighty miles) below Tshiquite, and followed it as far as

<sup>1</sup> *Relacion de la Jornada*. Castañeda, *Cibola*, p. 72.

<sup>2</sup> *Cibola*, pp. 116-188. *Relacion Postrera*, MS. Juan Jaramillo, *Relation du Voyage fait à la Nouvelle Terre* (Appendix to *Cibola*, p. 371). Jaramillo speaks of two streams after the Spaniards had crossed the Pecos. All agree that the direction taken was to the northeast.

the pueblo, without noticing any settlement of sedentary aborigines.<sup>1</sup>

In 1583 Espejo descended the Pecos River from Tshiquite to Northwestern Texas, but except the three pueblos which, as I have previously remarked, he ascribes to the Pecos tribe, he saw no trace of villages.<sup>2</sup>

The most important testimony is that furnished by the journal of Gaspar Castaño de Sosa in the years 1590 and 1591. This officer was Lieutenant Governor of New Leon, and with a force of about one hundred men, a pack train, and a number of carts, he left Almaden in New Leon on the 27th of July, 1590, reaching the Rio Grande on the 9th of September. Crossing that river on the 1st of October, he continued his march to the east under great difficulties, resulting from lack of water and the absence of game, until he reached the Rio Salado on the 26th of the same month. It is needless to prove that the Salado was the Pecos.<sup>3</sup>

The Spaniards followed the course of this river upwards until the 23d of December, without seeing any trace of Indian settlements. On the 28th of October they met Apaches with troops of dogs.<sup>4</sup> On the 23d of December a scouting party returned with the news that an Indian pueblo was near by.<sup>5</sup> Until then the Spaniards had traversed only sandy expanses, with an occasional mountain chain looming up on the horizon; now they were in a country at once wooded and broken. The pueblo lay some distance west of the Salado, in a valley surrounded by forests and

<sup>1</sup> *Cibola*, pp. 135 and 136.

<sup>2</sup> *Relacion del Viage*, p. 123.

<sup>3</sup> *Memoria del Descubrimiento*, pp. 196 et seq.

<sup>4</sup> Previously they had also met some Tepehuanes. *Memoria*, pp. 207, 209. The Apaches, called "Vaqueros," had dogs, and used them as beasts of burden. See Part I. of this Report, p. 179.

<sup>5</sup> *Memoria*, pp. 220 to 222.

mountains. Castaño was compelled to take the village by storm, for its inhabitants had treacherously assailed the scouting party, wounding several of them, and depriving them of their arms and equipments. The interesting fact appears in connection with the storming of this village, that its natives had not the slightest conception of the nature and effects of fire-arms.<sup>1</sup>

The "Rio Salado" flowed "a quarter of a league" from the pueblo, and Castaño observes that its water had lost its alkaline properties "many leagues below."<sup>2</sup>

Leaving this pueblo on the 6th of January, 1591, with a part of his force, Castaño struck out for the west, crossing a wooded mountain. On the evening of the first day he reached another river, "all frozen." A short distance beyond this river stood a small village; farther on were five pueblos, not far from one another; finally, a large village near the banks of a great river. That river was the Rio Grande, and the Spaniards reached it on the 12th of January.<sup>3</sup> As it is certain that Castaño marched up the Salado to a place where that stream flowed through a broken and wooded country, that place must have been north of the parallel of thirty-five degrees. At some point, therefore, above Anton Chico, he must have turned off to the west, marching across the country to the Rio Grande. That this was the great river to which he for the first time applied that name is

<sup>1</sup> In proof of this Castaño relates that only when some of the Indians who accompanied him from Nuevo Leon began to show their arrows did the Pueblos retire to cover. The musket-shots fired into the air produced no effect. *Memoria*, p. 231: "É visto por los dichos Indios que los nuestros les tiraban flechas, se espantaban é mostraban mas temor, que no de la arcabuzeria; y asi mandó el dicho Theniente, que les apuntasen por todas partes; y asi se hizo." Compare also pp. 232 to 234.

<sup>2</sup> *Memoria*, p. 141: "Por que debaxo de esta elada, iba alguna agua." *Ibid.*, p. 239: "Á un quarto de legua va el rio Salado que decimos, por donde fué nuestro camino, aunque el agua salado se pierde muchas leguas atrás."

<sup>3</sup> *Ibid.*, p. 245. On page 259 he calls that river "el Rio Grande."

certain ; for on its banks he afterwards visited the Querese (Queres Indians), and on the same river stood the pueblo where Fathers Rodriguez and Lopez were murdered in 1581.<sup>1</sup>

There is no stream of any permanence between the Pecos and the Rio Grande and near the former. Consequently, the river which flowed a quarter of a league distant from the pueblo which Castaño had to take by assault cannot have been the Pecos, but some watercourse to the east of it, — either the Gallinas or the Tecolote. The small village next to it, however, was situated on the Pecos. It cannot have been Tshiquite or the “old Pecos pueblo,” for that was the largest Indian town of New Mexico.<sup>2</sup>

Without attempting to identify any of the ruins described or mentioned in this chapter with the two pueblos first spoken of in Castaño’s journal, this much seems probable: that towards the end of the sixteenth century inhabited villages existed southeast of the pueblo of Tshiquite or Pecos and north of the thirty-fifth parallel of latitude. To what linguistic group or special tribe the inhabitants belonged, it is of course impossible to determine.

The statements of Castaño derive some confirmation through one of the documents which Oñate caused to be executed touching the submissions of the Pueblo Indians and the division of New Mexico into parishes. On the 9th of September, 1598, Fray Francisco de San Miguel, one of the missionaries accompanying Oñate, was assigned to “the

<sup>1</sup> *Memoria*, p. 248.

<sup>2</sup> Pecos is always spoken of as an extraordinarily large pueblo. That the first village, the one which Castaño took by storm, was not Tshiquite, is clear. In the first place it lay only a quarter of a league from the river which Castaño took to be the Salado or Pecos, but which was in reality either the Gallinas or the Tecolote; and moreover the Indians of Pecos would not have been ignorant of fire-arms, as were those of that pueblo.

province of the Pecos and the seven pueblos of the meadow (Cienega) lying to the east of it, and all the Vaqueros (Indians of the cows or buffaloes, the Apaches of the plains) of that chain and district as far as to the Sierra Nevada.<sup>1</sup>

It is plain that the enormous parish thus formed lay east and south of the Santa Fé Mountains. But it also appears that it included seven inhabited pueblos situated east of the great Pecos village. It is fruitless to attempt to locate these with any precision.<sup>2</sup> It is also quite uncertain whether the number seven was correct. At all events there were inhabited villages beyond the pueblo of the Pecos tribe, and it seems probable that they lay west of the line which I have assumed to be the eastern limit of sedentary Indians in New Mexico.

In the Introduction to this part of my Report I stated that traces of sedentary Indians had been found in the plains on the banks of the Canadian River.<sup>3</sup> I have seen and examined two ancient flat urns, decorated with dark lines, that were coarsely glazed. It was undoubtedly pueblo pottery, of the kind so common in ruins of the historic period. Both urns were remarkably well preserved, and they had been dug up in an embankment on the Canadian River, about twenty-five miles east of Ocaté (Mora County). This isolated find proves nothing, since I could not ascertain that any ruins had been noticed in the same neighborhood. But former buffalo hunters have repeatedly assured me that along the Canadian River they had come upon stone enclosures and mounds covered with ancient pottery. It would be well to investigate the truth of such statements. Twice at least

<sup>1</sup> *Obediencia y Vasallaje de San Juan Baptista*, p. 113.

<sup>2</sup> The designation of "Cienega" proves nothing. Cienegas, or meadows, are found in a great many places; Las Vegas was a Cienega, and there is one at San Antonio del Pueblo.

<sup>3</sup> *Ante*, p. 12.



within historic times, bands of Pueblo Indians have deserted their villages and established themselves in the plains near such of the Apaches as were on good terms with them at the time. In the middle of the seventeenth century a part of the Taos Indians removed to Cuartelejo in Eastern Colorado, whence they were brought back by Juan de Archuleta.<sup>1</sup> A similar instance occurred in the first years of the eighteenth century; the tribe of Picuries again emigrating to Cuartelejo, whence it returned to its pueblo in 1706.<sup>2</sup> Such temporary dwelling of Pueblo Indians on the plains, each time extending over a period of several years, must have left traces in the shape of manufactured objects characteristic of pueblo culture. It is well to bear this in mind whenever finds occur like those near Ocaté.

The Pecos Indians were separated from their kindred in the west, the Jemez, by the range of the Tanos, and by the Queres, of the Rio Grande and the Jemez River valleys. Before proceeding to cast a glance at the antiquities of the Jemez, I will devote the next chapter to the district of the Queres, which is very rich in such remains.

<sup>1</sup> This is related by Escalante, *Carta al Padre Morfi*, par. 12.

<sup>2</sup> I have treated of this temporary emigration of the Picuries in my paper on the *Expedition of Don Pedro de Villazur to the Platte River* (Historical Contributions by the Hemenway Southwestern Archæological Expedition, p. 179).

IV.

THE VALLEY OF THE RIO GRANDE BETWEEN  
THE RITO DE LOS FRIJOLES AND THE  
MOUTH OF THE JEMEZ RIVER.

THE Queres Indians of New Mexico claim the range above described, asserting that the majority of the ruins scattered through it are those of villages of their tribe. At the present day they hold only the banks of two of the streams mentioned, three of their pueblos being situated on the Rio Grande, and two on the Rio Jemez. East of this district extends the former country of the Tanos; south, the range of the Tiguas; west and northwest, that of the Jemez and Navajos; and north, that of the Tehuas. The Rito de los Frijoles, with its numerous cave dwellings, forms what seems to be a boundary line dividing the Tehuas from the Queres stock. To that romantic gorge we will now return, where we left it at the close of the first chapter of this Report.

From the southern edge of the Ziro Ka-uash, or Mesa del Pajarito, we look down into the Rito as into a narrow valley several miles long and closed in the west by rocky ledges, over which the stream descends to the bottom lands of the Rito. Through these it flows for several miles as a gushing brook, enlivened by trout, bordered by thickets of various kinds of shrubbery, and shaded at intervals by groves of pine, and tall, isolated trees of stately appearance. In the east, not far from the Rio Grande, a narrow, frowning gateway is formed by lofty rocks of black basalt, leaving

space for the bed of the stream, the waters of which reach the river only during freshets, while in the valley they are permanent. The slope of the mesa lining the Rito on the south is gradual, though steep; ledges and crags of pumice protrude from the shrubs and grass growing over it. Tall pines crown it above. The average depth of the Rito below both mesas is several hundred feet; in places, perhaps as much as five hundred or more. It is not properly a valley, since its greatest width hardly attains half a mile, but a gorge or "cañon" with a fertile bottom and a brook running through it.

Descent into the Rito from the north is possible in several places, though tedious on account of the steepness and of the vegetation covering the slopes. If we cross the bottom, ascend the southern mesa, and from its brink look down again into the gorge, the northern wall presents a striking appearance. With few intervals, it is a long line of light-colored cliffs of very friable volcanic tufa, in places vertical and smooth, but mostly worn into angles and crags, running in sharp zigzag lines, like the "coulisses" of a stage. A talus of varying height, steep and covered with rocky débris, extends from the bottom of the gorge to the foot of these cliffs. As seen from the brink of the southern mesa, the view of the Rito is as surprising as it is picturesque.

The effect is heightened by the appearance of a great number of little doorways along the foot of the cliffs, irregularly alternating with larger cavities indicating caves, the fronts of which have partially or completely crumbled away. The base of the cliffs rises and falls, so that the line of caves appears to be at different elevations, and not continuous. There are spaces where the rock has not been burrowed into; in some places two, in others three, tiers of caves are visible. The whole length of this village of troglo-

dytes is about two miles, rather more than less. Upon the assumption that all the grottos were occupied simultaneously, the population of the Rito would have been much larger than that of the Pu-yé, and might have equalled that of the Pu-yé and Shu-finné combined, amounting to nearly twenty-five hundred souls; but it is more likely that fifteen hundred represents the number of the inhabitants. Here was a little world of its own. The bottom afforded a sufficient extent of very fertile soil; there was enough permanent water to permit irrigation, and there are even traces of acequias on both sides of the brook. Trees stood in front of their homes, and the mesas above are well wooded. Game of all kinds, deer, elk, mountain sheep, bears, and turkeys, roamed about the region in numbers,<sup>1</sup> and the brook afforded fish. The Rito is cool in summer and not very cold in winter, compared with the surrounding table-lands and the Rio Grande valley. It was a choice spot, admirably fitted for the wants of a primitive people.

It was also excellently situated for protection against a savage enemy. The inhabitants of the Rito could neither be starved out nor cut off from their water supply. Prowling Navajos might render hunting on the mesas very unsafe for months, but only a direct attack in great force could imperil the cave dwellers at home. It was easy for the latter to guard against surprise, since the foot of the cliffs affords lookouts over the whole bottom, up and down.

The cave dwellings of the Rito are so much like those of the Pu-yé and Shu-finné that they scarcely need description;

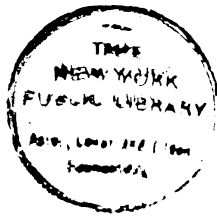
<sup>1</sup> All the kinds of game mentioned were very abundant around the Rito de los Frijoles in former times, but the communal hunts of the Pueblos, and later on the merciless slaughter of the Apaches, have greatly reduced it. Deer, bears, and turkeys are still to be found. In 1880 I saw the last mountain sheep at the Rito. That beautiful animal has now completely disappeared from the Valles range.

the differences are purely local and accidental. As in the Tehua country, they have artificial floors, and are white-washed inside or daubed over with yellow clay. There are the same types of doorways, air-holes, and possibly loop-holes; the same kind of niches and recesses; but the cave dwellings at the Rito are the most perfect seen by me anywhere.

The hearth or fireplace offers nothing remarkable, being simply made of two slabs set on edge against the outer wall of the cave. Above it, and 0.50 m. (22 inches) above the floor, is a hole serving as a means of escape for the smoke. Here are the only chimneys to be found in caves of artificial make, and since the Rito during the past and present centuries has been inhabited several times, and since shepherds and cattle thieves have repeatedly made the caves their abode, their antiquity is doubtful.<sup>1</sup> There are also some metate frames unquestionably modern, as similar ones can be seen at the Zuñi village, at the village of To-ya or Nutria, inhabited during summer by portions of the Zuñi tribe, and the remains of one existed in 1886 in one of the caves of the Pu-yé.

The same doubt as about the chimneys arises in regard to a cave occupying the corner of a projection of one of the cliffs on the upper part of the Rito, and it stands by no means alone. Three sides of the cave are of natural rock, but the third is closed by a thin wall of blocks of stone laid in mud and well built. The doorway has a frame of stones, and two lintels, the upper one made of half-round strips of wood, the lower of round sticks, laid lengthwise across the opening. Both wood and stone work appeared to me sus-

<sup>1</sup> I have not been able to examine the papers relating to the grant of the Rito; but that cattle and sheep thieves made it their hiding place is said to be mentioned in them. The tale is current among the people of Cochiti and Peña Blanca.



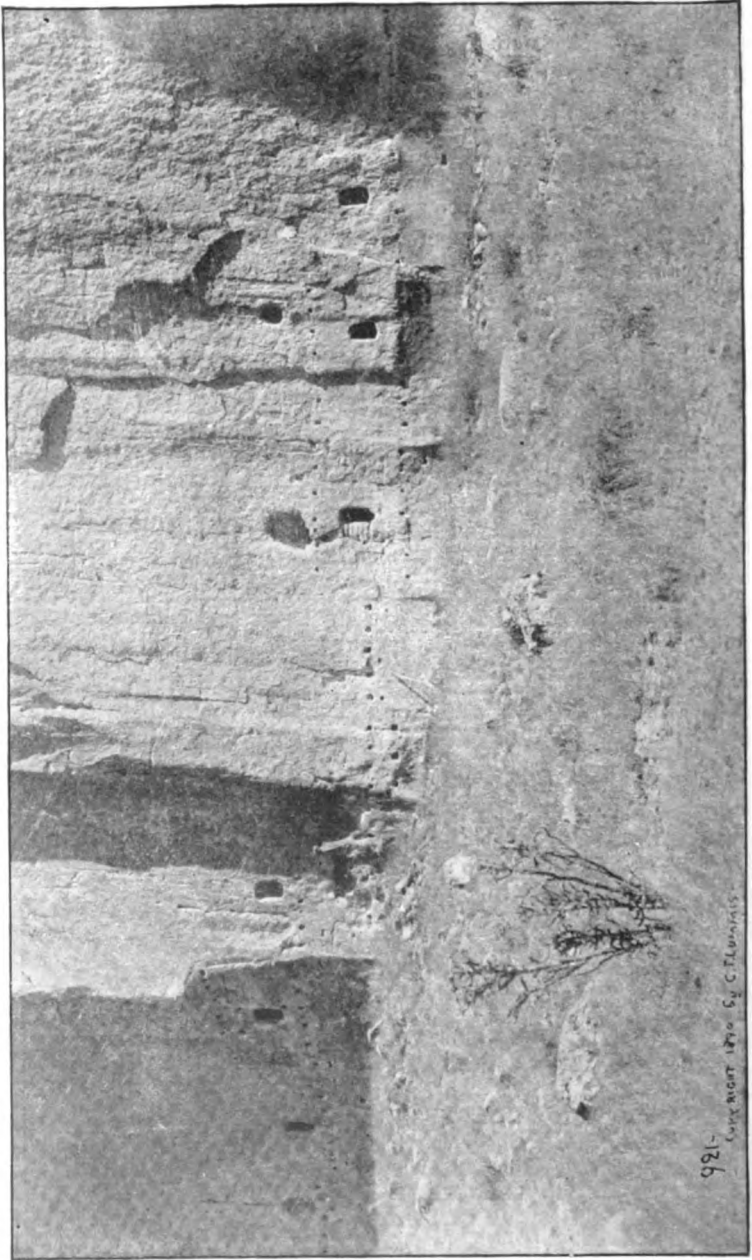


PLATE II. — HOUSES BUILT AGAINST THE CLIFFS, RITO DE LOS FRIJoles.

piciously fresh; still, the place is well sheltered, and this may account for their preservation.

The caves themselves, like those at the Pu-yé, are poor in relics, except those of the upper tiers, in which a few jars and bowls have been found. The valley of the Rito, especially the ruins, of which I shall speak further on, abounds in fragments of pottery, stone axes, arrow-heads, metates, grinders, and the like. Obsidian, in sharp splinters and chips, is profusely scattered about; and the rock itself contains nodules of that material, so valuable to primitive man in the Southwest. The axes are mostly of basalt. I have been shown a fetich made of lava, which was reported to have been found at the Rito, and pictographs exist in several places. The potsherds are of various kinds, corrugated and plain black, the very ancient black and white, and black and red, and also the more modern kind, decorated with coarsely and thickly glazed designs. In short, we have in the manufactured objects also a repetition of features noticed at the Pu-yé and the Shu-finné.

I measured nearly every cave through the whole length of the cañon as far as traces of former habitations extended, but must confine myself to some details only. Against such of the cliffs as rise vertically, and the surface of which is almost smooth, terraced houses were built, using the rock for a rear wall. Not only are the holes visible in which the ends of the beams rested that supported roofs and ceilings, but in one or two places portions of the beams still protrude. They were round, and of the usual size. Along the base of these cliffs extends an apron, which was once approximately levelled, and on this apron the foundations of walls appear in places. (See Plate II.) It would seem that a row of houses, one, two, and even three stories high, leaned against the cliff; and sometimes the upper story consisted of a cave, the lower of a building.



Chambers nearly circular, larger in size than the majority of caves, are also found in the cliffs, some of which have a low projection around the room like a bench of stone. These were doubtless estufas, as I was told by one of the Indians who accompanied me to the spot. There is a distinct estufa not far from the bank of the brook opposite those caves situated in the upper portion of the valley, and a smaller one still higher up. Including the four estufas connected with the pueblo ruins, of which I will speak further on, I have noticed at least ten such constructions at the Rito.

In describing the Pū-yé, I spoke of the pueblo ruins which lie on the top of the cliff of that name. At the Rito de los Frijoles there are at least three similar ruins, but they lie in the river bottom. Two of them are in front of the caves at a short distance from the talus sloping up to them. One was a one-house pueblo of the polygonal type, which probably sheltered several hundred people; the interior court still shows three circular depressions or estufas. The other, which lies about sixty meters (196 feet) east of it, shows thirty-nine cells on the ground floor; and sixteen meters (23 feet) north of it is an estufa twelve meters in diameter. Farther east are the remains of a circular tank fifteen meters (49 feet) across, and still beyond stand the remains of a round tower, which was certainly built in the past century by Spanish owners of the Rito. There are some doubts in regard to the antiquity of the tank also. The average dimensions of forty-four rooms of the smaller house and of those that can be measured in the larger ruin are 3.2 by 3.8 meters (10½ by 12½ feet). The three estufas in the courtyard of the polygonal ruin measure respectively 7, 10, and 11 meters across (23, 32½, and 36 feet). The walls of these buildings were of blocks of pumice from the cliffs, of various

sizes, but nearly regular in shape. As usual, they were laid in adobe mud, in courses, without breaking joints.

A third ruin, situated nearly a mile farther down the gorge in a grove of pine trees, formed an L, with a rude stone enclosure on its north side, and connected with it is a small estufa. It is quite as much decayed as the large polygon, and the potsherds covering its surface are similar.

Indian tradition regards both types of dwellings as the work of the same tribe, but I have only obtained the outlines of the elaborate folk-lore attached to the Rito de los Frijoles.

The people of Cochiti told me that the caves of the Rito, as well as the three pueblo ruins, were the work of their ancestors, when the Queres all lived there together, in times much anterior to the coming of the Spaniards. The place is called Tyuo-nyi in the Queres language, a word having a signification akin to that of treaty or contract. It was so called because of a treaty made there at some remote period, by which certain of the Pueblo tribes, probably the Queres, Tehuas, and perhaps the Jemez, agreed that certain ranges loosely defined should belong in the future to each of them exclusively. The Queres also told me that their ancestors, after having dwelt at the Rito for a considerable length of time, began gradually to leave it in bands, in order to build pueblos on the mesas south of the Rito. Whether these bands always consisted of complete gentes, or whether they included fragments of different clans, I could not ascertain. This tale was told me at various times, and by members of different clans and esoteric groups, and therefore seems to be a tradition common to the tribe of Cochiti in general. The medicine-men of Cochiti still visit the Rito frequently, to pay homage to the Shi-ua-na, or spirits that are supposed to be the particular Genii of their pueblo, and still to hover about the caves and ruins. To any one ac-

quainted with Pueblo Indian beliefs, this last custom will appear conclusive evidence that the Rito was, in times long past, the home of that branch of the Queres which now occupies the pueblos on the Rio Grande, Cochiti, Santo Domingo, and San Felipe.

These traditions concerning the Rito do not in anywise conflict with the ancient mythological tales about the origin of the Pueblos, since they relate to subsequent events. The Queres maintain that they, as well as the Tehuas and others, came to the surface of the earth at Shi-pap-u, and that they slowly drifted southward. Their migration legends are, however, but imperfectly known to me.<sup>1</sup> The definite historic tradition of the Queres of the Rio Grande seems to begin near the banks of that river, at the Rito de los Frijoles, which appears as the starting point of a dispersion, of which perhaps all the Queres pueblos, certainly those along the Rio Grande and in the Valles chain, were the result. The general direction of the movement has been from north to south, and I shall follow their traces as far as they become apparent in the ruins of former Queres settlements.

The Mesa del Rito borders on the south the gorge of the

<sup>1</sup> My friend Juan José Montoya, now deceased, called by his Queres name Mat-ya-ya Tihua, during the last interview I had with him at my home at Santa Fé, told me fragments of the migration tales of the people of Cochiti, while the Pueblos and the Navajos still formed one people near the Spanish Peaks (Huatoyas) in Southeastern Colorado. They were headed by two sisters, the elder of whom was called Na-uh Tzit-e, and the younger Osh Tzit-e. The two sisters quarrelled, and the elder, remaining master of the field, took up a line of march with her people to the Rio Grande, and the descendants of that group became the Pueblos; but the younger with her adherents turned to the west. Osh Tzit-e left a peculiar medicine, and a song in the Navajo idiom; and the Jemez and the people of Cochiti, being neighbors of the Navajos, became acquainted with both. The medicine appears to be the peculiar juggling performance of "eating fire," and to it also belongs the imitation of lightning in a dark estufa by means of a peculiar stick and an elastic spiral, called in Queres Po-tsho-äsh-t. My friend was mistaken when he asserted that only his tribe and the Jemez among the Pueblos had the song, as it is also known to the Tehuas.

“Tuyonyi,” and is covered with bushes and with groves of taller trees like Piñon (*Pinus edulis* and *P. Murrayana*). Whether there are ruins on this long and comparatively narrow plateau is doubtful, as I have seen none myself, and the statements of the Indians are contradictory on this point. Across this mesa a trail from east to west, formerly much used by the Navajo Indians on their incursions against the Spanish and Pueblo settlements, creeps up from the Rio Grande, and, crossing the mesa, rises to the crest of the mountains. It seems almost impossible for cattle and horses to ascend the dizzy slope, yet the savages more than once have driven their living booty with merciless haste over this trail to their distant homes.

I estimate the length of the Mesa del Rito at six miles from north to south; it terminates at what is called the Chapero in Spanish, and Kan-a Tshat-shyu in Queres. This is an elevation of trap or basalt, rising almost vertically from the banks of the Rio Grande to the surface of the mesa, above which its slope becomes quite gentle to the top, which is flat and elliptical. On the west, the descent is precipitous for more than a hundred feet. The Chapero in former times was the scene of reckless butcheries of game, termed communal hunts.<sup>1</sup> The adult males of Cochiti, or

<sup>1</sup> A good description of a communal hunt is contained in Villagran, *Historia de la Nueva Mexico* (canto xviii. fol. 163). It took place on the plain of Zuñi, in the fall of 1598.

“Y llegados al puesto estauan juntos,  
 Mas de ochocientos baruaros amigos,  
 Y assi como nos vieron arrancaron,  
 Haziendo dos grandiosas medias lunas  
 Y cerrando los cuernos se mostraron  
 En circulo redondo tan tendidos,  
 Que espacio de vna legua rodeauan,  
 La sola trauesia, y en el medio,  
 Con toda nuestra esquadra nos tuuimos,  
 Y luego que empezaron el ogeo,  
 Cerrando todo el circulo vinieron,

sometimes those of that village and of Santo Domingo combined, forming a wide circle, drove the game to the top of the Chapero, from which it could escape only by breaking through the line of hunters. Mountain sheep oftentimes precipitated themselves headlong from the precipice on the west. On such occasions the slaughter of game was always very great, while panthers, wolves, and coyotes, though frequently enclosed in the circle, usually escaped, the hunters not caring to impede their flight.

At the foot of the Chapero, a deep, narrow gorge, the Cañon del Rito, comes in from the northwest. The Mesa del Rito bounds it on the north and northeast, and the high and narrow plateau called Potrero del Alamo (in Queres, Uish-ka Tit-yi Hän-at) on the west and southwest. This gorge empties into a little basin on the west bank of the Rio Grande, and as low as the level of that stream. From this basin, the geological features of the surrounding heights can be very clearly seen. The cliffs near the stream are of dark-hued trap, basalt, and lava, forming a narrow strip along the river,<sup>1</sup> while all the rocks west of it are of light-colored pumice and tufa. The basin is not more than three quarters of a mile in diameter, and groves of cottonwood trees grow on its fertile soil. A small ruin stands at the foot of the Potrero del Alamo, having twenty-four cells of the average size of 3.5 by 2.9 meters (11½ by 9½ feet), constructed of

A meter donde juntos nos quedamos.  
Tantas liebres, conejos, y raposos,  
Que entre los mismos pies de los cauallos,  
Pensauan guarecerse, y se correrse."

The product of that hunt was eighty hares, thirty-four rabbits, and other game of less consequence. The "Cha-cu" of the Peruvians were only communal hunts like those of the Pueblos. See also Torquemada, *Monarchia*, vol. i. p. 680.

<sup>1</sup> The formation of black trap, lava, and basalt crosses to the west side of the Rio Grande a little below San Ildefonso, and extends from half a mile to a mile west. Hexagonal columns of basalt crop out near the Mesa Prieta.

paralleloipeds of tufa. Scarcely any pottery was to be seen.

From this basin the cliffs surrounding it on three sides rise to towering heights, and the Potrero del Alamo especially presents a grand appearance. On the east side of the Rio Grande the frowning walls of the Caja del Rio loom up, with their shaggy crests of lava and basaltic rock. The whole country is a wilderness, and will scarcely become anything else. Neither the mesas nor the gorges have any water, but precipitation is greater in the mountains than on the low lands, which explains why the Queres established themselves on heights so difficult of access and so remote from permanent streams. Except at the little basin, the Rio Grande leaves no space for settlement between San Ildefonso and Cochiti. It flows swiftly through a continuous cañon, with scarcely room for a single horseman alongside the stream. The lower end of this cañon afforded the people of Cochiti a good place for communal fishing in former times. Large nets, made of yucca fibre, were dragged up stream by two parties of men, holding the ends on each bank. The shallowest portions of the river were selected, in order to allow a man to walk behind the net in the middle of the stream. In this manner portions of the river were almost despoiled of fish. The same improvidence prevailed as in hunting, and the useful animals were gradually killed off. After each fishing expedition, the product was divided among the clans *pro rata*, and a part set aside for the highest religious officers and for the communal stores.

As we look into the mouths of the Cañon del Alamo and of the Cañada Honda, from the little bottom at the foot of the Chapero, they open like dark clefts of great depth between the cliffs of the lofty mesas. On the south a crest,

perhaps a thousand feet high, rises above the western bank of the river, crowned by battlements of basalt. This is the Mesa Prieta, or Kom-asa-ua Ko-te, from which a steep slope descends covered with volcanic débris, hard and soft. Up this slope toils the almost undistinguishable trail to Cochiti. From the crest we overlook in the south a series of rocks and wooded heights, and in the west a ridge flanked by gorges on both sides. This ridge is the end of a long, narrow plateau, sloping gently toward the Mesa Prieta from the eastern base of the Sierra de San Miguel. The name of this tongue is Potrero de las Vacas, and on it stand some of the most remarkable antiquities in the Southwest.

It requires several hours of steady walking to reach the upper end of the Potrero de las Vacas. The trail leads through forests, in which edible Piñons abound, and in autumn, when the little nuts ripen, bears are not unfrequently met with, and their presence is marked by the devastated appearance of Piñon trees.<sup>1</sup> These trees are also beset by flocks of the *Picicorvus columbinus* (called Piñonero in Spanish and Sho-hak-ka in Queres), a handsome bird, which ruthlessly plunders the nut-bearing pines, uttering discordant shrieks and piercing cries. The forest of the Potrero de las Vacas is therefore not so silent and solemn as other wooded areas in that region, where a solitary raven or crow appears to be the only living creature. To the right of the trail yawns the deep chasm of the Cañada Honda, from which

<sup>1</sup> The bear makes great havoc among the Piñon trees. Climbing into the tops for the nuts, he tears off entire limbs and generally ruins the tree. Three kinds of bears are spoken of by the Indians and the Spanish settlers: the silver-tip, (Platiado, Ko-ha-yo Kash-ya), the brown bear (Oso colorado, Ko-ha-yo Ke-kan-ye), and the black bear (Oso prieto, Ko-ha-yo Moh'-na-ka-nyji). The last two, I am certain, are respectively *Ursus cinnamomeus*, or *arctos*, and *U. Americanus*; but whether the silver-tip is really *Ursus ferox*, the terrible grizzly, or some cross, I am unable to tell. I doubt whether the grizzly is found in New Mexico, except perhaps in the northwestern corner of the territory.

every word spoken on the brink re-echoes with wonderful distinctness. Towards the eastern end of the Potrero the forests begin to thin out, and an open space extends until within half a mile of the rocky pedestal of the San Miguel Mountains. On this open space stands the ruined pueblo shown on Plate I. Figure 11.

Like all other pueblos of this region, it is built of blocks of pumice or tufa, nearly rectangular, but now much worn. I counted 280 cells on the ground floor, and the average size of 126 of them proved to be 4.3 by 2.7 meters (14 by 9 feet). Six estufas are visible; four inside the courtyard, formed by the houses, and two outside. The courtyard is open to the southeast, and the whole forms practically a one-house pueblo, the buildings of which were at least two stories in height, and in some places three, and perhaps four. To the southeast of the ruin, on the edge of the woods, stand the remains of an artificial tank. The population of this village cannot have fallen short of five hundred souls.

In the courtyard, not far from the largest estufa, the diameter of which is 14 meters or 46 feet, I noticed a long slab of red stone, 0.26 m. broad and 0.18 m. thick, broken into two pieces respectively 1.60 and 0.87 m. long, the whole length being therefore 2.47 m. (8 feet). The edges were roughly squared, and on one of the broad surfaces it had grooves like rude footmarks. My Indian guide asserted that this slab was a gua-co, or ladder, by means of which the roof of the estufa was reached, and that the grooves were carved to facilitate ascent. Not far from the place where this primitive ladder rested was the upper part of a stone post, one end of which was shaped like a colossal arrow-head, but what this was intended for I cannot surmise. It was made of hard lava, and may have stood originally in a different place.

The potsherds on the Potrero de las Vacas belong mostly



to the coarsely glazed kind; but corrugated fragments and the black and white also occur. Obsidian chips abound, together with moss-agates and flint. A very interesting find was made at this pueblo in 1885, by Governor L. Bradford Prince of New Mexico, who obtained a number of stone idols, rudely carved human figures, some of them of large size, belonging to the kind called by the Queres Yap-a-shi.<sup>1</sup> The name of Pueblo of the Yap-a-shi has accordingly been applied to the ruin, but its proper name is still unknown to me, as the designation current among the people of Cochiti, Tit-yi Hä-nat Ka-ma Tze-shum-a, signifying literally "the old houses above in the north," with the addition of Mo-katsh Zaitsh, or "where the panthers lie extended," is subsequent to the abandonment of the village. This name refers to the life-size images of pumas or American panthers (also called mountain lions) which lie a few hundred yards west of the ruin, in low woods near the foot of the cliffs called "Potrero de la Cuesta Colorado." (See Plate I. Figure 14.)

These remarkable stone objects, cut out of the tufa which constitutes the surface rock of the Potrero de las Vacas, have already been noticed in the publications of the Institute.<sup>2</sup> I give a photograph of them, taken under my direction by Mr. C. F. Lummis. (See Plate III.)

The figures attached to the rock are two in number, and lie side by side, representing the animals as crouching with

<sup>1</sup> Yap-a-shi is a generic name given to fetiches representing human forms. Hence they are distinct from animal fetiches, but are not lares or penates. Other names given to such images in Queres idiom are I-jiar-e Ko, and Uashtesh-kor-o. Many of them may represent the same deity or idol, and they ordinarily serve for magical purposes. The Tshayanyi, or medicine-men, have most of them in their possession, although some are in private hands.

<sup>2</sup> A preliminary notice of them appeared in the *Second Annual Report of the Committee*, 1881, p. 22; but I had already given some account of them in *The Nation*, February 10, 1881.

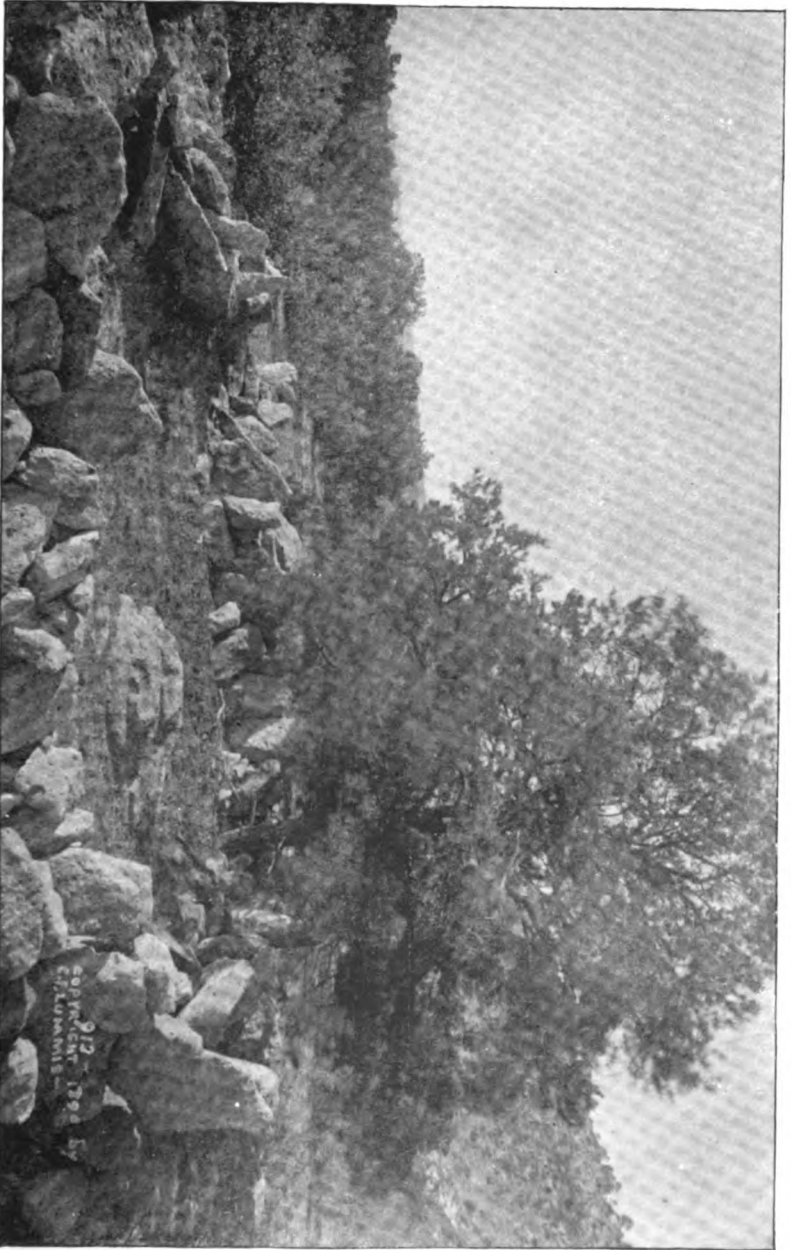


PLATE III.—THE PANTHER STATUE AND STONE ENCLOSURE ON THE POTRERO DE LAS VACAS.



tails extended, and their heads pointing to the east. They are much disfigured, especially the heads.<sup>1</sup> Still, the natural agencies to which the images have been exposed in the open air have rounded the edges of the (originally very uncouth) carvings, and increased their life-like appearance. I recognized at a glance, when I first saw them in the evening twilight of the 25th of October, 1880, the intention to represent panthers preparing for a spring. The length of each statue is 1.80 m. (6 feet) of which 0.74 and 0.71 m. respectively (or a little over one third) make the extended tails; the height is nearly 0.60 m. (2 feet), and the breadth varies between 0.35 m. across the shoulders and 0.43 m. across the hips (14 and 17 inches). The space between the heads and the tails of both figures measures 0.20 m. (8 inches) and 0.53 m. (22 inches).

An irregular pentagonal enclosure surrounds the images, made of large blocks, flags, and slabs of volcanic rock, some of which are set in the ground like posts, while the majority are piled on each other so as to connect the upright pillars. The perimeter of this enclosure is 20.8 m. (68 feet); the height of the tallest post, 1.25 m. (4 feet); and the length of the longest slab, 1.58 m. (5 feet 2 inches). On the south-eastern corner is an opening one meter (39 inches) wide, forming the entrance to a passage lined by two stone hedges like the enclosure, running out to the southeast to a distance of 5.85 meters (19 feet). The whole is much disturbed, and its original appearance was certainly more regular than at present. When I last saw the monument, it looked like a diminutive and dilapidated Stonehenge.

In the southwest corner of the enclosure stood, ten years ago, a piñon tree about twelve feet high and fifteen inches in diameter. Whether this tree stood there before the place was

<sup>1</sup> The act of vandalism was perpetrated by shepherds.

abandoned, it is of course useless to conjecture. In the enclosure I found nothing but a few bits of pottery and obsidian, possibly the remnants of sacrificial offerings; but it would have been in the highest degree injudicious to attempt excavations on this spot, as it is still held sacred by the Indians of Cochiti.



PANTHER IMAGES AND ENCLOSURE, POTRERO DE LAS VACAS.

Better than all descriptions, this ground plan will give an idea of the monument. Nothing similar to it has ever been discovered in the Southwest outside of the Queres country.

They are the largest images or statues known to have been executed by Pueblo Indians. But, as will be seen further on, they are not the only ones of the kind still in existence between Cochiti and the Rito de los Frijoles.

Subsequent research will no doubt reveal the purpose and signification of these images more clearly than I am able to give it here. All I could ascertain was, that they were fetiches of the panther, Mo-katsh, and as such belonged to the special esoteric group of the Hunters (Shya-yak), of whom the panther is one of the principal protectors and "intercessors." That a certain devotion is still paid to them I am certain, for my Indian friends acknowledged it to me, and two of them smeared the heads of both images with red ochre in my presence, while they muttered prayers between their teeth. The Indians also asserted that the images were made by the same people who built and occupied the old village.

According to their tradition, the first band or group that seceded from the tribe at the Rito wandered as far as the Potrero de las Vacas, and built there the pueblo which is now in ruins. They also carved the images of the panthers, and made the enclosure around them. What caused the subsequent abandonment of the place I have not been able to learn. I have heard stories about attacks by other tribes, either savage or sedentary, and such tales are quite plausible; but there are also indications that the pueblo was gradually abandoned in the same manner as the Rito de los Frijoles, its inhabitants gradually moving southward and building new residences on other sites. The only thing that seems to me fairly well established is that the pueblo on the Potrero de las Vacas was a former Queres village,<sup>1</sup> built

<sup>1</sup> I am not positive whether the people of Santo Domingo claim to have ever inhabited the Potrero de las Vacas. Those of San Felipe assert that they have resided in the Cañada de Cochiti, some distance south of the Potrero, which would indicate that they had remained until then with the people of Cochiti.

while the caves at the Rito were still partly inhabited by people who had emigrated from the latter site for reasons as yet unknown, and that it was abandoned long previous to Spanish occupation.

In the gorges both north and south of the Potrero are quite a number of artificial caves. Those on the north, in the Cañada Honda and the upper part of the Cañon del Alamo, are fairly preserved. The upper part of that gorge is wooded, and the caves were thus somewhat sheltered. They offer nothing worthy of special mention, and do not compare in numbers with the settlement at the Rito. The Queres say that these caves also are "probably" the work of their ancestors. Those on the south side of the Potrero de las Vacas are much more worn, and are connected with the interesting natural rock shelter called by the Queres Tzek-iat-a-tanyi, and now usually termed Cueva Pintada, or the painted cave. This large cavity measures 17 meters (55 feet) across its entrance, its depth is 14 meters (46 feet), and at an elevation of 17 meters (55 feet) above the floor is a hemicycle of pictographs painted in red ochre, to which there is an ascent by means of old and much worn steps in the rock. The pictographs represent some of the well known symbols of the pueblos, such as clouds, sheet-lightning, the sun, dancing-shields, and male and female dancers. Their execution is very rude. The diameter of this hemicycle is 10 meters (32½ feet). Besides these aboriginal daubs, there are modern ones of equal artistic merit, among which the cross is prominent. Cave dwellings have been excavated in the rear wall of the cave, and 15 meters (48 feet) above the floor are indentations showing that chambers had also been burrowed out at this height. The steps therefore may have been made in order to reach this upper tier of rooms; for it appeared to me that the paintings

were more recent than the cave village, as they are partially painted over walls of former artificial cells, the coating of which had fallen off before the pictographs were placed on them.<sup>1</sup> Most of the cave dwellings are found on the west side of the Cueva Pintada. Some of them have two tiers; and there are also traces of foundations in front of the cliff, showing that houses had been built against the wall. Of the extent of this cave village it is difficult to judge, but enough is left to indicate that it may have contained a few hundred people. The pottery belonged to the oldest types; mostly white and black, and corrugated. Much obsidian lay about in splinters and chips; also door-sills of diorite, broken metates, grinders made of lava, and stone axes, — in short, the usual "relics" accompanying pueblo ruins.

The gorge on the northern side of which this cave village and the Cueva Pintada lie, is called Cañada de la Cuesta Colorada, deriving its name from seams of blood-red iron ochre that appear in cliffs west of it, at the base of the San Miguel Mountains. That cluster is called by the Queres Rätýe, or Rabbit, as its crests on one side resemble the outline of a colossal rabbit, crouching, with its ears erect. The Cañon of the Cuesta Colorada runs along the southern base of the Potrero de las Vacas, and a short distance west of the painted cave another narrow gorge joins it from the southwest. Between the two rises a triangular plateau, called Potrero de las Casas, on the top of which is said to be a pueblo ruin. At the junction of both gorges lies a much obliterated mound, indicating a rectangular building about 25 by 50 meters (80 by 160 feet). The pottery on it is the same as at the Cueva Pintada.

<sup>1</sup> I was informed that in former times, whenever a pueblo was abandoned, it was customary to paint a series of such symbols in some secluded spot near the site of the village. Whether this is true or not, I do not know.



The settlement at the Cueva Pintada is also claimed by the Queres of Cochiti as a colony from the Rito; it may have been anterior to the pueblo of the Potrero de las Vacas, or coeval with it. Some of my informants thought that it was of a later date, and that its builders were a part of the inhabitants of the village of the stone images. Similar statements are made in regard to the ruins on the Potrero de las Casas.

Between the Cañada of the Cuesta Colorada and what is called the Cañada de Cochiti the distance in a straight line is hardly ten miles. But no less than three high mesas,<sup>1</sup> separated from each other by deep cañons, intervene. They are all waterless, and covered with thickets and groves of tall pines. They jut out from the foot of the high mountains like narrow tongues, terminating, at an average distance of two miles from the Rio Grande, in towering cliffs of light-colored volcanic rock. These cliffs appear like pillars, or gigantic posts; hence their Spanish name "Potreros." The one forming the southern wall of the Cuesta Colorada gorge is an extensive plateau called Potrero Chato, or Capulin, and on its top are many ancient remains. A number of small houses are scattered over it, and near the foot of the Sierra San Miguel lie the ruins of the pueblo shown on Plate I. Figure 13. It stands on a bald eminence, from which, as from the Potrero de las Vacas, an

<sup>1</sup> The orography of this part of the Valles chain is imperfectly known. The nomenclature varies greatly according to the source whence it is obtained. Thus the Potrero Chato is frequently called Capulin, and its upper part is termed Potrero de San Miguel. As it is three-lobed, the three lobes bear different local names. Between them lie, from north to south, the Cañon Jose Sanchez (Tyeshtye Ka-ma Chinaya), and the Cañon de la Bolsa (Ka-ma Chinaya). Ka-ma signifies house, and Chin-a-ya torrent, or mountain gorge in which runs a torrent. South of the Potrero Chato is the Potrero Largo, with two additions, of which the eastern one is called the Potrero de los Idolos (Shkor-e Ka uash, or round mesa).

extensive view is obtained in all directions except the west and north. The village consisted of five separate buildings disposed around an open square; and its population must have been at least two hundred souls. I saw two estufas outside of the square, one of which measured seven, the other thirteen meters in diameter (23 and 42 feet). Fifty meters southeast of the ruin lie the remains of a large artificial tank. The pottery is mostly coarsely glazed, older kinds being rare. This pueblo the Queres of Cochiti call Ha-a-tze (earth), which seems to be its original name; but they also apply to it the term Ră-tye Ka-ma Tze-shuma (the old Houses at the Rabbit), evidently a more modern appellation. They emphatically claim it as one of the former abodes of their tribe, after they had left the Potrero de las Vacas.

Of the small houses scattered over the surface of the mesa, between this pueblo and the eastern end, I have examined a number. The majority are nearly square, have but one room, and measure 2, 3, and 4 by 4 meters ( $6\frac{1}{2}$ ,  $9\frac{1}{4}$ , and 10 by 13 feet). The potsherds found in these places are all of the older kinds: white with black decorative lines, and corrugated. My Indian companions, as well as the old men of Cochiti, whom I repeatedly consulted in regard to them, affirmed that nothing positive was known of their builders except that they were Pueblo Indians. They may have belonged to an older period of occupation than that represented by the Queres, or to a colony from the Rito that emigrated after the people of the Potrero de las Vacas, and who settled on the Potrero Chiato before the Queres began to scatter again.

Within the small compass of not more than a half or a quarter of a mile, the groups of ruins on the surface of the Potrero Chato represent two varieties of ancient architecture,

each accompanied by a distinct type of pottery. The small-house ruins, of which the potsherds belong to the ancient kind, cannot have been merely summer ranches of the larger pueblo, in which the coarsely glazed variety predominates; for it is not presumable that the Indians used one class of earthenware in winter, and another, more perfect in material and more simply and tastefully decorated, in their temporary summer homes. Hence I consider myself justified in concluding that there were two distinct epochs of occupation, the most recent of which was certainly by the Queres. Wherever the caves stand without pueblo ruins in their immediate vicinity, they show almost exclusively the old kinds of potsherds, the black and white, or gray, and the corrugated. This would seem to indicate that the artificial caves and the small houses belong to one and the same period, anterior to that of the construction of many-storied pueblos. The Indians merely say that all these ruins are those of Queres villages, insisting at the same time that the pueblos were built by that branch of the former inhabitants of the Rito de los Frijoles, and of its cave dwellings, which subsequently became the tribes of Cochiti and of San Felipe.

The buildings on the Potrero Chato, whether large or small, are made of blocks of tufa like those previously described. The walls of the pueblo of Ha-atze seem particularly well built and well preserved. The small houses are reduced to mere foundations and rubbish.

The soil on the surface of the Potrero is fertile, but there is no permanent water; hence the necessity of the artificial tanks. Precipitation, as already stated, is sufficient in ordinary years to permit the growth of Indian corn, beans, and squashes. Game was abundant in olden times, and is not unfrequently encounteredd to-day, — principally deer, bears, and turkeys.



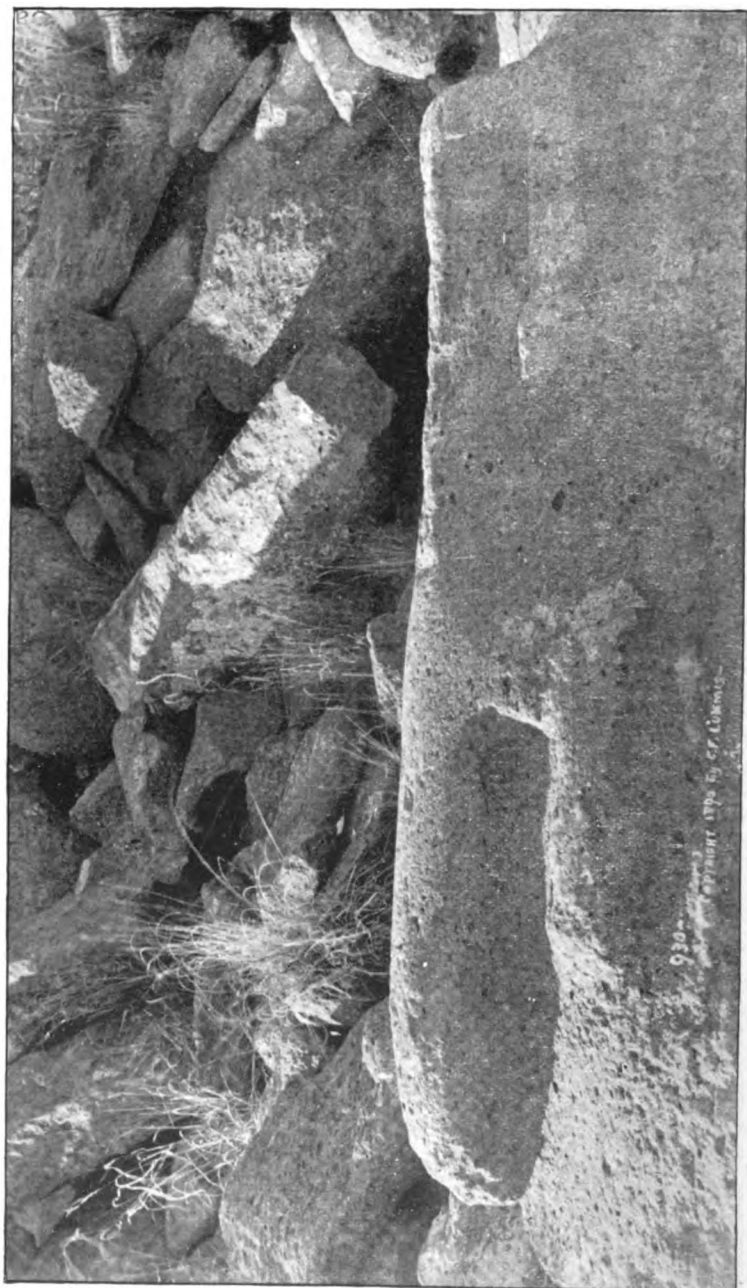


PLATE IV. — THE PANTHER STATUE ON THE POTTERO DE LOS IDOLUS.

The Indians assert that the higher parts of the Sierra contain no ruins, and I have every reason to believe their statement. I am also certain that no ruins exist between the eastern foot of the Potrereros and the Rio Grande. The nearest vestiges of antiquity found to the south of the Potrero Chato are in the Cañada de Cochiti, on the Potrero Viejo, and on the Potrero de los Idolos.

The last is a small round mesa, called in Queres Shko-re Ka-uash, which rises above the Cañada of Cochiti like an easterly spur of the long Potrero Largo that flanks that valley in the north. Its height above the valley is 94.8 meters, or 304 feet, and the summit is oblong, and mostly covered with scrubby conifers. On the open space are the remains of two images of panthers, similar to those on the Potrero de las Vacas. One of them is completely destroyed by treasure hunters, who loosened both from the rock by a blast of powder, and then heaved the ponderous blocks out by means of crowbars. After breaking one of the figures to pieces, they satisfied themselves that nothing was buried underneath.

The other image, although somewhat mutilated, is still in a better condition than those on the Potrero de las Vacas, as the rock out of which it is carved is much harder, and has consequently resisted atmospheric erosion far better. Its size is very nearly that of the two figures formerly described. (See Plate IV.)

The imperfections of the sculpture are very apparent; were it not for the statements of the Indians, who positively assert that the intention of the makers was to represent a puma, it would be considered to be a gigantic lizard. Still, there can be no doubt that it is Mo-katsh, the panther fetich of the Shya-yak (or hunters) of some Queres tribe. There are also the remains of a stone enclosure similar to that on

the Potrero de las Vacas; and a stone post still erect measures 1.32 m. in height (4 ft. 4 in.). A slab lying on the ground near by, and with one end broken off, is 1.58 m. (5 ft. 3 in.) long. Both stones show marks of having been rudely dressed with stone implements, but there are no traces of ornamental carvings. A number of smaller slabs and blocks also lie scattered about.

There is no pueblo ruin, at least to my knowledge, in the immediate vicinity of the Potrero de los Idolos, and I was repeatedly told that the Potrero Largo had no traces of antiquities on its summit. But the ancient Queres pueblo of Kua-pa lies a little over one mile to the southwest, in the valley or cañada, and my Indian informants asserted that the inhabitants of Kua-pa had made the sculptures.

The existence of two sets of images of the panther fetich in the same region, carved in former times by people of the same linguistic stock, and probably of the same tribe, although at different dates, indicates that both places were merely local shrines. The explanations of the aborigines also prove that the statues were not "tutelary deities" of the villages near which they are situated, but simply fetiches of exceptional size, belonging to the circle of worship of one of the esoteric clusters. This may throw some light on the real part played by larger idols in the rites and ceremonies of tribes farther south, as in Mexico, where secluded shrines were frequent, on mountain tops or in forests.

I have not found any allusion in the old writers about New Mexico to places of worship like those just described. Stone enclosures are however mentioned incidentally, and Torquemada<sup>1</sup> speaks of sacrifices performed early in the

<sup>1</sup> *Monarchia*, vol. i. p. 681. The same author, however, speaks of "Demonios," who appeared to the Indians outside of their villages "Nombran á tres Demonios, que les aparecen a estos piden agua; al vno llaman Cocapo, al otro

morning by the women at "rude stones," which I infer were placed outside of the pueblos.

This silence of older authors may prove instructive. Had the early Spanish settlers, and especially the missionaries, known of these sculptures, they would have recorded it. It is true that all the church documents anterior to 1680 are lost, still some trace would be found in works like those of Zárate-Salmeron, Benavides, or Vetancurt. This shows that the rites performed in connection with the images, while certainly continued as they are still performed to-day, were no longer as frequent; and that the places had begun to lose their vital hold on the minds of the people before the Spaniards entered the country. They were still shrines, as they are to-day for the people of Cochiti, but no longer in regular use. This may be an evidence of great antiquity, for the Indian clings to places of this kind with strong tenacity for many generations, regardless of their distance from his home.

Another inference may be drawn from the existence of two sets of images in two distinct localities. It corroborates the Cochiti tradition that they were made by the same people, but implies that the sculptures on the Potrero de los Idolos were made after those on the Potrero de las Vacas. The Indians state that the village of Kua-pa was built by their ancestors after the pueblo on the Potrero Chato had been abandoned, and that it was consequently their third station after the evacuation of the Potrero de las Vacas.<sup>1</sup> Indeed, the tales of historic import are more positive and detailed

Caçina; y al otro Homace; los dos vltimos, les aparecen en el Campo; en la figura que quieren." Torquemada is here speaking of the Tehuas. "Caçina" is what to-day is called Ka-tzin-a, or the spirits of game in the clouds. To this kind belonged the images of the panthers, as fetiches.

<sup>1</sup> Counting the settlements in the Cuesta Colorada as the first, and the pueblo on the Potrero San Miguel (Ha-a-tze) as second. About the ruins on the Potrero de las Casas I am not positive.



in regard to the ruins in the Cañada de Cochiti, showing that the past of these places is less remote than that of the more northerly ruins.

The valley of the Cañada is broad and open in comparison with the gorges of which I have had to speak before. It is a sunny vale, sandy, protected on the north by tall potreros, and bordered on the south by gentle slopes dotted with junipers and cedars. Through it flows a stream, the waters of which are permanent. In the east a sombre gateway of lava and basalt affords egress to the Rio Grande. In the west rise the pine-clad slopes and crests of the Sierra de la Bolsa, and in front of them a high and narrow projection or cliff, called Potrero Viejo; by the Queres, Hä-nat Kot-yi-ti. The sides of this mesa are of bare rock, a tufa merging into pumice-stone, and the ascent to the top is steep and laborious. The summit is wooded, and perhaps two miles long. From it expands a wide view, and the little houses of the hamlet of the Cañada appear tiny at a depth of nearly five hundred feet below. The ruins of Kua-pa lie about a mile and a half lower down the valley than the present Mexican settlement,<sup>1</sup> midway between the Potrero Viejo and the Potrero de los Idolos. They occupy a low bluff between the stream on the

<sup>1</sup> The grant of the lands in the Cañada de Cochiti constitutes the original title to the site. This grant was made in 1728, by Governor Don Juan Domingo de Bustamante. *Merced de la Cañada de Cochiti*, MS. In the year 1782 the Cañada was inhabited by 184 Spanish settlers. Morfi, *Descripcion Geográfica*, fol. 104. In the first half of this century the Navajos became so troublesome that the settlers had to abandon their homes for several years, fleeing to Cochiti. Some of the older men now living were among those who remember those dismal times, and many ruins of Spanish ranches bear testimony to the depredations of the savages. In 1833 the Cañada was inhabited by 408 people. Francisco Albino Aragon, *Plano que manifiesta el Numero de Almas que hay en esta Alcaldia de S. Buena Ventura de Cochiti*, MS. To-day there are about 150 souls; in 1829, there were 248. José Manuel Baca, *Estadística*, MS. The Cañada was temporarily abandoned in February, 1835. Jesus Maria Cabeza de Vaca, *Carta al Geffe Político*, April 9, 1835, MS.

north and a dry gulch on the south, and are very much decayed, many of the mounds being barely distinguishable. I am positive of the existence of five circular estufas, but there may be at least two more. The pueblo seems to have been large, and the potsherds belong to the coarsely glazed, the corrugated, and the ancient black and white and red and black kinds. The last are represented in larger quantities than is usually the case in ruins where the glazed variety prevails.

The ruins of Kua-pa look much more ancient than any of those on the potreros; but this is due to the material of which they are built. In place of blocks of tufa, loose rubble and adobe formed the bulk of its walls. Adobe disintegrates rapidly, and rubble forms heaps of disorderly rubbish. The ancient appearance of Kua-pa cannot therefore be relied upon against the testimony of historical tradition. Both the Indians of Cochiti and the inhabitants of the Cañada, who are well versed in Indian folk-lore concerning their valley, have asserted to me that Kua-pa was an old village of the Cochiti tribe, from which they moved to the banks of the Rio Grande where Cochiti stands to-day. The descendants of Spaniards living at the Cañada also confirmed the more ancient Cochiti tradition, saying that the Queres had successively built pueblos on the potreros between the Cañada and the Rito de los Frijoles, finally establishing themselves at Kua-pa. They attributed this gradual southerly movement of the Queres tribe to the persistent hostility of their northern neighbors, the Tehuas.

In regard to this the Cochiteños only state that the village of Kua-pa was once attacked by the Tehuas and captured. The survivors retreated to the Potrero Viejo; the Tehuas pursued, but their attack upon the lofty cliff signally failed. They were defeated and driven back across the Rio Grande,

many of them are said to have perished in that river, and the Tehuas never troubled the Queres again. In consequence of these hostilities, the survivors established themselves on the potrero for a short time, whence they descended to settle where Cochiti stands to-day.

The attack and devastation of Kua-pa by some hostile tribe is further told in the traditions of the Queres village of Ka-tisht-ya, or San Felipe. According to these, while the Queres lived in the Cañada, a tribe of small men called Pin-i-ni attacked Kua-pa, slaughtered many of its people, and drove off the remainder. They were pursued by the pygmies as far as a place above Santo Domingo called Isht-ua Yen-e, where many arrow-heads are found to-day.<sup>1</sup> I reserve the full details of the San Felipe tradition for a later occasion, and will only state here that the Pinini story is told by the Cochiteños about the village on the Potrero de las Vacas.<sup>2</sup> It seems probable that the branches of the Queres now constituting the tribes of Cochiti and San Felipe once formed one group at Kua-pa, that some hostile invasion caused their dispersion, one branch retiring to the south, while the other took refuge on the Potrero Viejo and built a temporary village at least on top of this almost impregnable rock. I regard it as not at all unlikely that the aggressors were Tehuas, since this has been told me by the people of Cochiti on many occasions.<sup>3</sup> The settlers at the Cañada emphatically con-

<sup>1</sup> From Isht-ua, arrow. This part of the story is possibly a "myth of observation."

<sup>2</sup> The name Pinini is a corruption of the Spanish Pygméos. The Spanish-speaking inhabitants of New Mexico usually pronounce it Pininéos, whence the Indians have derived Pinini. The tale about these dwarfish tribes, described as "small but very strong," looks to me quite suspicious. I incline to the simpler but more probable story that the Tehuas were the aggressors.

<sup>3</sup> But when Diego de Vargas visited the Potrero Viejo for the first time, on October 21, 1692, the Queres of Cochiti and San Felipe, and the Tanos of San Marcos, who occupied the pueblo on its summit, informed him that they had fled

firmed these statements, as having been told ever since their ancestors settled there by the old men of Cochiti as genuine traditions of their tribe. At all events, the valley of the Cañada and its surroundings were the last station of the Queres of Cochiti, and probably of San Felipe, before they established themselves on the banks of the Rio Grande.

The Potrero Viejo is a natural fortress, almost as difficult to storm as the well known cliff of Acoma. In case of necessity, a small tribe could dwell on its top for years without ever being obliged to descend into the valley beneath; for it is wooded and has a limited area of tillable soil, and natural tanks. Only from the rear or southwest is the ascent over a gradual slope; from the front and the north the trails climb over rocks and rocky débris in full view of the parapets, natural and artificial, that line the brink of the mesa.

Two classes of ruins occupy the summit, one of which is the comparatively recent pueblo given on Plate I. Figure 15. It is two stories high in some places, very well preserved, and built of fairly regular parallelopipeds of tufa. The woodwork in it was evidently destroyed by fire, and much charred corn is found in the ruins. The average size of 118 rooms on the ground floor, which are all in the pueblo with the exception of about ten, is 5.0 by 2.8 meters (16 ft. 5 in. by 9 ft. 2 in.). This is a large area in comparison with the size of older ruins. I noticed but one estufa, and the pottery bears a recent character.

thither out of fear of their enemies, the Tehuas, Tanos, and Picuries. *Autos de Guerra de la Primera Campaña á la Reconquista del Nuevo México*, fol. 141, — a manuscript in the Territorial archives in Santa Fé. It is true that the Queres and Tanos, possibly also the Tehuas, were in open hostility during the time the Spaniards were away from New Mexico from 1680 to 1692. But still the truth of their statements to Vargas may be subject to doubt. It is quite as likely that they retreated to the mesa after the successful raid of Pedro Reueros Posada upon Santa Ana in 1687.

There are also traces of older ruins, which mark the existence of small houses, similar to those on the Potrero Chato and on the Tziro Kauash, or Mesa del Pajarito. Possibly these smaller houses are traces of the first occupation of the Potrero Viejo by the Queres.

The Cañada de Cochiti, and especially the Potrero Viejo, was quite an important spot in the history of New Mexico between 1680 and 1695.

It seems certain that when the Spaniards began to colonize the country in 1598 the village of Cochiti stood on the banks of the Rio Grande, almost where it now stands.<sup>1</sup> After the bloody 10th of August, 1680, and the evacuation of New Mexico by Governor Antonio de Otermin, the people of Cochiti remained in their village for fifteen months, until the Pueblos received information that Otermin had again entered New Mexico and surprised the village of Isleta, capturing nearly all its inhabitants. Thereupon the Rio Grande Queres retired to the Cañada.<sup>2</sup> Otermin, remaining in camp

<sup>1</sup> I infer this from the statements of the Indians themselves, although I have no positive documentary information on this point earlier than 1680, or possibly 1660. Cochiti is first mentioned on the 7th of July, 1598, in the *Obediencia y Vasallaje á su Magestad por los Indios de Santo Domingo* (Doc. de Indias, vol. xvi. p. 102 *et seq.*). It appears in the orthography which has since remained. Again it is found as "Chochiti" in the *Obediencia de San Juan Baptista*, p. 114. Vetancurt, who gives a description of all the pueblos as they were prior to the rebellion of 1680, says (*Crónica*, p. 322): "Está al lado izquierdo del Rio del Norte, tres leguas de Santo Domingo." This is also proved by the *Ynterrogatorio de Preguntas*, 1681, MS., and by the Journals of Vargas, *Autos de Guerra de la Primera Campaña*, fol. 142. Vargas returned from the Potrero Viejo to the abandoned pueblo of Cochiti on the Rio Grande. *Autos de Guerra del Año de 1694*, MS., fol. 119. "Salió de la mesa y llegó á Cochitti el Viejo que des-poblaron los Reueldes alzados que se hallaban poblados en la sussodha Messa de la Zieneguilla." The documentary information is slight, but I believe that the testimony of the Indians is almost conclusive.

<sup>2</sup> *Interrogatorios de varios Indios de los Pueblos Alzados*, December, 1681, MS., fol. 126. One Tehua Indian testified: "Que el dia que se cercó el pueblo de la Isleta andaban de esta vanda del Rio del Norte dos Indios naturales del pueblo de Puaray, los quales así que vieron á los Españoles, vinieron avi-

at Isleta, despatched the Maestro de Campo Juan Dominguez de Mendoza, with sixty men, on the 8th of December, 1681, with orders to penetrate as far north as possible.<sup>1</sup> All the pueblos on the Rio Grande were found deserted, and a few old Indians, whom the Spaniards discovered on their march and interrogated, said that the Queres of San Felipe, Santo Domingo, and Cochiti had removed to the "mountains of the Cieneguilla," or "mountains of Cochiti." Mendoza proceeded as far as Cochiti, which he found deserted, though filled with stores of food. He soon discovered that the reports were true, and that the Queres, reinforced by some Tehuas, Taos, and Picuries, had gathered on the mesa or Potrero Viejo above the Cañada. On the following day, he marched against them, but was met on the road by several hundreds of the Indians in arms, and long parleys ensued, resulting in a truce of three days, at the expiration of which the insurgents promised to return to their homes peaceably

sando á su pueblo, y á otros, y de pueblo en pueblo corrio la voz diciendo que los Españoles habian muerto á los naturales del pueblo de la Isleta, y preso á todos los forasteros de otros pueblos que habian ido á buscar maiz, con cuya ocasion desampararon los pueblos la gente de la Alameda, Puary, Zandia yendose á la sierra, y los de San Felipe, Santo Domingo, y Cochiti á la Sierra de la Cieneguilla." Also *Ynterrogatorio de Preguntas*, December, 1681, MS. Juan Dominguez de Mendoza states that an old Indian of San Felipe told him: "Al qual le preguntó en su lengua por la gente del pueblo, y respondió haberse ido huyendo á la Cieneguilla, ó Pueblo de Cochiti."

<sup>1</sup> I gather these details from the *Ynterrogatorio de Preguntas*, MS. Seven Spanish officers were interrogated, and their depositions agree, except in the estimates of the numbers of the Indians, which vary between 150 and 1,000. The majority of deponents give the number at about 400. The Spaniards advanced to within about four miles of the Potrero. The leaders of the Indians were Alonzo Catité, a mestizo of Santo Domingo, and a certain Ollita of Cochiti; afterwards, Luis Tupatu of Picuries also arrived. The offers to return to allegiance may have been sincere on the part of many, but the chiefs and medicinemen prevailed. The plan of the Indians was to send a number of girls to the pueblo of Cochiti to entertain the Spaniards, while the men fell upon the pueblo in force. All these details were confirmed by the Indians themselves in their depositions taken on the 19th and 20th of the same month (December, 1681). In respect to the plan of using girls for the proposed surprise, one Indian witness is

and submit again to Spanish rule. The truce expired, and the Indians failed to comply. Mendoza received information that they intended to surprise him, and, as his force was too small for an offensive campaign, he retreated to the vicinity of Puaray, whither Otermin had advanced in the mean time. The enemy cautiously followed him, hoping to find an opportunity to stampede the horses of the Spaniards; but they had been warned and were on their guard, so that the Indians effected nothing, and soon retired again to the mountains.<sup>1</sup>

very circumstantial and positive: "Que vido en la junto que habían hecho los dichos apostatas en la Sierra de la Cieneguilla, que trataban hacer una paz fingida con los Españoles que fueron allí al cargo del teniente general de la caballeria para matarlos dormidos, y para ello dispuso el dicho Cabeza, Alonso Catité, que se labasen y afeytasen las muchachas mas bonitas, para que bajasen al pueblo de Cochiti á provocar a los Españoles á torpeza, y este declarante se halló presente al tlatole, y oió que les mandaron que aunque fuese de valde ocurriesen al gusto de los Españoles, y las vido labar y componer, y que el dicho Alonso Catité, andaba previniendo la gente, para que aquella noche estaneo durmiendo los Españoles con ellas, fueren entrando los Indios con garrotes, para matar á los Españoles, y otros arrojar á quitarles la caballada, que con eso les acabarían, y con este pretexto mandaron venir con pena de muerte á los demas Indios que habían quedado en los pueblos para que ayudasen á lo determinado, y estando y a para bajar las muchachas vieron venir un trozo de Españoles hacia el dicho pueblo, sin haber salido ninguno mas, se aterraron y sorprendieron." (fol. 140.) Another Indian deposes (fol. 131) that Catité sent word to the gathering of Indians of whom Tupatu and Ollita were the chief men: "Que ya tenta tratado de engañar á los Españoles con paz fingida disponiendo enviar al Pueblo de Cochiti todas las Indias mas bonitas afeytadas, y limpias para que con pretexto de que bajaban á hacer de comer á los Españoles los provocasen á caer en torpeza, y á la noche estuviesen con ellas, bajar el dicho coyote Catité, y con la gente de toda la nacion Querés, y Xemes tratando platica solo el dicho Catité con los Españoles, á un grito que el diese se avalanzasen todos á matar á los dichos Españoles, y que dió orden que todos los demas que estaban en la otra junta donde asistian el dicho D. Luis, y el Ollita, se arrojasen á un tiempo á la caballada, para concluir con uno y otro, y hallandose este declarante presente á todo, se determinó á venir á avisar á los Españoles como lo hizo, con que se pusieron en arma, y los dichos Indios se boluieron á subir á las cumbres de la sierra, y los Españoles se retiraron." The same witness adds: "Que se viva con cuidado, porque han tratado los traidores de juntarse todos é ir en seguimiento de los Españoles hasta el pueblo de la Isleta, arrojandoseles de noche y quitandoles la caballada, que en quedando á pie, no valian nada, y los matarían."

After the retreat of Otermin to El Paso del Norte, the Queres reoccupied their pueblos on the Rio Grande, and it is stated that in 1683 all the villages, from San Felipe northward, were inhabited, and none of the tribes were living in the mountains.<sup>1</sup> The well preserved pueblo on the Potrero Viejo must therefore have been constructed *after* that year, and previous to the fall of 1692,<sup>2</sup> when Diego de Vargas made his first appearance in New Mexico.

I need not enter into the details of that brilliant dash, accomplished without any bloodshed; suffice it to say, that on the 21st of October Vargas reached the foot of the Potrero with about sixty soldiers. On the day before, he had met delegates of the Cochiti tribe, and come to a peaceable understanding with them. He ascended to the top, and found the new pueblo to consist of "ten quarters, and another large one fortified." The inhabitants were composed of the Indians of Cochiti, San Felipe, and San Marcos. They all promised to return to their allegiance, and presented for baptism one hundred and three children, born since the uprising of 1680, who had consequently not been baptized. Vargas, satisfied with the promises of the natives, returned to Cochiti on the same day.<sup>3</sup>

<sup>1</sup> *Declaracion de vn Yndio Pecuri que dixo llamarse Iuan*, MS.: "Y que ninguna mesa ni cierra no se á fortalecida á biuir gente ninguna que solo quando entró el Sr. Govor y Capitán Genl con los Españoles se fueron á las sierras los Teguas y otras naciones y que quando se retiró . . . y la jente se bajaron á sus pueblos." According to the same Indian only the following pueblos had been abandoned: "Sandia, Alameda, Puarai, Isleta, Sevilleta, Alamillo, Senecu." None of these belonged to the Queres.

<sup>2</sup> It should not be overlooked that the raid made in 1687 by Pedro Reneros Posada as far as Santa Ana, and especially the expedition of Domingo Gironza Petriz de Cruzate as far as Cia in 1688, may have caused the permanent establishment of the Cochiteños on the Potrero Viejo. The affair at Cia was a bloody one, and placed the Pueblos west of the Rio Grande in imminent danger.

<sup>3</sup> *Autos de Guerra de la Primera Campaña*. fol. 141: "Diez quarteles y otro de presidio grande en ella." I have taken "presidio" in the sense of a fortification, or barracks; it also means a certain kind of prison in the South-



But only the Queres of San Felipe proved to be sincere. When Vargas returned to New Mexico in 1693, he found them on the banks of the Rio Grande, anxiously awaiting his coming, but the people of Cochiti and of San Marcos had remained on the formidable Potrero, and they were now threatening their kindred of San Felipe with dire punishment for their fidelity to the Spaniards.<sup>1</sup> Vargas soon found out that the pueblos, San Felipe, Santa Ana, Cia, and Pecos excepted, had broken their pledges, and were planning to destroy him.

How the leniency which the Spanish governor showed in presence of this manifest treachery was rewarded by the Tanos of Santa Fé, and how Vargas was at last compelled to resume military measures, does not belong here. By new year's day of 1694, hostilities had commenced in every

west. Escalante, in what I have elsewhere entitled *Relacion Anónima del Nuevo Mexico* (p. 132), makes the date the 20th, but I follow the Journal of Vargas, fragments of which are at my command.

<sup>1</sup> *Autos de Guerra de la Segunda Campaña*, 1693, MS., fol. 19. On the 12th of November an Indian from San Felipe came to see Vargas. "Y me dijo que estaban gustosos los naturales del dho su pueblo y que ya estauan para despoblarse los del pueblo de Santana y con la noticia de mi venida se auian estado quietos por tenerlos ynquietos los Xemes, Teguas y Tanos que estaban para entrar á destruirlos." Fol. 21: "Que el capitán Malacate auia dejado su pueblo de Zia, desde que empezó el flote se auia pasado á la Zienega de Cochiti con los Yndios Queres que en ella viuen que este ynduzía á los Yndios no diesen la paz ni fuessen amigos de los Españoles." Fol. 25: "Y se allá viuir en compañía de los Yndios Queres de Cochiti en la mesa de la Zieneguilla." On the 15th of November Vargas was alarmed by the news brought by an Indian woman from Cochiti: "Auer ydo á dho su pueblo y mesa de la Cieneguilla unos Yndios de á cauallo con todas sus armas, Teguas y Tanos, los quales auian dho á todos los capitanes y demas jente de dha mesa que bajasen todos con sus armas que ya se hallaban juntos y preuenidos todos ellos los dhos Teguas y Tanos y asimismo se allaban en su compañía los Yndios de las naciones de los Taos y Pecuries y Apaches del Rio Colorado y Nabajoes, todos los quales los auian dejado en el pueblo de la Cieneguilla y salian ya para el de Sto Domingo donde les aguardauan para darme albazo á mi dho Gouor y Capitán General." Nothing occurred, although the fact of the conspiracy is well established. Vargas visited the Cañada and was well received. Escalante, *Relacion Anónima*, p. 140.

direction. The pueblos of San Felipe, Cia, and Santa Ana were clamoring to Vargas for assistance against the Jemez, the Queres of Santo Domingo, who had joined them, and the people of the Potrero Viejo. The Governor had first to march against the rebellious Tehuas at San Ildefonso.

Failing in his attempts to take the formidable "Black Mesa" by storm, he returned to Santa Fé, where he found a pressing message from his allies among the Queres, beseeching him to come to their assistance. He accordingly left Santa Fé on the 12th of April, with seventy soldiers and twenty armed colonists, to march against the Potrero Viejo,<sup>1</sup> and took the road to San Felipe, where he was reinforced by about one hundred warriors from that village, Santa Ana, and Cia. Leaving San Felipe on the 16th of April in the afternoon, he reached the Cañada de Cochiti about midnight. A council of war was held at once, and in it the war-captain of Cia, Bartolomé de Ojeda gave a description of the cliff and of the three trails leading to the summit. The enemy were on their guard; and fires burned along the upper edge of the mesa, showing that pickets were watching the approaches. The Spanish camp had been located where it could not be descried from the Potrero.<sup>2</sup> Vargas

<sup>1</sup> *Autos de Guerra del Año de 1694*, fol. 86. He reached San Felipe on April 15 (fol. 88). Escalante (*Relacion*, p. 155) gives incorrect dates, and is very brief. He only says: "Y con la otra marchó para la Cienegui el de Cochiti el día 14 ó 15 de April, é incorporandose con los dichos Queres amigos, en dos avances ganó la mesa." Even the last statement is not correct, since Vargas, as will be seen hereafter, took the mesa at the first assault.

<sup>2</sup> *Ibid.*, fol. 90, 91: "Hize alto por ser entre onze y doze dela noche y hallarse avistado de la dha messa y por no ser sentido del enemigo qe por sus lumbreras qe en ella tiene se rreconoze tener puestas sus zentinelas, y así para aguardar ora y rremudar cauallo la dha gente hizo alto orilla de vna barranca y arroyo." April 17, fol. 91: "Al salir de la luna y dos de la mañana hauydo aguardado á dha ora yo dho Gour y Cappn Genl y huiendo resuelto y conferido con los dhos Cauos y el Cappan de los Queres y mi compadre Barme de Ojeda las suvidas qe la dha Messa de la Zieniguilla de Cochitti tenía. Púes

divided his force into four bodies. Captains Juan Holguin and Eusebio de Vargas, with forty men and one hundred Indians under Bartolomé de Ojeda, took the long but easier trail that reaches the mesa from the southwest. That trail was used by the enemy for bringing their sheep and horses to the summit. Captain Roque Madrid with another detachment was to storm the Potrero from the front. Adjutant Barela with ten soldiers guarded the third trail, which descends to the brook in the Cañada on the northern foot of the cliff, and Vargas himself took his post between the last two sections, with a small number of men. Madrid had the most difficult task, as the ascent from the east is very steep and over bare rocks. It was moonlight, and the enemy could inflict heavy loss by merely throwing stones upon the assailants.<sup>1</sup>

About two o'clock in the morning of the 17th of April the advance began from the east, while the body guided by Ojeda had already begun to creep up in silence, and unnoticed by

los Yndios reuelde de dha nazion ye pueblo nueso de Cochiti la Tenian Toda con sus trincheras y hoyos qe llaman trampas, para no obstante siendo ella por si sumante empinada y derecha y juntante toda de peñas queria qe la hazia ynexpugnable se reconozio por el dho del dho Cappan Barne de Ojeda tener por vn costado dha messa vna suvida. Siendo la que está mas fasil respecto de ser la que trajinan con sus vestias y ganados, de ser la mas corryte para por ella darsela al dho enemigo mucho daño, por podersele cojer las espaldas y la otra suvida tamuien la tenían estrabiada al otro frente para bajar al embudo y ojo de agua de donde se abastezan." I copy this on account of the very correct description of the different ascents to the Potrero. The location of the Spanish camp must have been below the present settlement in the Cañada, probably near the ruins of Kua-pa.

<sup>1</sup> *Ibid.*, fol. 91: "Y diessen el dicho asalto mientras al mismo tiempo le daua el Cappan y Cauo Roque Madrid por la suvida dha y prinzipal de dha messa." The Adj. Diego Barela occupied the foot of the northern trail, with ten soldiers. "Como asimismo para el asalto por dho rumbo y el otro trozo con las caualladas, quedando asimismo en la ladera y suvida de dha messa, yo dho Gouor &ca, para si el enemigo se despeñase por ella ó bajaba por dha banda qe es la qe tienen y asimismo para estar en dho puesto á socorrer los dhos referidos como el de la cauallada y tren."

the enemy. They, however, soon discovered the detachment under Roque Madrid, and made a fierce resistance; but the Spaniards toiled on, replying with the slow musketry firing of the period to the showers of stones and arrows from above. The handful of men on the north side of the Potrero also made demonstrations of attack, and so diverted some of the enemy to that side, when suddenly the forty soldiers and the Indian allies appeared on top of the mesa in the rear. The news of their arrival before the pueblo itself caused the defenders on the parapets to scatter at once; some sped to the rescue of their homes and families, but the majority fled through the forest. Some resistance was still offered at the pueblo, but it was fruitless, and by sunrise all was over. Twenty-one Indians perished in this engagement. On the side of the Spaniards four men were wounded, but none killed. Three hundred and forty-two women and children fell into the hands of the victors, together with seventy horses and more than nine hundred sheep. A portion of the spoil was given to the Indian auxiliaries.<sup>1</sup>

<sup>1</sup> Ibid., fol. 91, 92: "Y en esta disposizion se zerro y se dió asalto, de suerte qe el enemigo se puso en arma, haziendo su rresistencia y bateria por la dha suvida donde me hallaba y el sussodho capitán, ofiziales de guerra y otros soldados de valor le correspondian con repetidas cargas suviendo. . . . A dha messa al mesmo tiempo qe los dhos capitanes de campaña y gente de guerra amiga le zerraron las espaldas, cuya carga le obligó y berse por los dhos tres angulos y suvidas combattido, le obligó á la gente de afuera á no aguardar la despedazassen y matassen la nuestra y así se puso en fuga, tomando diferentes veredas y breñas tenydo á su fauor las dhas peñas y estalaje pedregoso, y viendosse con el desamparo y fuga el dho enemigo de la dha gente qe en su fauor hauia venido de socorro siguió la mesma fuga rretirandosse, dando algunas cargas qe los nuestros repararon con sus chimales y apoderados de la dha plaza y pueblo y messa, lo hizieron algunos de las cassas y trincheras por cuyas troneras algunos de los dhos reueldes tubieron lugar de herir á quatro de dho campo, aunque no peligró ninguno el perder la vida." Seven Indians were killed in the engagement, and one was suffocated in one of the lower rooms of the pueblo by the Indian allies. "Vno qe se quemó, pegandole fuego en vna cassa la gente amiga sin aguardar a romper la pader del sotano de ella á el qual se hauia bajado." Thirteen were taken with arms in their hands, and executed on the spot.

A considerable quantity of Indian corn in ears was found in the pueblo, which was a precious resource for Vargas, as maize was excessively scarce; for the Spaniards had not had time to plant, and the hostile Pueblos took good care to conceal or remove their stores of grain. In order to facilitate the transportation of this corn to Santa Fé, where it was greatly needed, Vargas ordered the prisoners to shell it on the spot. This compelled him to remain longer on the Potrero than he had intended. By the 20th of April the corn was ready, and the bulk of the Spanish force was sent off to get beasts of burden, and to reinforce Santa Fé, which in the mean time the Tehuas had attempted to surprise. The captives were retained on the Potrero under guard, confined every night in the estufa. Not more than thirty-six men were with the Governor, for the Indian allies had departed on the very day of the assault to protect their own homes.<sup>1</sup> On the 21st, at two o'clock in the afternoon, when the Spaniards thought themselves perfectly secure, the enemy suddenly made a furious attack upon the pueblo, having crept up from the west through a narrow pass where the cliffs behind the Potrero and the woods had concealed their approach. The Spaniards flew to arms, and succeeded in beating off the enemy with the loss of only one man on their side, and of four of the Indians. But during the confusion caused by the surprise more than one half of the captive girls and boys escaped. This was what the assailants principally desired to achieve, and seeing the determined resistance of the whites, and disheartened by the loss of one of their leaders, they retreated as precipitately as their onslaught had been violent and unexpected.<sup>2</sup> On the 24th,

<sup>1</sup> *Autos de Guerra*, fol. 94, 104.

<sup>2</sup> *Ibid.*, fol. 105: "Tubo el arrojto de dar suviendo por vno angostura en dha messa qe siendo tan ynmediatta fue repentina su cntrada con furiosos alaridos

Vargas at last evacuated the Potrero, with his booty in corn and with the remnant of the captives. Before leaving, however, he set fire to the pueblo, together with all the grain that could not be taken along, "in order that the aforesaid rebellious enemy might not find any sustenance in it, nor be able to take up his abode without being compelled to rebuild."<sup>1</sup> The intentions of Vargas were fully realized, for the Potrero Viejo was never occupied again.

In this description of the storming of the Potrero Viejo I have followed Vargas's own narrative, which is in conformity with the Indian traditions, as well as with the account of the event given by the settlers of the Cañada. I was repeatedly shown the different trails, and I find the report of the Spanish commander to be very exact and graphic. The condition of the ruins resembles that of a pueblo destroyed by fire, and there is considerable charred corn to be seen. As in every other instance where I have compared the Spanish documents with the localities, and with current tales, I have

y guesso numero de gente, qe se diuidieron entrando por los puestos de dhas dos Plazas y los demas de parte de afuera, zercando dho Pueblo y quartteles y aunque fue al parecer á las dos de la tarde la mesma seguridad de la ora tenia á la dha gente desarmada sin sus queras." The leader of the Indians who lost his life was one Juan Griego, a mestizo from San Juan. This shows that, besides the Queres and those of San Marcos, there were Tehuas and perhaps Jemez in the fight. Escalante also gives a quite detailed report, *Relacion*, p. 160: "Cayeron en gran numero y cercaron el pueblo, pusieron á los nuestros en gran aprieto, y como los nuestros eran tan pocos, atendian y solamente á defender las bocas calles del pueblo, y asi tuviéron lugar de huir ciento cincuenta de los prisioneros: lo cual visto por los rebeldes, se retiraron juzgando que ya habian librado á todos sus hijos y mujeres." He also says that only two of the Indians were killed.

<sup>1</sup> *Ibid.*, fol. 110: "Y se pegue fuego á dho Pueblo y Semillas qe en el huere para qu el dho enemigo rreuelde no logre en ella su susttentto ni mas hazer assiento, sin que le queste de nuebo el trabajo de su reedifizio y ejecuttado dho orden salí de dha messa con dho campo." Escalante, *Relacion*, says that Vargas arrived at Santa Fé on the 25th of April with seventy captive women. If his statement that 150 of the prisoners escaped is correct, Vargas still had 192 left.

found them to be of great accuracy, and in substantial agreement with the traditions of the people.

I have been thus circumstantial in regard to the history of the Potrero Viejo, for the reason that the ruins on its summit are frequently spoken of as the "old pueblo of Cochiti," in the sense of the original home of that tribe. It will be seen that this is only partially correct. The oldest ruins on the mesa, which hardly attract any attention, are those of a pre-historic Queres pueblo; the striking well preserved ones are those of a village built after the year 1683, and abandoned in April, 1694.

A distance of six or seven miles in a southeasterly direction separates the Potrero Viejo from the present pueblo of Cochiti. The several roads and trails leading from that village to the Cañada pass through a country which offers, so far as I know, nothing of archæological interest.<sup>1</sup> It is a series of hills covered with the usual vegetation of scrubby conifers. The rocks are a very friable volcanic tufa, and are mostly covered by a mantle of sand produced by the rapid disintegration of the lower strata. Picturesque erosion is seen along the most westerly of these trails. These hills begin to recede from the Rio Grande, at a distance of about five miles from the Cañada, leaving a bleak expanse in the shape of a segment, and on the southeastern end of it, north of the Arroyo de la Peralta and on gravelly bluffs above the river bottom, stands the Indian village of Cochiti. The deep groove of the Peralta is waterless except during very

<sup>1</sup> Artificial caves are said to exist in some of the rocks in the hills visible from Cochiti. In the lower portions of the Cañada is a low cliff famous in witchcraft stories. The people of Cochiti pretend that the wizards and witches meet there on certain nights, assembling at the cliff in the shape of owls, turkey-buzzards, and crows. At a signal the rock opens, displaying a brilliantly lighted cavity. Forthwith the animal shapes disappear, and the wicked sorcerers resume their human appearance and enter the cavern to carouse till daylight.

heavy rains, and on each side of it I have noticed outcroppings of ruins, the remains of the Cochiti abandoned by its inhabitants after the rebellion of 1680.

On the other side of the Rio Grande, within a radius of at most three miles, I have visited three ruins. The great flow of lava surmounted by the Tetilla cone approaches the river banks, and here terminates the cañon that separates San Ildefonso from Cochiti. Almost directly opposite the latter pueblo, on a rocky bluff, stand the ruins to which the Queres give the name of Tash-ka-tze, or Place of Potsherds. An irregular quadrangle, marked partly by rubble foundations, and measuring approximately 56 meters (182 feet) from east to west and 50 meters (162 feet) from north to south, and a round tower 10 meters ( $32\frac{1}{2}$  feet) across, are its best preserved features. Twelve meters west of this quadrangle appear foundations of two sides of another one, measuring 50 meters from north to south by 31 from east to west. West of the round tower, at a distance of ten meters, stands another structure 30 meters long by 13 wide. The whole seems, therefore, to have consisted of three rectangular houses and one round tower. The latter occupies a good position for observation. The artificial objects consist of obsidian, of glazed pottery with very little corrugated, stone hammers, metates, and corn-crushers.

Some distance to the north, on a long and gravelly slope running almost parallel with the river, stands a nearly obliterated large ruin, called, in Spanish, Pueblo del Encierro. Foundations of rubble denoting smaller structures extend part of the way from its southern wall to the lower apex formed by the slanting bluff on which the ruins stand. On that apex are the remains of another rectangular building, and of a circular structure which I was told was an estufa, although I incline to the belief that it was a round tower. At



the Encierro, although all the other artificial objects belong to a people using stone implements, such as obsidian and flint, are profusely scattered about, the corrugated pottery is very scarce; most of the potsherds belong to the coarsely glazed kind. Two old acequias can be described in the vicinity, but it is doubtful if they are not of a posterior date.<sup>1</sup> Garden beds, enclosed by upright stones, form part of the ruins. The rubbish is about equally distributed over the whole, so that it would be difficult to determine which were the buildings, were it not for the double rows of stones set on edge 0.30 to 0.40 m. apart, that distinguish the foundations of houses from simple enclosures. The space between the two rows may have been originally filled with gravel or adobe. Although the area covered by the ruins is comparatively large, the pueblo was in fact a small one.

Still smaller ruins stand on the summit of a narrow and abrupt bluff of trap, which rises over the north bank of the Rio de Santa Fé about two miles east of its mouth, opposite Cochiti. The waters of this stream only reach the Rio Grande during freshets, but along the base of this tongue-shaped mesa they are usually permanent. The ruins consist of the foundations of a small house with an enclosure. There are also two circular depressions. The walls of the building were made of a triple row of blocks of lava, and they show a width of 0.75 m. ( $2\frac{1}{2}$  feet). The pottery is like that at the Encierro; and flint flakes, and some obsidian, are scattered over the mesa.

The little Mexican settlement of Peña Blanca lies three miles south of Cochiti, on the same side of the Rio Grande

<sup>1</sup> The acequias of Cochiti and of the Mexican settlement of Peña Blanca, three miles south of the Encierro, take their water from the Rio Grande only a short distance higher up that river. It is therefore probable that the vestiges near the old pueblo are those of old acequias belonging to the two places mentioned. The Indians could give me no information.

as the ruins of Tash-ka-tze, of the Encierro, and of that on the Rio de Santa Fé. In the fields of the fertile bottom skirting the river west of the village, ruins of a pueblo were noticed by the early settlers, and a number of stone idols are said to have been exhumed. As far as I could learn, the pueblo was built of adobe, but nearly every trace of it has now disappeared in consequence of cultivation.

On one of the gravelly dunes northeast of the church at Peña Blanca, a large rectangle formed by upright stones or slabs is to be seen. Pottery, flint, and obsidian are strewn over the place, and I found a half-finished stone axe; but this rectangle looks to me rather like a garden enclosure than a former building. On the round eminence of trap and lava that overlooks the Peña Blanca valley, and around which the road from Santa Fé winds downwards like a huge serpent, faint traces of small structures exist. But I found no pottery, only flint and obsidian. The height is such an excellent lookout, and its surface so small, that I suspect it was only temporarily used as a post of observation by the people of one or the other of the neighboring Indian settlements now in ruins.<sup>1</sup>

The Tanos of Santo Domingo insisted emphatically that the ruins at Peña Blanca and those opposite Cochiti were not those of Tanos pueblos. South of Peña Blanca, and as far as the banks of the Arroyo de Galisteo near Wallace, there are no ruins. On the west bank of the Rio Grande, between Cochiti and the hamlet of Zile, there is said to be a cave in which the Cochiti Indians concealed their ancient

<sup>1</sup> The "Mesita Redonda," as this eminence is called, rises about 400 feet above the river bottom, from which it is half a mile distant in a straight line. Above the road it is at most 200 feet high. The sides, as well as the slopes behind it, are covered with débris of hard lava and trap. The surface is elliptical, measuring about 100 by 50 meters, and a wide view is commanded from the summit.

idols. On that side of the river, between it and the districts of Santa Ana and Cia, I know of no ruins farther south than those on the Potrero de en el Medio, or Mishtshya Ko-te (Mountain of Ashes), and those on the Potrero de la Cañada Quemada.

To reach these places from Cochiti, it is best to follow the sandy bottom of the Peralta torrent, going almost due west. The Mishtshya Ko-te lies north of the broad gulch, between it and the Cañada of Cochiti. It is a steep rock forming the eastern end of a towering potrero. I have not ascended to its summit, but know on good authority that on it stand the ruins of two buildings. The trail to the Potrero turns aside from the Peralta near where a dark, deep cleft, the Cañon del Ko-ye, runs into it from the northwest.<sup>1</sup> Between Cochiti and this point the north side of the Peralta is lined by very picturesque forms of erosion, — isolated cones of white tufa, each capped by a boulder. At the Barranco Blanco hundreds of these cones cluster together, presenting the appearance of a long border of snow-white tents.

Beyond the mouth of the Ko-ye, the gulch changes its name to that of the Cañada Quemada, and becomes a wooded gorge; but as we go farther west, it appears still narrower, and its sides higher and steeper. At a distance of twelve miles from the pueblo, a partly wooded ridge traverses it, and on the summit of this ridge, called Potrero de la Cañada Quemada, lies the ruin of which Figure 16 of Plate I. gives the shape and relative size.

It stands on a bare space near the eastern brink of the abrupt slope, protected on the west by woods. The view from there is almost boundless to the south, where the Sierra

<sup>1</sup> The Cañon del Ko-ye is a dark, narrow chasm, fearful to look into from above; towards its lower portions the rocks overhang in such a degree as almost to exclude daylight.

de los Ladrones and the Magdalena Mountains are distinctly visible.<sup>1</sup> There is no water on the Potrero, and I was at a loss to find tillable soil. Still this is no proof that the Indians who dwelt there did not have their little fields in some nook or corner, either at the foot or on the summit of the ridge. This Pueblo, with the one near San Antonio in the Pecos valley, is the most compact specimen of the one-house type which I have ever seen. There even appears to be no entrance to the small courtyard in the middle. North of this courtyard the cells are eight deep; south there are nine rows from west to east, and sixteen transversely, the whole number of rooms on the first floor being 296, and their average size about 2.7 by 3.6 meters (9 by 11½ feet).

The walls of this structure are made of rectangular blocks of tufa, like those of the other pueblos heretofore described in this region. The rock is so soft as to break very easily into prismatic fragments, so that an approximate regularity of form could be attained without much effort, and by the use of stone implements only. The thickness of the walls is as usual, but in a few places they are thicker. Three stories are (or were in 1880) still plainly visible at the northern end. In the portion of the ruins that lies south of the courtyard two circular estufas are seen respectively 4.9 and 5.4 meters (16 and 17½ feet) in diameter. They are built in among the rooms, and I saw no doorways leading into them, which suggests the inference that a considerable portion of the building was only one story high.

Not far from this ruin is a small artificial tank large enough for the demands of a population which probably did not much exceed three hundred, judging from the capacity of the largest

<sup>1</sup> In a direct line, the Ladrones Mountains are 90 miles, and the Magdalenas 120 miles distant. The height of the former is 9,214, of the latter, 10,758 feet. I estimate the height of the Potrero at not over 6,500 feet, probably somewhat less.

house at Taos. The artificial objects are the same as on the other Potrereros, but glazed pottery is very scarce, as the bulk of the potsherds belong to the black and white and to the corrugated varieties. Considerable moss-agate and flint, and some obsidian, was noticed.

The Cochiti Indians, and also those of Santo Domingo, told me that this was the abode of the latter branch of the Queres tribe in times long prior to the Spanish era, and that the Santo Domingo Indians moved from here to the east side of the Rio Grande, where they were living in the sixteenth century, and live to-day. In regard to the pueblo on the Potrero de en el Medio I was unable to secure any tradition, but the Cochiti Indians "supposed" that it was formerly a Queres village.

The ancient character of the potsherds on the Potrero Quemado attracts attention. After diligent search I did not find more than two or three small pieces of the coarsely glazed kind, but the corrugated, and especially the white (or gray) decorated with black lines, were abundant, resembling the pottery found in connection with the small houses and some of the cave villages. If the Santo Domingo branch of the Queres inhabited the Potrero Quemado in former times, the question arises whether they emigrated from the Rito as a separate band, or moved off jointly with the Cochiti and San Felipe clusters, seceding from these at one or the other of the stations between the Potrero Quemado and the Rito de los Frijoles. There is such a marked difference between the pottery on the former and that at the other ruins of Queres villages north of it (the small houses excepted) that we might conjecture that the separation took place at the Rito before the people there had begun to manufacture the coarsely glazed variety. The greater or less decoration of pottery in the Southwest is owing to local conditions. But the introduction of a new material for decorative purposes is another thing.

It may have taken place at the Rito de los Frijoles; but ruins north of that place (for instance the Pu-yé) also exhibit it. It is a chronological as well as an ethnological indication, pointing to a discovery made at a certain time, possibly by one tribe and communicated by it to its neighbors, until it gradually became the property of several. It would be very interesting, therefore, to discover what this coarse glaze was made of. I have diligently inquired of the Indians, but without success, and it seems to be a lost art. If it was based upon the use of some special mineral ingredient, we might ultimately discover where that ingredient came from, and whether the invention was made at some particular place, or was evolved simultaneously among different tribes. But the glazed pottery shows rather decadence than improvement; it is coarser in texture, and although the patterns of the designs are nearly the same as those of older varieties, the glossy covering is thick and coarse.

At last we leave the mountains, and return to the Rio Grande valley, where, about five miles south of Peña Blanca, we meet with the ruins of another pueblo of the Santo Domingo Indians, called by them Gi-pu-y.

The ruins of Gi-pu-y stand a mile and a half east of the station of Wallace, and south of the railroad track on the brink of the Arroyo de Galisteo. That torrent has water only during heavy rains, when it frequently becomes dangerous. The people of Gi-pu-y experienced this when a part of their village was swept away in one night, and they were compelled to move to the Rio Grande and establish their home on its banks. The first time we hear of Gi-pu-y is in the journal of Oñate in 1593.<sup>1</sup> Previous to Oñate, in 1591, Gaspar Cas-

<sup>1</sup> *Obediencia y Vasallaje de Santo Domingo*, p. 107. *Discurso de las Jornadas*, p. 254. He calls the place Santo Domingo, without stating that he had named it so himself. This implies that the name was given by some previous explorer. The distance which he travelled from San Felipe to Santo Domingo, four leagues

taño de Sosa had named one of the Queres villages on the Rio Grande Santo Domingo, and his Journal leads me to infer that it stood on the east bank of that river.<sup>1</sup> About 1660 it certainly lay on the eastern side of the Rio Grande.<sup>2</sup> A change in location of a pueblo is not always accompanied by a change of name.<sup>3</sup>

It would seem, therefore, that the Gi-pu-y near Wallace is not the historical Gi-pu-y, but a village of the same name of the Santo Domingo Queres, abandoned by them in consequence of a disastrous flood previous to 1591. The ruins indeed appear very old, and the southeastern portion has been carried off by the torrent. They consist of low mounds of rubble and rubbish, with a good deal of glazed pottery. At one place there is a wall, apparently of adobe, three feet thick, and traces of foundations of the usual thickness (0.30 m.) are visible in several of the mounds. The site is level, and decay, not abrasion, has reduced the ruins to their present condition. Some of the glazed pottery fragments, however, are still very bright in color. The banks of the arroyo are vertical in most places, and from ten to fifteen feet in height.

Historical Gi-pu-y, of which Juan de Oñate has written, and (11 miles), is very exact, and shows that the latter pueblo stood on the banks of the Rio Grande on or very near the site it occupies to-day, and not at Wallace. Old Gi-pu-y is  $1\frac{1}{2}$  leagues farther east than the Santo Domingo of to-day.

<sup>1</sup> *Memoria del Descubrimiento*, p. 253. It is plain from that Journal that the village stood on the Rio Grande, since he says that it stood "on the banks of a great river," to which he himself afterwards gives the name of "el Rio Grande." That it was on the east bank is also very clear, since he reached the place from San Marcos without crossing the Rio Grande.

<sup>2</sup> Vetancurt, *Crónica*, p. 315. His information about the pueblos of New Mexico dates mostly from 1660. That the village stood on the river bank in August, 1680, is plainly stated by Antonio de Otermin in his *Diario de la Retirada*, fol. 30.

<sup>3</sup> Thus San Felipe has always kept its name of Kat-isht-ya, although its location has thrice been changed. Sandia has remained Na-fi-ap, although it was abandoned in 1681 and reoccupied only in 1748. Isleta is Tshya-up-a to-day, as it was in 1681. Other pueblos, however, have changed their names.

which, it appears, was the Santo Domingo of Castaño, stood nearly on the site of the present pueblo; but from what the Santo Domingo Indians told me, I infer that the first church, built between 1600 and 1605,<sup>1</sup> was erected on the banks of the Galisteo, north of the village.<sup>2</sup> It was swept away by that torrent, and the pueblo rebuilt farther west on the banks of the Rio Grande. The new village bore the name of Huash-pa Tzen-a. When the river carried off a part of that settlement also, its inhabitants again moved farther east, always clinging to the river banks. The pueblo was then called Ki-ua, which name it still bears. In 1886 a part of Ki-ua, including both churches, was destroyed by a flood, so that it is now impossible to recognize the ancient sites. The Gi-pu-y near Wallace is the only one of the old pueblos of Santo Domingo, east of the Rio Grande, of which any traces are left.

Santo Domingo is rich in historical reminiscences; but it would carry me too far to refer to them here in detail. The next ruin south of it, which I have not seen, is near the village of Cubero, on the west side of the Rio Grande. It is called by the Indians of San Felipe Kat-isht-ya, or Tyit-i Haa, as the site of the ruin itself, or that of Cubero near by, is meant. Tradition has it that the first village of the San Felipe branch of the Queres was built there. The substance of this folk-tale is as follows.

<sup>1</sup> Fray Juan de Escalona, Commissary of the Franciscan Order in New Mexico, was the builder of the first church of Santo Domingo. He died in that pueblo, and was buried in the temple, in 1607. Vetancurt, *Menologio*; also, *Crónica*, p. 316. Torquemada, *Monarchía*, vol. iii. p. 598. Every trace of that church has long since disappeared.

<sup>2</sup> The Galisteo torrent reaches the Rio Grande a few hundred meters north of the present village of Santo Domingo. The pueblo is much exposed to damage by water, and for a number of years the river has been constantly encroaching on the east bank. Moreover, several torrents on the south, like the Arroyo de los Valdéses and others, do mischief, yet the Indians will not leave the spot.



When the "Pinini" surprised the pueblo of Kuapa, they slew nearly all its inhabitants. A woman concealed herself behind a metate, and a boy hid in a store-room. Along with the woman was a parrot. After the enemy had left, the parrot took charge of the boy and fed him till he was grown up, when he directed him and the woman to go south in search of new homes. So they wandered away, the boy carrying the parrot and a certain charm or fetich, which was contained in a bowl of clay. The Indians of the pueblo of Sandia, to whom they first applied for hospitality, received them coldly. The fugitives accordingly turned to the east, and went to the Tanos, probably of the village of Tunque. Here the woman gave birth to five children, four boys and one girl. The boys of the Tanos often taunted these youngsters with being foreigners, and, nettled by these taunts, they asked their mother about their origin. She told them the story of her past, and acknowledged that the Tanos country was not theirs. She told them that at the foot of the mesa of Ta-mi-ta, a height in the shape of a truncated cone, nearly opposite San Felipe, on the east bank of the Rio Grande, they would find their future home. Thereupon the boys set out, following the course of the Arroyo del Tunque to the mesa indicated, and succeeded in raising abundant crops in the Rio Grande valley. There had been a famine among the Tanos for two years, and therefore the boys carried their harvests home to their mother. In course of time the Queres refugees left the Tanos permanently, and built a village west of the Rio Grande at Cubero. This was the first pueblo called Kat-isht-ya. Subsequently that village was abandoned, and a new one constructed at the foot of the mesa of Ta-mi-ta, to which the same name was given.

There the first church of San Felipe was built by Fray

Cristobal de Quiñones, who died at the pueblo in 1607, and was buried in the temple which he had founded.<sup>1</sup> The Queres occupied this site until after 1683.<sup>2</sup> Ten years later,

<sup>1</sup> The San Felipe of the Queres must not be confounded with a "San Felipe" mentioned in the *Testimonio dado en México* (Doc. de Indias, vol. xv. pp. 83 and 90) by the companions of Francisco Sanchez Chamuscado in 1582. The latter pueblo was the first one met by these explorers in 1581 on their way up the Rio Grande, and was a village of the Piroes, probably near San Marcial, at least 160 miles farther south. The name San Felipe was afterwards forgotten. The pueblo at the foot of Ta-mi-ta was undoubtedly visited by Castaño in 1591, and it may be that he gave that name to it. Oñate so calls it in 1598, in *Discurso de las Jornadas*, p. 254. He arrived there on the 30th of June, "Pasamos á Sant Phelipe, casi tres leguas." Also in *Obediencia y Vasallaje de San Juan Baptista*, p. 114: "La Provincia de los Cheres con los pueblos de Castixes, llamados Sant Phelipe y de Comitre." We find here in a corrupted form the Indian names both of the pueblo and of the round mesa at the foot of which it stood. "Castixes" is a corruption of Kat-ist-ya, and "Comitre" stands for Ta-mi-ta. The error was probably made in copying the document for the press. San Felipe again appears in the document called *Peticion á Don Xptobal de Oñate por los Pobladores de San Gabriel*, 1604 (MS.): "Pedimos y suplicamos sea serbido de despachar y echar desta bella á Jua Lopez Olguin al pueblo de San Felipe." Fray Cristóbal de Quiñones had an organ set up at San Felipe. Says Vetancurt, *Menologio*, p. 137: "Solicitó para el culto divino organos y música, y por su diligencia aprendieron los naturales y salieron para el oficio diuino diestros cantores." According to the *Crónica* (p. 315), San Felipe previous to the rebellion had a "Capilla de Músicos." It is well established that many of the Pueblo Indians knew and performed church music in the seventeenth and eighteenth centuries. Fray Cristobal died at San Felipe, April 27, 1609, and was buried in the church. Vetancurt, *Menologio*, p. 137. He had also established a hospital with a pharmacy. San Felipe in 1636 was the residence of the Father Custodian, Fray Cristóbal de Quiros. *Autos sobre Quexas contra los Religiosos del Nuevo México*, 1636. MS. But it was not as a permanent seat; at that time the custodians resided at their respective missions.

<sup>2</sup> No massacres of Spaniards or priests occurred at San Felipe in August, 1680, but a few Indians who had remained faithful to the Spaniards were killed. *Interrogatorios de Varios Indios*, 1681, fol. 139. All the males of that pueblo, with few exceptions, joined in the butchery at Santo Domingo. At the time there was no resident priest at San Felipe, but the missionaries for the three Queres pueblos of Cochiti, Santo Domingo, and San Felipe resided at the convent of Santo Domingo. The Indians of San Felipe also took part in the frightful slaughter of Spanish colonists that occurred in the haciendas between the pueblo and Algodones. Compare Otermin, *Diario de la Retirada*, 1680, MS., fol. 31. The pueblo was abandoned upon the approach of the retiring Spaniards, and many Indians appeared upon the Great Mesa on the west side of the

Diego de Vargas found them on the opposite side of the river, on the Black Mesa, overlooking San Felipe.<sup>1</sup> A church was built on this site after 1694, the ruins of which present a picturesque appearance from the river banks. In the beginning of the last century, the tribe of San Felipe left the mesa, and established itself at its foot, where the present Kat-isht-ya, the fourth of that name, stands.

Not a trace is left of the old pueblo, near the round mesa of Ta-mi-ta. The village, the church, and its convent have completely disappeared. The floods of the Tunque, on the northern border of which it stood, have combined with those of the Rio Grande to obliterate every trace. Potsherds may occasionally be picked up in the fields near by, or on the sandy hillocks; but I have not been fortunate enough to find any. Only tradition and documentary information enable us to identify the place.

Rio Grande, watching the march of Otermin. It was reoccupied immediately afterwards by its inhabitants. *Interrogatorios*, fol. 137 *et seq.* In December, 1681, Mendoza found it deserted. *Ynterrogatorio de Preguntas*, MS.: "Y que de allí pasó al pueblo de San Felipe, y lo halló despoblado, y en el solo Yndio llamado Francisco al qual le pregunto en su lengua por la gente del pueblo, y respondió haberse ido huyendo á la Cieneguilla, ó pueblo de Cochiti, y haciendo buscar el pueblo en todas sus casas, se hallaron muchas cosas de la Yglesia, y enparticular vn incensario de plata, y vna naveta, y caxuela de los santos oleos, y cruces de mangas quebradas, y en todas las demas casas cantidad de mascarás de sus bayles diabólicos, y en medio de la plaza montones de piedras adonde hacían sus idolatrías, y toda la Yglesia destruida, y el convento demolido, y en la orilla del rio le digeron, los que ivan en su compañía, que estaba una campana, que quiziern quebrar, y solo le hicieron vn agujero." San Felipe was occupied again, and was inhabited in 1683. *Declaracion de vn Yndio Pecuri*, MS.

<sup>1</sup> In the fall of 1692, when Vargas made his first dash into New Mexico, the Indians of San Felipe were with those of Cochiti on the Potrero Viejo. *Autos de Guerra de la Primera Campaña*, 1692, fol. 141. I have already stated that the Indians of San Felipe kept their promise of returning to their pueblo, which stood then on the summit of the long Black Mesa west of the present pueblo. There Vargas found them in November, 1693. *Autos de Guerra del Año de 1693*, fol. 22: "Y ayer salí con 50 soldados por todos y 60 mulas con sus arieos y suví á la mesa donde tienen dho pueblo los de Sn Phelipe." It still stood there in 1696. *Autos de Guerra del Año de 1696*, MS.

The same cannot be said of the village built on the top of the mesa of Tyit-i Tzat-ya, that rises abruptly above the San Felipe of to-day. Figure 23 of Plate I. conveys an idea of the size and arrangement of the ruin. The east side approaches the brink of the mesa, which is difficult of access. The church is of adobe, and stands on the edge of the declivity in the northeastern corner. The cells of the Indian dwellings, two rows deep, form the north, west, and south sides, so that the pueblo forms three sides of a quadrangle, with an entrance in the southwestern corner. The church measures 20.0 by 6.3 meters (65 by 20 feet); the houses have a total length of 217 meters (712 feet). It was therefore a small pueblo, and the number of rooms (fifty-eight) shows that the population cannot have been considerable. The walls are fairly well built of blocks of lava and 0.45 m. (18 inches) thick, and most of the houses may have been two stories high. When Diego de Vargas visited it in 1693, he found it in good condition.<sup>1</sup> How long the Queres remained on the mesa after that date, I have not ascertained.

There is a tale current among the Indians of San Felipe of the flight of Fray Alonzo Ximenez de Cisneros, missionary at Cochiti, from that village, in the night of the 4th of June, 1696, and his rescue by the San Felipe Indians. The facts are true in regard to the flight of the priest and the kind

<sup>1</sup> *Autos de Guerra de 1693*, fol. 22: "Y los Yndios todos me salieron á rezeuir sin armas y las mujeres á otro lado muy vien bestidas y todos con sus cruces en la garganta y tenían vna grande á la entrada del pueblo y asimesmo en las casas y la plaza muy barrida, puestos muchos bancos y petates nuevos para que me sentase y nos dieron á todos de comer con grande abundancia y hizieron demostracion de mucha alegria." I am unable to say when the church now in ruins on the edge of the mesa was built, but it was probably soon after 1694. There was a resident priest at San Felipe from 1694 until 1696, when Fray Alonzo Ximenez de Cisneros fled from Cochiti on the 4th of June, 1696, and remained there until the following year. He was succeeded by Fray Diego de Chavarria, and from that time on the list is uninterrupted down to the first half of this century. See the *Libro de Entierros de la Mision de San Felipe, 1696 to 1708*, MS.

treatment extended to him by the people of Kat-isht-ya on the mesa; but the same cannot be said of the siege, which the pueblo is reported to have withstood afterwards. The Cochiti Indians followed the Franciscan, whom they intended to murder, for a short distance, but withdrew as soon as they saw that he was beyond their reach. Then they abandoned their pueblo, and retired to the mountains, — not to the Potrero Viejo, but to the more distant gorges and crests of the Valles range. The San Felipe pueblo was never directly threatened in 1696, and consequently the story of the blockade, and of the suffering from lack of water resulting from it, and the miraculous intervention of the rescued missionary, is without foundation.<sup>1</sup>

San Felipe at present is the last of the Queres villages on the Rio Grande towards the south, and beyond the defile formed by the Black Mesa on one side and the high gravelly bluffs above Algodones on the other,<sup>2</sup> can be seen the beginning of the range of the Tiguas. If the traditions concerning the origin of the San Felipe villages are true, the Tiguas were already established on their range before the dispersion of the Queres at Kua-pa took place, since the fugitives from there applied in vain to the Indians of Sandia for hospitality. A historical fact of some importance would accordingly be established by that fragment of Indian folk-lore.<sup>3</sup>

<sup>1</sup> Father Cisneros was one of the priests who entered upon his mission among the Pueblos in 1695, but soon discovered that they were bent upon another outbreak. He gave warning of it by letter to the Custodian in the beginning of 1696, *Carta al Padre Custodio Fray Francisco de Vargas*, MS., and joined in the petition of the latter to Diego de Vargas, *Peticion del Custo y Definitorio al Gobernador Don Diego de Vargas*, MS. Vargas disregarded these well grounded cries of alarm, and Father Cisneros fled to San Felipe and was well received there. The Indians of Cochiti left their village at once, and returned thither only in the late fall of 1696. *Autos de Guerra del Año de 1696*, "Primer Cuaderno." Escalante, *Relacion*, pp. 172 and 174.

<sup>2</sup> This is called "La Angostura," or "The Narrows."

<sup>3</sup> Sandia, or Na-fi-ap, is an old Tigua village. From this tradition we may

There exists, to my knowledge, but one Queres ruin south of San Felipe. This does not stand on the river bank, but west of it, in the wild labyrinth of lava, basalt, and trap about the "Cangelon," north of Bernalillo. That ruin, which I have not seen, is claimed by the Queres of Santa Ana as the first pueblo inhabited by their ancestors in this section.<sup>1</sup> The present village of Santa Ana lies southwest of that of San Felipe, on the eastern bank of the Jemez River. We must therefore leave the Rio Grande for the present, and turn to that western tributary where a branch of the Queres, very characteristically designated by Antonio de Espejo as "Pun-ames," or "People in the West,"<sup>2</sup> already dwelt in the sixteenth century.<sup>3</sup> This branch is divided into two groups, — the people of Santa Ana or Tam-a-ya, and the tribe of Tzi-a or Cia.<sup>4</sup> How long before the sixteenth century they may have settled on the banks of the Jemez, I am unable to state, neither am I informed as to whether they claim to have

also infer that the Tanos occupied their country at the same time, and previous to the events at Kua-pa.

<sup>1</sup> I am in doubt whether this ruin stands north or south of the mouth of Jemez River. The "Cangelon," literally prong or horn, is a very prominent rocky pillar rising above a volcanic mesa four miles north of Bernalillo.

<sup>2</sup> *Relacion del Viage* (Doc. de Indias, vol. xv. p. 11), and *Expediente y Relacion*, p. 178. The proper Queres word is "Pun-ama," but the corrupt version in Hakluyt has "Cuame." *El Viage que hizo*, p. 9. This leads to an important misconception, as "Ku-a-ma" means "the people in the *South*." How the mistake was made, while still preserving a word of the Queres idiom, is a mystery, as Cuame is plainly as good a Queres word as Puname, but with an entirely different signification.

<sup>3</sup> Cia is mentioned by Castañeda (*Cibola*, p. 110), who calls it "Chia," and says of it, "C'est un gros village, situé à quatre lieues à l'ouest du fleuve." Counting from Bernalillo, Cia lies about fifteen miles to the northwest. Jaramillo, *Relacion du Voyage à la Nouvelle Terre*, p. 371, also speaks of Chia.

<sup>4</sup> There is considerable variation in dialect between the Queres spoken at Cia and that at Santa Ana. Between the latter dialect and that of Cochiti there is such a great difference that the people of the two villages understand each other with difficulty. There is more analogy between the dialects of Santa Ana and Acoma.

sprung from the cave dwellers at the Rito de Los Frijoles, like the Rio Grande Queres. The latter insist that all the Indians speaking their language are descendants of the tribe at the Rito; still, so long as the traditions of more distant branches do not confirm them, such assertions remain of doubtful value.

The Black Mesa of San Felipe is both long and broad, forming a triangular plateau which in extent and elevation resembles that on which the cone of the Tetilla rises between Santa Fé and Peña Blanca. Its width between San Felipe and Santa Ana is about nine miles, and about midway there is a considerable elevation, on whose summit stand the ruins of the second pueblo of Tan-a-ya or Santa Ana. This is first mentioned by Oñate in 1598 under its aboriginal name.<sup>1</sup> In the rebellion of 1680 it was without a priest, although it had a church and convent. The men of Santa Ana joined those of San Felipe in the massacres at Santo Domingo and in the Rio Grande valley; and the Lieutenant General of New Mexico, Alonzo Garcia, passed through it when he returned from Jemez and Cia with the priests whose lives he had saved.<sup>2</sup> Santa Ana was not molested by Otermin in 1681, as it lay too far away from the Rio Grande; but in the summer

<sup>1</sup> The *Obediencia de Santo Domingo* (p. 102) speaks of it under the name of "Tamy," as a pueblo of the Queres; again, in the *Obediencia de San Juan* (p. 115) it is called "Tamaya," and a village of the Cia group.

<sup>2</sup> The outbreak began at Jemez, and the Alcalde Mayor there, Luis Granillo, sent word to the Lieutenant General Garcia, who lived on a hacienda opposite the present site of Albuquerque, to come to his assistance. Garcia had only a few men; but with these he rescued Granillo, and the surviving priest of Jemez, as well as the missionary of Cia. He returned by way of Santa Ana, where he found only women and children. Upon his inquiring for the men, the women replied that they had gone out to kill all the Spaniards. *Diario de la Retirada*, 1680, fol. 51. Deposition of Luis Granillo: "Y allegamos al pueblo de Santa Ana, Indios de la misma nacion de los de Zia, y no hallandolos á estos, sino algunas Indias, y preguntandoles adonde estaban los varones, respondieron con mucho desdoro, y atrevimiento que habían ido á matar á todos los Españoles."

of 1687 Pedro Reneros de Posada, then Governor at El Paso del Norte, made a dash into New Mexico and appeared before it. Its inhabitants refused to listen to the summons to surrender, which compelled the Spanish commander to order an assault. After a desperate resistance, the village was carried, the woodwork of the houses set on fire, and several Indians perished in the flames.<sup>1</sup>

The affair of 1687 had a salutary effect upon the Indians of Santa Ana. When Vargas appeared, they were on a mesa some distance to the north.<sup>2</sup> But they promised to return to their pueblo, and did so. Vargas found them peaceably established in their homes in the following year, 1693, though fearful of the Jemez, who threatened them with vengeance for their adherence to the Spanish cause. Whether the pueblo then stood where it now stands, or

<sup>1</sup> Siguenza y Gongora, *Mercurio volante con la Noticia de la Recuperacion de las Provincias del Nuevo México*, (Mexico, 1693,) p. 4: "Sucedióle Pedro Reneros, quien asoló el pueblcillo de Santa Ana, y desde él de Cia consiguió el volverse." The year is established by the original document signed by Posada, entitled *Sentencia dada contra diez Indios prisioneros del Pueblo de Santa Ana*, October 6, 1687 (MS.): "Dijo que por quanto abiendo hecho entrada á las probincias de la Nueva México y dado asalto en el pueblo de Santa Ana de la nacion Queres adonde sus moradores apostatas, luego que los sintieron, se pusieron en arma y pelearon con pertinancia y reseldia, y aunque se los hizo muchos requerimientos que rriendesen la obediencia á su Magd no lo quisieron . . . asta tanto que mandé poner fuego al dho pueblo y aun biendose abrasar algunos de ellos mas tinos, se entregaron á las llamas que rrendirla obediencia á su Magstad." Also Juan de Dios Lucero (*Peticion para Dispensa de Matrimonio*, 1688, MS.) speaks of the capture of Santa Ana as having occurred the previous year. I have no means of determining the population of Santa Ana in 1680. Vetancurt (*Crónica*, fol. 315) says it was "un pueblo pequeño," and that its inhabitants, together with those of San Felipe, amounted to over six hundred souls. Escalante (*Carta al Padre Morfi*, par. 9) also states that Posada went as far as Cia: "Llegó al pueblo de Cia, quitó algunos caballos y ganado menor, y se volvió al paso sin conseguir otra cosa."

<sup>2</sup> Escalante, *Relacion*, p. 131: "Hallábanse los Cias y de Santa Ana, en un pueblo que habían hecho de nuevo en el cerro Colorado, distante cuatro leguas de Cia." In *Autos de Guerra*, 1692, October 23, fol. 143, he describes the pueblo on the "Cerro Colorado." This may mean the pueblo opposite Jemez, which the Cias speak of as having been the first.



whether the people of Santa Ana had rebuilt the one on top of the mesa, I am not informed.<sup>1</sup>

There were consequently three pueblos of the Santa Ana tribe; one near the Cangelon, which is pre-historic; one on the mesa, erected previous to 1598, and destroyed by Posada in 1687; and the modern one on the banks of the Jemez River. All three are called by the same name, Ta-may-a, but I have not examined either of the two ruined villages.

The course of the Jemez River, from its source five miles north of Jemez to its mouth, is through sandy expanses, although fertile when irrigated. Opposite Santa Ana the sand forms broad white hills, destitute of vegetation. The pueblo almost leans against the craggy wall of the extensive mesa of San Felipe. Higher up, the borders of the plateau recede to the east, and the country opens. On a dune above the river, eight miles northwest of Santa Ana, stands the present Queres village of Cia, or Tzia.

It is said to occupy the same site as in the days of Colorado, and its church is also said to be the one which the Indians ravaged in 1680. I have my doubts about the correctness of both these assumptions.<sup>2</sup> There are ruins in the vicinity, which I had not time to investigate, of former pueblos of the Cia tribe. Opposite the present town stand the remains of Ka-kan A-tza Tia, and north of the present Cia lies Ko-ha-say-a. I was told that in ancient times war broke out between the two villages, because the people of the former stole the girls of the latter. The people of Ka-kan A-tza Tia were driven to the south by an attempt of those of Ko-ha-say-a to burn their pueblo with turpentine, and the latter moved to the site of Cia. There are also traditions

<sup>1</sup> *Autos de Guerra*, 1693.

<sup>2</sup> *Autos de Guerra*, 1692 (fol. 143). Vargas found the pueblo completely destroyed by Cruzate. The site may be the same, but the church is probably a more recent edifice, though possibly erected on the old foundations.

about wars between the Cias and the Jemez, and between the Cias and their kindred of Cochliti, at a time when the latter lived on the Potrero Viejo. But I suppose these traditions allude to the hostilities that took place during the years 1694 and 1696, when the Cias espoused the cause of the Spaniards.

Castañeda, who mentions Cia, speaks of but one large village belonging to that tribe.<sup>1</sup> Espejo, who calls the Cias "Punames," mentions a cluster of five, the largest of which was called "Sia."<sup>2</sup> Oñate, sixteen years later, names four.<sup>3</sup> In 1680, only one village was standing. The timely intervention of Alonzo Garcia saved the life of the missionary of Cia, Fray Nicolas Hurtado.<sup>4</sup>

<sup>1</sup> *Cibola*, p. 182.

<sup>2</sup> *Relacion del Viage*, p. 115.

<sup>3</sup> He visited Cia on his way to Jemez, and spent the night of the first of August, 1598, in the former pueblo. *Discurso de las Jornadas*, p. 260: "Durmió aquel día en el gran pueblo de Tria [Cia] ya dichó." In the *Obediencia de Santo Domingo* (p. 102) Cia is connected with the pueblos of "Comitre y Ayquiyn," and in the *Obediencia de San Juan Baptista* (p. 115), with the villages of "Tamaya, Yacco, Tojagua y Pelchiu." Comitre is Tamita, and Tamaya is Santa Ana, while Yacco stands for "Y Acco," the Queres name for Acoma. This leaves three pueblos besides Cia.

<sup>4</sup> *Diario de la Retirada*, fol. 42. Garcia on his way to Jemez met the Alcalde Mayor Granillo fleeing with the surviving priest of Jemez. He entered Cia, "Adonde hallaron al R. P. Definidor Fr. Nicolas Hurtado, ministro guardian de dicho pueblo de Cia, y considerando la muchedumbre de los enemigos Christianos, y el no tener las fuerzas que el caso pedía para la resistencia de dichos enemigos, me fué forzoso hacerle requerimiento al dicho pe Fr. Nicolas Hurtado para que luego saliese de dicho pueblo, como con efecto hicimos, y haciendo mifa los dichos Cristianos repicaron las campanas dando grandes alaridos." On folio 51, the Alcalde Luis Granillo testifies: "Y de allí allegamos al pueblo de Zia, donde hallamos al Pe Definidor Fr. Nicolas Hurtado, ministro de aquel pueblo, que con tres Españoles estaba fortalecido en lo mejor del convento, y con las bestias encerrado dentro, y con nuestra ayuda fué Dios servido que escapasen con la vida, y se vinieron en nuestra compañía, y á causa tambien que los Indios de dicho pueblo habían salido, á asolar las casas de los Españoles, y cerca de dicho pueblo, asi que nos sintieron, que venian ya á cegucutar en dichos religiosos, y Españoles su traicion, comenzaron á dar grandes alaridos, á cuyas voces y alaridos repicaron las campanas en el pueblo, y con gran peligro, y mu-

When Domingo Gironza Petriz de Cruzate marched into New Mexico in 1689, the Queres made a determined stand at Cia. The action fought there on the 29th of August was the most bloody engagement in the wars for the reconquest of New Mexico. Cia was stormed, completely wrecked, and the tribe decimated.<sup>1</sup> I have already stated that they proved faithful to the Spaniards afterwards.

chisimo trabajo salimos." It seems, therefore, that a few Spaniards were settled in the vicinity of Cia in 1680.

<sup>1</sup> I have not been able to find the official reports of this important expedition, which more than anything else contributed to dishearten the rebellious Pueblos. The earliest mention of it which I find is in the so called "Pueblo grants" of 1689. I copy from the *Merced de Pecos*, September 25, 1689: "Que por quanto en el alcance que se dió en los de la Nueva México de los Yndios Queres y los apostatas y los Teguas y de la nacion Thanos y despues de haber peleado con todos los demas Yndios de todos pueblos vn Yndio del pueblo de Zia llamado Bartolomé de Ojeda que fué el que mas se señaló en la vatalla acudiendo á todas partes, se rindió viéndose herido de vn balazo. . . . Y dice el confesante que no que ya estan muy metido en terror, que aunque estaban ahilantados con lo que les había susedido á los de el puo de Zia el año pasado." The last sentence applies to the ill success of Posada, and it seems that the action of Cia was fought in 1689; the day and month are taken from Siguenza y Gongora (*Mercurio Volante*, p. 4), who gives the following report on the engagement: "Asegundó D. Domingo Gironza en gobernar aquel reino, y en los pocos años que fué á su cargo rindió á fuerza de armas á los de aquel pueblo (digo él de Zia) muriendo en la batalla, como seiscientos rebeldes, sin muchos otros, que se quemaron en sus propias casas, por no entregarse. Fué esto á veinte y nueve de Agosto de mil seiscientos y ochenta y nueve." The date is therefore the 29th of August, 1689. Escalante places the occurrence in September of that year. *Carta al Padre Morf*, par. 9: "Por Setiembre del año siguiente entró D. Domingo Gironza á la misma reduccion de los rebeldes. Tuvo una sangrienta batalla en el dicho pueblo de Cia, en que los rebeldes se defendieron con tal valor y desesperado arrojio, que muchos se dejaron quemar vivos sobre las casas por no rendirse; el numero de Queres, así del dicho pueblo como del de Santa Ana, y de otros que vinieron de socorro á los sitiados, que quedaron muertos en esta batalla, llegó á 600 de ambos sexos y de diferentes edades. Solo cuatro ancianos se cogieron vivos; en la misma plaza del pueblo fueron arcabuzeados. No consta que en esta expedicion se hiciese otra cosa." That Cia was completely wrecked is proved by Vargas, *Autos de Guerra*, 1692, fol. 143. Escalante, *Relacion*, p. 132: "Pasó al pueblo de Cia que estaba sin gente y asolado por D. Domingo de Gironza. En él se halló una campana enterrada, que quedó del mismo modo hasta la otra venida."

North of the district claimed by the Cias begins the range, both ancient and modern, of a distinct linguistic stock, the Indians speaking the Jemez language. The Quercs held and hold to-day about one half of the course of the Rio de Jemez.<sup>1</sup> The other half is a sandy valley, in which stands the Jemez pueblo. The antiquities of this tribe lie mostly in the mountains beyond, in and around the romantic gorges on the eastern slopes of the Sierra del Valle. West of Cia begins the dreary region that extends to the Rio Puerco. Still farther west, the Navajo reservation occupies the entire northwest of New Mexico. The Jemez River therefore constitutes a boundary between a district where history or tradition is associated with pre-historic remains, and one in regard to whose antiquities we have no such means of information.<sup>2</sup> To the latter region I shall refer in a subsequent chapter, devoting the one next following to a short review of whatever of antiquarian interest the Jemez district offers.

<sup>1</sup> To speak figuratively, since the issue of the so called grants to the Pueblos, each one has only its few square leagues; formerly they rather roamed over than actually held certain ranges.

<sup>2</sup> There are ruins on the west side of the Jemez, like Ka-kan-a-tza Tia, of which the origin is known. In the Navajo reservation I know of not a single ruin concerning which there exists a tradition or tale assigning its origin to a definite tribe. I hope, however, that the work done by Dr. Mathews among the Navajos will bring to light something more positive about the past of these ruins.

## V.

## THE COUNTRY OF THE JEMEZ.

THE Valles Mountains separate the northern section of the Queres district from that claimed by the Jemez tribe. Against the chain of gently sloping summits which forms the main range from the peak of Abiquiu to the Sierra de la Palisada in the south abuts in the west an elevated plateau, containing a series of grassy basins to which the name of "Los Valles" (the valleys) has been applied. Permanent streams water it, and contribute to make an excellent grazing region of this plateau. But the seasons are short, for snow fills the passes sometimes till June, and may be expected again as early as September. During the three months of summer that the Valles enjoy, however, their appearance is very lovely. Heavy dews fall daily, and rains are common. The high summits are seldom completely shrouded for more than a few hours at a time, and as soon as the sun breaks through the mist, the grassy basins shine like sheets of malachite. Flocks of sheep dot their surface, and on the heights around the deep blue tops of the regal pines mingle with the white trunks and light verdure of the tall mountain aspens. It is also the country of the bear and the panther, and the brooks teem with mountain trout.

But for agriculture the Valles offer little inducement; for although the soil is fertile, ingress and egress are so difficult that even potatoes, which grow there with remarkable facility, cannot be cultivated profitably. The descent to the east

towards Santa Clara is through a long and rugged gorge, over a trail which beasts of burden must tread with caution, while towards Cochiti the paths are still more difficult. On the west a huge mountain mass, the Sierra de la Jara, interposes itself between the principal valley, that of Toledo, and the Jemez country. Both north and south of this mountain the heights are much less considerable; still the clefts by which they are traversed are none the less narrow, and the traveller is compelled to make long détours in order to reach the Jemez River.

The country inhabited by the Jemez tribe lies west of the Valles, and its upper portions might be described as similar to the region about the Rito de los Frijoles and south of it, were it not that its principal cañons run from north to south, or parallel to the mountain chains, instead of transversely, as in the Queres district. The deep clefts through which the Rio de San Diego, and west of it the Rio de Nuestra Señora de Guadalupe, converge to form the Jemez, are gorges exceeding in depth any of those on the eastern flank of the Valles chain; there is barely room for the trail beside the roaring torrent. Dense forests and shrubbery fill the bottom and line the streams. On both sides the variously colored walls rise to appalling heights; sometimes in crags, pinnacles, and towers, but mostly in huge steps, the highest of which terminate with the long sharp edge characteristic of the flat-topped mesa formation.

While the mountainous parts of the Queres range are dry, the Valles constitute a water supply for the Jemez country. Two streams rise in it, the San Antonio on the eastern flank of the Jara mountain, and the Jara at the foot of the divide, over which crosses the trail from Santa Clara. These unite soon to form the San Antonio "river," which meanders through the Valles de Santa Rosa and San

Antonio for seven miles in a northwesterly direction, and enters a picturesque gorge bearing the same name, and then gradually curves around through groves until, at La Cueva, it assumes an almost due southerly direction. One or two more brooks increase its volume on the way, descending directly from the mesa pedestal of the Jara Mountain, and its name is changed from San Antonio to the Rio de San Diego.<sup>1</sup>

I have not seen the head-waters of the Guadalupe Creek, which rises in what is called the Nacimiento district, farther west. Its volume, however, is inferior to that of the San Diego, which may be considered as the main artery of the Jemez country.

The water is clear, limpid, and cool. This is the more remarkable, since all along the eastern rim of the Valles, in the gorges traversing it, on the banks of the San Diego, and even in the very bed of that river, thermal springs rise in great numbers. The Jemez district is filled with medicinal sources, hot as well as cold. In the gorge of San Antonio rises a spring, the temperature of which is 110° F.<sup>2</sup> About five miles south of it are mud-baths, on the heights that separate the Valles from the San Diego gorge. In that gorge, ice-cold soda springs issue near the river bed, and a short distance above the bathing establishment a huge cylindrical dam traverses the stream, in which steaming currents and cold

<sup>1</sup> The average elevation of the Valles is 8,000 feet, but they rise as high as 8,500. The springs of San Antonio lie at an altitude of 8,586 feet; the Jara Mountain, called also Cerro Pelado, is 11,260 feet high, and the hot springs of San Diego are a little over 6,000. These figures are taken from the topographical map of the United States Geographical Survey. The fall from San Antonio amounts to at least 2,000 feet in seventeen miles.

<sup>2</sup> The volume of water is very considerable, issuing from the slope on the south side of the gorge at an elevation of perhaps 200 feet. It is considered as of great value for rheumatic complaints, and although no accommodations are to be had there, it is frequently visited by the people of the country.

streams flow parallel to each other, neither affecting the temperature of the others, although only a few inches of rock separate them. At the baths cold sulphur waters lie close to the hot springs. The value of the Jemez springs is abundantly proved in cases of rheumatism and eczema. The principal springs contain lithia, but are not arsenical, like those at the Ojo Caliente of Joseph. Their temperature rises as high as 168°. Chloride of sodium is the prevalent mineral ingredient.<sup>1</sup>

Four miles above the hot springs of Archuleta the character of the San Diego Cañon changes. It widens and the forests disappear. Huge deposits of native sulphur are seen above the river banks. The soil is covered with yucca, cacti, and other plants characteristic of the flora of New Mexico. The change is striking, from the picturesque wooded wilderness through which the stream leaps and rushes, to a bleak channel between walls of enormous height, where it flows quietly, while above tower the gigantic mesas with bare walls of light yellow, ashy gray, and red. It continues to maintain this character for twelve miles farther, narrowing towards the end. Five miles north of the present pueblo of Jemez, or Ual-to-hua, the mesas terminate in a sharp point over five hundred feet in height. Below this point the Guadalupe unites its waters with those of the San Diego, forming the Jemez River. The country opens to the south, becoming sandy and barren-looking, resembling the Rio Grande valley in bleakness. The gigantic mesas recede to the eastward, where they loom up like solemn monuments behind the arid hills that separate Jemez from Peña Blanca on the Rio Grande.

Thus the Jemez country is divided into two sections, — the

<sup>1</sup> In 100 parts of water, chloride of sodium, 0.1622; sulphate of soda, 0.0035; carbonate of lime, 0.0641; carbonate of magnesia, 0.0103; potassa, lithia, silicic acid, sulphate of lime, traces. Analysis by Oscar Loew.



northern a series of plateaux intersected by deep clefts, and the southern constituting the low lands. This geographical division is in part also historical, since the Jemez tribe, when first discovered by the Spaniards, clustered around the hot springs, although at present they dwell in the sandy valley of the Jemez River above Cia.

I have made but two short visits to the Jemez country, and had neither time nor opportunity for examining its ruins, except superficially. The first vestiges which I noticed, when coming from the Valles, were at La Cueva, five miles below San Antonio. I was informed by various persons that pottery had been found at that place; also the remains of small houses of stone. Lower down, the cañon becomes too narrow and rugged for habitation; there is no space for cultivation as far as the cold soda springs. On the mesas right and left there are said to be traces of ruins; but the extensive ones only begin about the springs. In the bottom, about half a mile to the north of the baths, on a gentle slope descending to the river's edge from the east, lie the ruins of the old pueblo of Gin-se-ua, with the stately old church of San Diego de Jemez.

The pueblo was built of broken stone, and formed several hollow quadrangles at least two stories high. It contained about eight hundred inhabitants. The church is a solid edifice, the walls of which are erect to the height of ten or fifteen feet, and in places nearly eight feet thick. It is not as large as the one at Pecos, and behind it, connected with the choir by a passage, rises an octagonal tower, manifestly erected for safety and defence. Nothing is left of the so called "convent" but foundations. The eastern houses of the pueblo nearly touch the western walls of the church, and from this structure the village and a portion of the valley could be overlooked, and the sides of the mesas easily scanned.

Ginseua is an historical pueblo. It first appears under the name of Guimzique in 1626.<sup>1</sup> It seems that it was abandoned in 1622, on account of the persistent hostility of the Navajos, who had succeeded in scattering the Jemez tribe. In 1627 Fray Martin de Arvide obtained permission from his superior, the Custodian Fray Alonzo de Benavides, to attempt to gather the tribe again in its old home. The efforts of the monk were successful, and the Jemez Indians settled in two of their former pueblos, — at Ginseua and at Amoxiumqua. Chapels had probably been built at both these places previous to 1617, and the Jemez tribe reoccupied both sites in place of the numerous pueblos of small extent which it had inhabited previous to 1627.<sup>2</sup> Amoxiumqua lies on the

<sup>1</sup> Fray Gerónimo de Zárate-Salmeron, *Relaciones de todas las cosas que en el Nuevo México se han visto y sabido*, MS., par. 11: "Hice esta diligencia con los capitanes de la nacion Henex, y llamando al capitan mayor del pueblo de Amoxunqua, llamado Dn Francisco Guaxiunzi y al capitan mayor del pueblo de Quiunzique, llamado Dn Alonzo Pistazondi y Dn Gabriel Zanou su hermano y otros viejos." Fray Zárate lived as missionary among the Jemez in 1618. Introductory letter: "Habrà 8 años que no sacrifique al Señor entre los Ynfieles del Nuevo Mexico. Y habiendo deprendido lengua de la nacion de los Yndios Hemeos adonde compuse la Doctrina Cristiana." It seems that Ginseua and Amoxiumqua were then the principal pueblos of the Jemez tribe.

<sup>2</sup> Benavides, who came as Custodian to New Mexico in 1822, says in his *Memorial*, p. 29: "Passando este rio á la parte del Occidente á siete leguas se topa con la nacion Hemes, la qual quando entré por Custodio, se auía desparramado por todo el Reino, y estaua ya casi despoblada, por hambre y guerra, que la iban acabando, adonde los mas estauan ya bautizados, y con sus Iglesias, con harto trabajo, y cuidado de algunos religiosos, y assi procuré luego reduzirla, y congregarla en la misma Provincia, y puse religioso, que con cuidado acudió á ello, y lo auemos congregados en dos pueblos, que es en el de San Joseph, que todavía estaua en pié, con una muy suntuosa y curiosa iglesia, y conuento, y en el de San Diego, de la Congregacion, que para este efeto fundamos de nuevo, trayendo allí los Indios que auía de aquella nacion, que andauan descarriados." The words "de la Congregacion" seem to indicate that the first mission at San Diego de Jemez was due to the Capuchins! It results also from this that the old church at San Diego was built *after* 1622, and probably after 1626. Comparing the above statement of Benavides with that of Fray Zárate, it seems probable that Amoxiumqua was San Joseph de los Jemez, and was never completely abandoned until later on. Vetancurt (*Menologio*, p. 76), speaking of Fray

mesa that rises west of the springs. South of it is another ruin, and still another called Ash-tyal-a-quá.<sup>1</sup> The ascent to the mesas is very steep and long.

At the present stage of our historical knowledge it is impossible to establish with any degree of certainty the number and location of the Jemez pueblos that were inhabited in the early days of Spanish colonization. At the time of Coronado it is stated that there were seven villages of Jemez and three at the hot springs.<sup>2</sup> Oñate, who visited Jemez and its thermal sources on the 3d, 4th, and 5th of August, 1598, says there were eleven villages in all, of which he saw eight.<sup>3</sup> In two of

Martin de Arvide says: "Viviendo en el convento de San Lorenzo de los Pecurics oyó decir que en los Hemes se habían ido los Indios á los montes y andaban vagos por aquellas sierras, y llevado del fervor de su espíritu, con licencia del reverendo Padre Fran Alonso de Benavides, Custodio, y facultad del Gobernador Don Felipe Zotilo, subió entre los fugitivos y con la benignidad de Padre los exhortó y los congregó á sus pueblos." San Diego de los Emex is mentioned also in 1643, in the *Carta de Justicia, Autos y Comisson, cometida al Sargento Mayor Franco Gomez* (MS.).

<sup>1</sup> I am still in doubt about the true location of Ashtyalaqua, but I believe it was situated on the mesa. As to San Joseph de los Jemez I incline to the belief, as above stated, that it was Amoxiumqua. For the statement ascribing the first establishment of churches among the Jemez to the years preceding 1617 I refer to Zárate, *Relaciones*, Introductory letter to Benavides, *Memorial* (p. 29), and to the *Cédula Real* of May 20, 1620 (MS.), in which the King says: "El cabildo de Santa Fé del Nuevo México en carta qe me escribió en 3 de Octubre del año pasado de 617, refiere lo que sus vecinos han trabajado para el asiento de aquella nueva poblacion, y lo que han gastado en ella, y que han venido en conocimiento de nuestra Santa Fé, mas de catorce mil almas siendo otras tantas las qe estan para recibir el Santo Baptismo, y que hay once yglesias fundadas con pocos ministros." It is difficult to locate these eleven churches without including two among the Jemez.

<sup>2</sup> Castañeda, *Cibola*, p. 137. Francisco de Barrionuevo is the name of the Spanish officer who first visited the Jemez in the fall of 1541. "Cet officier visita deux provinces; l'une se nommait Hemes, et renfermait sept villages." Further on (p. 182), he assigns seven villages to Jemez and three to Aguas Calientes.

<sup>3</sup> I do not mention Espejo, who also visited the "Emeas" in 1582, (*Relacion del Viage*, p. 116,) since he made but a short stay there. The dates for Oñate are taken from *Discurso de las Jornadas*, p. 261: "A quatro, bajamos á otros pueblos de los Emmes, que por todos son honce, vimos los ocho, . . . á cinco, ba-

the "Acts of Obedience and Vassalage" of the same year, nine and eight pueblos respectively are mentioned. Nearly all the names are unrecognizable.<sup>1</sup> In my conversations with the Jemez Indians I noted the names of seventeen of their old pueblos, but was unable to ascertain their location, except that they lie in the mountains north, northeast, and northwest of their present village.<sup>2</sup>

The few fragments of Jemez traditions I was able to gather are confused, and somewhat conflicting. They speak of a lagune lying in the north, to which the soul travels after death in four days, which they call Ua-buna-tota. There, they claim, the Jemez had their origin. But they also say that the people of Amoxiumqua dwelt first at the lagune of San José, seventy-five miles to the northwest of Jemez, and that they removed thence to the pueblo of Añu-quil-i-jui, between the Salado and Jemez. In both of these places there are said to be ruins of former villages. All these bits of tradition indicate a migration from the north. There are also tales about a remarkable man whom the Jemez call Pest-ya So-de, who

jamos al último pueblo de la dicha provincia, y vimos los maravillosos baños calientes que manan en muchas partes y tienen singulares maravillas de naturaleza, en aguas frías y muy calientes; y muchas minas de azufre y de piedra alumbrada, que cierto es, mucho de ver." This is the first description, to my knowledge, that was ever given of the San Diego hot springs, and of the mineral springs and other wonders of the Cañon.

<sup>1</sup> *Obediencia, etc. de Santo Domingo*, p. 102. "Yxcaguayo, Quiamera, Fia, Quiusta, Leeca, Poze, Fiapuzi, Trivti, Caatri." *Obediencia de San Juan Baptista*, p. 114: "Yjar, Guayoguia, Mecastria, Quiusta, Ceca, Potre, Trea, Guatitruji, Catroo." The misspelling is manifest, and has certainly contributed more than anything else to render the names unrecognizable.

<sup>2</sup> The following are the names of these seventeen pueblos, as given to me by an Indian at the pueblo of Jemez: Ginseua (San Diego), Amoxiumqua on the mesa between the two streams of San Diego and Guadalupe, Asht-yalaqua or Patoqua (stated to me as having been San Joseph, which I doubt), Quia-tzoqua, Ham-a-qua, Tya-juin-den-a, To-ua-qua, Quia-shi-dshi, Pe-cuil-a-gui, Se-to-qua, Añu-quil-i-gui, Osht-yal-a, No-cum-tzil-e-ta, Pem-bule-qua, Bul-itze-qua, Uä-hä-tza-e, Zo-lat-e-se-djii, and Se-shiu-qua. Añu-quil-i-gui lies north of Jemez; of the others I can only fix the site of the first three.

derived his "medicine" from the sacred lagune of Ua-buna To-ta, and who introduced the various "customs," as the rites of the secret societies are called in the tribe. He was a famous hunter, and may be the equivalent of Pose-ueve and Pusha-iankia.<sup>1</sup>

To return to solid historical ground, it is certain that the numerous small villages of the Jemez were, soon after the establishment of Spanish rule, gradually consolidated into two, and finally into one, larger pueblo.<sup>2</sup> Amoxiumqua was abandoned previous to 1680; but I incline to the belief that a village of which the ruins are visible on the delta formed by the junction of the San Diego and Guadalupe, was San Juan de los Jemez, and inhabited at that time.<sup>3</sup> The Jemez tribe

<sup>1</sup> And of the Push-a-ya of the Queres. I intend to return to this important mythical personage at the close of this Report.

<sup>2</sup> Vetancurt (*Crónica*, p. 319) says: "De cinco pueblos se hizo uno."

<sup>3</sup> I infer the existence of two villages in 1680 from the fact of there being two priests among the Jemez at that time. This is by no means sufficient evidence, still it seems to imply the existence of a "Visita," besides the mission proper of San Diego. San Juan de los Jemez, in the documents relative to the reconquest by Diego de Vargas, appears as an abandoned pueblo, but the fact that a patron saint had been assigned to it shows that it had been occupied during the times anterior to 1680, and that a church or chapel had been erected in it. One of my informants at Jemez assured me that there were ruins on the delta of a pueblo and church, and that these were those of San Joseph. The Indians, however, were positive in locating San Joseph de los Jemez, much higher up on the mesas proper. I have carefully examined all the records of Vargas at Santa Fé, and incline to the belief that San Juan lay on the delta, and not on the heights. In the *Autos de Guerra* of 1696 (MS.) are three letters written to Vargas, giving an account of the bloody action with the Jemez Indians of June 29th, 1696, fought partly in the San Diego Cañon and partly at its mouth, by a Spanish detachment under command of the Captain Miguel de Lara and the Alcalde Mayor Fernando Duran de Chavez, and Indian auxiliaries of Cia. The date of these letters is July 1. The Alcalde Mayor says, *Carta al Gobernador Don Diego de Vargas*, that they attacked the Indians on the mesas, and that they resisted fiercely: "I nos fuimos retirando asta el pueblo de S. Jua, i como nos uian retirar gusgaben ellos qe ibamos guiendo i asi qe salimos á lo esconbrado gunto al mesmo pueblo rebolvimos la rienda i les dimos vn apretton." This shows that San Juan was on a site where a cavalry charge was possible. The Captain Miguel de Lara, *Carta*: "Saliendo por la Siera que está de los Jemes á la parte

was always much exposed to incursions of the Navajos, but, as is often the case with Indians, they sometimes sided with their enemies against the Spaniards, to whom they really owed their safety. In the middle of the seventeenth century a conspiracy on the part of the Jemez was detected, in which they had joined the Navajos. It was repressed with just severity, the Governor, Don Fernando de Arguello, causing twenty-nine Indians to be hung, as they had already killed one Spaniard by the name of Diego Martinez Naramjo, and an outbreak on a larger scale was imminent.<sup>1</sup> A few years

del poniente emboscados con determinasion de ber si podíamos cojer en las milpas alguna jente, quisó nuestra fortuna que adonde fuimos á dormir aquella noche topamos los rastros que abian crusado jente en cantida para centro, dejamos el rumbo y los seguimos entendiendo que estarían en el pueblo de San Juan y no estaban si no que crusaron para la mesa, de allí determiné yr á reconoser el peñol donde estaba la xente y luego que llegamos nos resibieron con polbora y balas . . . de allí salí asta el pueblo de San Diego lidiando con ellos sin poder matar un Indio. . . . Salí de allí para San Juan y como dos tiros de arcabus de allí nos salió una emboscada y biendo la imposibilidad me bine por todo el camino paso á paso con la xente y mas abaxo nos salió otra y al llano." Bartolomé de Ojeda, *Carta*: " Fueron á dar á la mesa adonde estaban esos encmigos, luego tratamos de ir saliendo porque crusaban muchicimos rastros al pueblo de San Juan y biniedo que beniamos, nos binieron coqueando y nosotros retirandonos á tierra llana dandoles lugar a que salieran." This indicates: 1. That the pueblo of San Juan was below San Diego; 2. That it lay near or in front of the mouth of the cañon. But the following passage in the *Auto* of Miguel de Lara of August 5, 1696, implies the contrary: " En el pueblo de San Juan de los Jemes que está en la mesa de arriba." Still this is obscure, since it may signify a village on the mesa above that of San Juan, and not San Juan proper. In the *Autos de Guerra* of 1694, Vargas, when speaking of the pueblos on the high mesas which he stormed, nowhere applies to them the name of San Juan (fol. 60 to 84). Escalante (*Relacion*, p. 159) remarks that, when Vargas made the desperate assault upon the formidable mesa on July 24, 1694, he ascended with the main body by a trail " que cae al Sudeste, y es la mas inmediata al pueblo antiguo de Gemex." This would indicate that that ancient village lay at the foot of the point, and between the two rivers. On page 173, concerning the uprising of 1696, he states: " Los Gemex de San Diego y San Juan se internaron y aseguraron en la sierra de Gemex." But, after all the testimony quoted, I must leave the final settlement of the location of the pueblo of San Juan to future investigations.

<sup>1</sup> *Ynterrogatorio de Preguntas*, 1681, MS. The Maestro de Campo Juan Dominguez de Mendoza testified: " Y en particular en el tiempo de D. Fernando

later Governor Hernando de Ugarte y la Concha put down another attempt at uprising, in which the Jemez were confederated with the Navajos and some of the Tigua villages.<sup>1</sup> During those occasional efforts against the Spaniards in which the Jemez and the Navajos were allies, the latter frequently made themselves a terrible scourge to the former, thus proving the fickleness of Indian alliances.

It is probable that the two pueblos were still inhabited in 1680, for there were two missionaries among the Jemez when the great rebellion broke out in that year,<sup>2</sup> besides a few Spaniards as an escort with the priests. One of the missionaries, Fray Juan de Jesus Maria, was probably one of the first victims in that terrible massacre. He was killed at Ginseua or San Diego de Jemez, near the hot springs, and buried by the Indians close to the wall of an estufa in the first square of the pueblo.<sup>3</sup> The other missionary, Fray Francisco Muñoz,

de Arguello, que en el pueblo de Xemes ahorcó por traidores confederados con los Apaches veinte y nuevs Xemes, depositando cantidad de ellos por el mismo delito, y haber muerto á Diego Martinez Naranjo." The Sargento Mayor Diego Lopez Zambrano states: "Desde el Gobernader D. Fernando de Arguello, que ahorcó, azotó, y despositó mas de quarenta Yndios." Don Fernando de Arguello was Governor of New Mexico between the years 1643 and 1646.

<sup>1</sup> *Ynterrogatorio, etc.* Testimony of Mendoza: "Y en el tiempo del Señor General Hernando de Ugarte y la Concha, se ahorcaron por traidores nueve de los dichos pueblos, confederados con los Apaches, Yndios Tiguas de la Ysleta, y del pueblo de la Alameda, San Felipe, Cochiti, y Xemes." The copy in my possession has "Teguas de la Ysleta," but it should be "Tiguas." This affair of the time of Governor Ugarte took place in 1650, and the conspiracy, according to the statements of the Indians themselves, was intended to embrace all the pueblos, although not all entered into the plot. *Interrogatorios de varios Indios*, 1681, fol. 135.

<sup>2</sup> The priests were Fray Juan de Jesús and Fray Francisco Muñoz.

<sup>3</sup> Vetancurt (*Crónica*, p. 319) describes the murder of this missionary as follows: "Aquí, con sentimiento de muchos del pueblo que defendian á su ministro, que veneraban por padre y lo procuraron defender, sacaron á la plaza al reverendo Padre Fray Juan de Jesús. . . . Hincado de rodillas, con actos de amor de Dios, esperaba su santa voluntad con un Cristo en la mano, en interin que altercaban en su defensa; cuando uno de los que le asistian, con una espada le pasó los pechos." Also *Menologio*, p. 275. Fray Francisco de Ayeta, *Nombres, Pa-*

with the Alcalde Mayor, Luis Granillo, and three soldiers, succeeded in escaping in the direction of Cia, hotly pursued by the Indians. But the Lieutenant-General, Alonzo Garcia, with a few mounted men, rescued them at midnight.<sup>1</sup>

*trias, y Provincias, de donde son Hijos los veinte y un Religiosos que han muerto los Indios Apostatas del Nuevo Mexico*, MS., in his letter to the Viceroy, dated Sept. 11, 1680. The remains of Fray Juan de Jesús were exhumed by Diego de Vargas on the 8th of August, 1694. They were found in the first square of the pueblo close to an estufa, and showed that the body had been pierced by an arrow. The shaft of the arrow was found with the skeleton. *Certificacion de los Huessos del Venerable Pe Fray Jua de Jesús*, August 11, 1694, MS.: "Entrando en la primera plaza donde se hallaba la estufa, que señalan á un lado de ella los dichos Indio é India, se halla enterado dicho cuerpo, . . . se halló al levantarlo por las espaldas y parte del espinazo, tener una punta de jara del tamaño de poco mas de un jeme, cuyo palo estaba al parecer en su mero color del que usan y traen los Indios para herir y matar, de dicho genero de flechas."

<sup>1</sup> I have already alluded to this in the previous chapter. The Alcalde Mayor Granillo says of it (*Diario de la Retirada*, fol. 50): "Asistiendo en el pueblo de Indios Xemes tuvo noticia y aviso cierto de un Indio llamado Lorenzo Muza que había entrado un embajador de los enemigos de nacion Xemes, el qual entró en dicho pueblo cantando la victoria, y diciendo, ya matamos al Gobernador de los Españoles, y á otros muchisimos Españoles, y no ha de quedar ninguno vivo, porque es muchisima la cantidad de enemigos así Apaches infieles, como todos los Christianos en general, y así coged las armas y natad Estos Españoles y Frayles que hay aquí, y así con efecto lo hicieron los dichos Indios Xemes, pues viendo el religioso, dicho Alcalde Mayor, y tres soldados que tenía en compañía, montarnos á caballo para retirarnos, envistieron los Indios Xemes con nosotros con tal osadía que nos vinieron siguiendo mas de dos leguas así ellos peleando como nosotros resistiendo, en cuya ocasion, fué Dios nuestro Señor seruido que nos encontrase el dicho Teniente General." The Lieutenant-General Garcia states (fol. 42), that the Jemez pursued the fugitives: "Hasta el pueblo de Cia." On folio 39, he says he met them "en el campo como una legua del pueblo."

The above statements have a bearing upon the question whether there were two Jemez pueblos inhabited in August, 1680, and where they were located. Of one of them we are certain, — San Diego, in the Cañon and about twenty miles north of Cia. Had Fray Juan de Jesús been in the same village as the Alcalde Mayor and his three men, the Indians could not have taken him quietly out of the convent and held a long discussion over his fate. Luis Granillo was not to be trifled with in such a manner. He would have defended the priest at all hazards, and could have done it, and would have mentioned it in his testimony. On the contrary, he says that a messenger from the "Jemez enemies" entered the pueblo, shouting victory and bringing the news of the success of the out-



When Otermin made his unsuccessful campaign into New Mexico in the fall and winter of 1681, the Jemez retreated to the mesas.<sup>1</sup> They soon returned, however, to retire again to the heights, — possibly upon the approach of Don Domingo Gironza Petriz de Cruzate in 1688. In 1692 Vargas found them in a large pueblo on the top of one of the mesas, and he succeeded after long parleyings in entering their village. The people displayed marked hostility, however, and it required all the tact and courage of the Spanish commander to prevent an outbreak while he was there. He succeeded in conciliating them at last, as well as the Queres of Santo Domingo, who were in their company, and one hundred and seventeen children were baptized on the spot. The Jemez gave the usual promises to behave well in the future, while firmly determined, as the sequel proved, to resist the Spaniards to the utmost.<sup>2</sup>

I have already stated that the southern neighbors of the Jemez, the Queres of Cia, Santa Ana, and San Felipe, remained true to the Spanish cause, and that the Jemez therefore began to threaten, and finally to make war upon

break. Hence there was still another pueblo of the Jemez besides the one in which Granillo was stationed. The distance of that pueblo from Cia did not exceed four leagues, that is, at most, twelve miles, which corresponds to the interval separating Cia from the ruin on the delta between the Guadalupe and San Diego streams. Escalante (*Relacion*, p. 173) says of the outbreak of 1696: "Los Gemex de San Diego y San Juan se internaron, y aseguraron en la sierra de Gemex." I therefore believe that San Juan de los Jemez was inhabited in 1680, as well as San Diego, and that it lay on the delta below the point where the high mesas terminate.

<sup>1</sup> *Ynterrogatorio de Preguntas*, and *Interrogatorios*, MS.

<sup>2</sup> *Autos de Guerra*, 1692, fol. 145. On the evening of the 24th of October he went from the Cerro Colorado to the foot of the mesa where the Jemez dwelt, estimating the distance at two long leagues. On the day following he ascended the mesa "cuya suvida es muy mala," and he describes the pueblo on its top as follows: "Reconozí tiene dos plazas y en cada vna quatro quartteles qe vienen á estar guarnezidas y zerradas teniendo vna entrada la vna de ellas qe passa á la otra."

them. This occurred in the fall of 1693 and the spring of 1694.

Diego de Vargas visited the Jemez on their mesa a second time on November 26, 1693.<sup>1</sup> They reiterated their false promises of fidelity, and as soon as the Spaniards turned their backs sent threatening messages to Cia and Santa Ana, and began to molest the inhabitants by driving off their stock. Vargas at last, after having chastised the northern Pueblos and made several unsuccessful attempts to storm the Black Mesa of San Ildefonso, turned against the Jemez also. On his way thither he received a message to the effect that, on the 21st of July, (1694.) the Jemez and Navajos had attempted to surprise Cia, killing four of its inhabitants, but had been finally repulsed.<sup>2</sup>

Vargas, as soon as he reached the friendly Pueblos of Santa Ana and Cia, held a council with the leading men of both villages, and then marched with his force, said to have numbered one hundred and twenty Spaniards and some auxiliary natives, for the mesas above the San Diego Cañon. He left Cia at eight o'clock at night, on the 23d of July, and at a distance of four leagues, near the junction of the two streams, divided his men into two bodies. One of these, consisting of twenty-five Spanish soldiers under command of Eusebio de Vargas and the Indian allies, was to enter the gorge of San Diego and climb the mesa on a dizzy trail, so as to reach the rear of the highest plateau, while the main body, led by Vargas himself, ascended from the southwest. The Spanish commander had ascertained that the Jemez had evacuated their village on the

<sup>1</sup> *Autos de Guerra*, 1693, fol. 50. He went from the mesa of the Cias to "la Cañada de los Xemes en cuya messa tienen su pueblo." It seems, therefore, that the Jemez, after having abandoned their villages below, probably after 1688, remained on the mesas until 1694.

<sup>2</sup> Bartolomé de Ojeda, *Carta á Don Diego de Vargas*, MS., in *Autos de Guerra* of 1694, fol. 58. He says that the men of Cia killed one of the captains of the Jemez.

mesa, and retired to a still higher location north of it.<sup>1</sup> The operations were completely successful, and the Indians were taken between two fires; but they offered a desperate resistance. The total number killed on this occasion amounted to eighty-four, five of whom perished in the flames, and seven threw themselves down the cliffs rather than surrender.<sup>2</sup> Vargas remained on the mesas until the 8th of August, removing gradually the considerable stores found in the villages, and the prisoners, who numbered three hundred and sixty-one. Then, setting fire to both villages, he withdrew to San Diego, and thence to Santa Fé.<sup>3</sup> During his stay on the mesas he discovered a third pueblo, recently built there by the people of Santo Domingo, who had joined the Jemez tribe upon the approach of the Spaniards. That village is said to have been situated three leagues farther north, so that, within a distance of about twelve miles from the southern extremity, three pueblos had been constructed between 1688 and 1694, all of which were abandoned after the latter year.<sup>4</sup>

<sup>1</sup> *Autos de Guerra*, July 23, 1694, fol. 60: "Dijeron haver por las espaldas del peñol donde se han mudado los reveldes Xemes dejando su pueo de la messa vn camino qe por el sin ser sentida la gente yndiana puede suvir y que para hazerlo y yr resguardada es prezisso mande con ella yr veynte y zinco soldados con vn cauo y que el rresto de dho campo podía yr y suvir por la qe tienen dhos Yndios para bajar á sus milpas como al dho puo de la messa qe han dejado qe será su distancia de poco mas de vna legua desde la dha messa y suvida para dho peñol." He marched (fol. 62) "para el peñol poblado de los Xemes reveldes por las espaldas cuya travesía sería de los leguas largas para tomar el rumbo y suvida de el . . . y hauydo andado al parecer de quatro leguas largas serían la vna de la noche quando se diuidió la dha gente qe hauía de hazer dha ymbazon por dho rumbo yendo el dho Capitan Evseuio de Vargas y ella la gente y campo que quedaua conmigo la haría por la suvida prinzipal de la messa del pueo des poblado." Escalante, *Relacion*, says that Vargas ascended from the southwest.

<sup>2</sup> *Autos de Guerra*, fol. 63, 64: "Á las quatro de la tarde todo estaba terminado."

<sup>3</sup> *Ibid.*, fol. 81 to 84.

<sup>4</sup> *Ibid.*, fol. 70 to 77.

These historical facts warn the investigator not to take all the ruins in the Jemez region for those of pre-historic settlements. At least ten of them are those of villages that were abandoned only between 1598 and 1680, and three, perhaps four, those of pueblos built, occupied, and forsaken between 1688 and 1694. It is possible that some ruin may be a reconstruction of an ancient pueblo, or, it may be, built with material taken from some ancient ruin, so that the original character of the remains has become transformed by modern intrusion, especially in manufactured articles. These are points which the archæologist should not lose sight of when, as I sincerely hope, the ruins of the Jemez region may be made the object of a thorough study.

For the sake of completeness I will add here that San Diego de Jemez was reoccupied after 1694, and inhabited until June, 1696. Again a priest took up his residence at the pueblo, Fray Francisco de Casaus, otherwise known as Fray Francisco de Jesús. He soon noticed the evil designs of his Indian parishioners, and gave repeated warning to his superiors.<sup>1</sup> Vargas, however, paid no heed to them, and on the 4th of June of that year the last important insurrection of the Pueblos broke out. The priest of Jemez was murdered, and the tribe again fled to the mountains.<sup>2</sup> They had not time, however, to construct a new village on the mesas, but only to rear temporary shelter. Their first step was to secure assistance from the Navajos, from Acoma, and from Zuñi, and to make hostile demonstrations against Cia, Santa Ana, and San Felipe. There was a small Spanish detachment, commanded by the Captain Miguel de Lara, stationed at Cia, and that officer, together with the Alcalde Mayor of

<sup>1</sup> *Peticion del Defnitorio del Nuevo Mexico & Don Diego de Vargas*, March 13, 1696. *Representacion del Defnitorio*, March 22, 1696, MS.

<sup>2</sup> This event is too well known to require special authorities to be quoted.

Bernalillo, Don Fernando Duran y Chavez, took the field against the superior numbers of the insurgents on the 29th of June. A fierce conflict took place, partly in the San Diego Cañon, partly at the ruins of the pueblo of San Juan, in which the Jemez and their allies were routed with the loss of thirty men.<sup>1</sup> This defeat broke up the confederacy with Acoma and Zuñi, and caused the Jemez to flee to the Navajo country. When Lara reconnoitred the mesas in August following,<sup>2</sup> they were deserted. For several years the Jemez remained among the Navajos, until they finally returned to their old range, establishing themselves at or near the site of their present village.

In regard to the artificial objects found at the Jemez ruins, I refer to the splendid collections made for the Smithsonian Institution by the indefatigable Mr. Stevenson, and to his description of them.<sup>3</sup> On the site of Ginseua I noticed a coarsely glazed pottery, obsidian, and flint.

In conclusion, I would call attention to the name of one of the old Jemez pueblos, given to me by the Indians as "Pe-cuil-a-gui." "Pä-cuil-a" is the name for the tribe of Pecos, and the Pecos spoke the Jemez language. It would be well to investigate whether Pe-cuil-a-gui designates a Jemez pueblo inhabited previously to the secession of the Pecos. The division of the Jemez into two branches, separated from

<sup>1</sup> *Autos de Guerra*, 1696, fol. 70 to 94. The letters of the Alcalde, of Miguel de Lara, and of Bartolomé de Ojeda. The last states the loss of the enemy at forty killed; Lara, at only twenty-eight. It is singular that Escalante, who had access to the official papers at Santa Fé, makes no mention of this engagement, which was the most bloody one of the war, and at the same time the most important, since it broke up the Jemez tribe and frightened the Acomas and Zuñis to such a degree as to cause them to withdraw their warriors. Of the Acomas eight were killed, of the Zuñis none.

<sup>2</sup> *Autos de Guerra*, fol. 14. Lara captured an Indian, who, in his deposition, stated that the Jemez had mostly fled to the Navajos, and that only a few families were with the fugitive Queres from Cochiti.

<sup>3</sup> *Report of the Bureau of Ethnology*, 1880-81, p. 417.

each other by the ranges of two distinct and different linguistic stocks, is an interesting phenomenon, though not unique in the ethnography of New Mexico. It occurred long before the sixteenth century. Nor should it be overlooked, that, according to the investigations of Mr. Gatschet, the Jemez and Pecos language belongs to the same group as the Tehua, Tigua, and Piro idioms, while the Queres, which intervened between the Jemez, Tanos, and Pecos, has not yet been classified with any of the former.<sup>1</sup>

<sup>1</sup> *Classification into Seven Linguistic Stocks of Western Indian Dialects*, U. S. Geographical Survey west of 100th Meridian, vol. vii. p. 416. In his former publication, *Zwölf Sprachen aus dem Südwesten Nord-Amerikas* (p. 47), the same authority says that the Jemez and Tigua are only dialectically differentiated: "Bau und Wortvorrath dieser Sprache gleicht durchaus dem des bloss dialektisch verschiedenen Isleta."

## VI.

## THE TIGUAS AND THE PIROS.

AT the close of the last chapter I stated that the language spoken by these two tribes is related to the idioms of the Tehuas, consequently also of the Tanos, Taos, Picuries, and Jemez. The Tigua language is virtually the same as that spoken at Taos and Picuries, the difference not being greater than that between dialects of Southern Germany and those of some of the northern Cantons of Switzerland.<sup>1</sup> It follows, and is recognized at Taos as well as at Isleta, that the most northerly and the most southerly pueblos in New Mexico are Tiguas, separated from each other by a stock linguistically related, the Tehuas, and by one whose linguistic affinities appear much more remote, the Queres. The phenomenon which we have observed in regard to the Jemez, namely, a division into two branches settled apart from each other, is repeated by the Tiguas. In an air line the most southerly village of the northern Tiguas, Picuries, lies eighty miles north of the most northerly settle-

<sup>1</sup> I have heard Indians from Taos and from Isleta converse with each other a number of times, and always in their respective dialects, without the aid of an interpreter. Benavides, about the year 1629, recognized the Taos and Picuries as Tiguas. Of the latter he says (*Memorial*, p. 30): "Y aunque estos Indios son de nacion Tioas, por estar tan apartados dellos, suponen por si." Of the Taos he states "de la misma nacion que el antecedente, au que algo varia la lengua." Mr. A. S. Gatschet, the eminent linguist, has termed the southern Tigua "Tano." He has in this been misled by Oscar Loew. The Tanos idiom is a dialect of the Tehua, and has no more in common with the idioms of Isleta and Taos than the Tehua has with the Tigua in general.

ment of their southern kindred. I have already alluded to this geographical division of the Tiguas in the first part of this Report,<sup>1</sup> but mention it again, since it took place at some yet unknown period anterior to the sixteenth century, and is therefore an historical fact coming down from pre-historic times.

The Piros, as far as known, have no kindred in the northern parts of the Southwest; except in as far as their idiom is shown to be related to those of the tribes specified above. Their range lay south, adjacent to that of the Tiguas; and they were, and are to-day, by reason of their single village, Senecú in Chihuahua, the most southerly branch of the Pueblos. Although the Piros and Tiguas were not able to understand each other's speech, they were near neighbors on the Rio Grande, only a few miles formerly intervening between the last Tigua pueblo on the south and the extreme northerly village of the Piros.<sup>2</sup>

The two tribes were subdivided geographically into two groups: one of these subdivisions of each tribe dwelt in the valley of the Rio Grande, the other east of it, near the Salt Lagunes of the Manzano.

#### THE RANGE OF THE RIO GRANDE TIGUAS.

(Latitude 35°.2 to 34°.4 N.)

This narrow strip, limited to the immediate vicinity of the river on both of its banks, begins in the north about the

<sup>1</sup> Pages 123 and 129.

<sup>2</sup> Be-Jui Tu-ay, or the ruin of San Clemente, near Las Lunas, was a pueblo of the Tiguas, but in all probability not the extreme southerly settlement. On the other side, the Piros villages must have been quite near. Espejo (*Relacion del Viage*, p. 112) says that only half a league (1½ miles) separated the Tigua from the Piros country: "Y á media legua del distrito della hallamos otra que se llama la provincia de los Tiguas." In 1680, Isleta was the most southerly Tigua



present town of Bernalillo, and extends as far south as Los Lunas. Ruins are comparatively numerous, and justify the statements of the old Spanish chroniclers, who give the number of the Tigua villages on the Rio Grande at from twelve to sixteen.<sup>1</sup> At an early date in the annals of Spanish domination the number of the villages was reduced; not through depopulation, but through the consolidation of smaller settlements with larger ones, for the security of their inhabitants, as well as to congregate them about the missions. Thus, in 1680, the Tiguas occupied only four pueblos: Puaray, opposite Bernalillo; Sandia, or Na-fi-ap; Alameda, on the left bank of the river; and Isleta or Tshi-a-uip-a, thirty miles farther south, on the right bank. Of these villages, Sandia and Isleta were large, but Puaray was on the decline.<sup>2</sup> Between Alameda and Isleta were scattered a num-

pueblo, and Sevilleta, to-day La Joya, the most northerly of the Piros. The distance by rail is about thirty miles.

<sup>1</sup> Castañeda, *Cibola*, pp. 167, 182. This applies to Tiguex alone. If Tutahaco was a Tigua country there would have been twenty pueblos in all. I shall examine further on whether "Tutahaco" may be considered as a Tigua district, and for the present limit myself to Tiguex. The *Relacion Postrera* (MS) says: "El que esto dize vió doze pueblos en cierto compas del rio: otros vieron mas, dicen, el rio arriba: abaxo son todos pueblos pequeños, salvo dos que tienen á docientas casas." Oñate (*Discurso de las Jornadas*, p. 253) says that between Sabinal and Puaray there were many villages on both sides of the river. Espejo (*Relacion*, p. 112) mentions eight pueblos between La Joya and Bernalillo. Benavides in 1629 (*Memorial*, p. 22) says that on a stretch of twelve to thirteen leagues the Tiguas on the Rio Grande occupied fifteen or sixteen pueblos, with about seven thousand inhabitants.

<sup>2</sup> Vetancurt (*Crónica*, pp. 310 to 313) assigns to Isleta 2,000 inhabitants, to Alameda 300, to Puaray 200, and to Sandia as many as 3,000. It is certain that both Sandia and Isleta were comparatively important pueblos. As early as 1617 the former is mentioned as one of the leading missions of New Mexico. *Autos del Proceso contra el Soldado Juan de Escarramad*, 1617, MS. Also by Zárate-Salmeron, *Relaciones de todas las cosas*, par. 11. The first church of Sandia was already in existence in 1614. Zárate says: "El cuerpo del santo Fr. Juan Lopez estuvo oculo mas de 33 años, al cavo de los quales vn Indio del pueblo de Puaray . . . lo descubrió al Pe Fr. Estévan de Perea. . . . El qual cuerpo, ó por mejor decir huesos se llevaron, . . . hasta colocarlos en la Yglesia de Çandia."

ber of Spanish "haciendas" or "ranchos."<sup>1</sup> The site now occupied by the town of Bernalillo was therefore in the hands of the Tiguas until they finally abandoned their pueblos. Bernalillo was founded by Vargas in 1695,<sup>2</sup> after the

<sup>1</sup> Compare *Diario de la Retirada*, 1680, fol. 35. From Sandia Otermin marched "para la estancia de Da Luisa de Trugillo," three leagues distant from Sandia (8½ miles). Opposite to it stood the hacienda of the Lieutenant General Alonzo Garcia. "De este parage se marchó otras quatro leguas á la hacienda de los Gomez, sin ver mas enemigos y en todo este camino que hay desde el pueblo de Zandia hasta esta estancia, se hallaron todas disiertas robadas, asi de ganados como de las cossas de casa, siendo muchas las haciendas que hay de una y otra vanda del rio." The hacienda of the Maestro de Campo Juan Dominguez de Mendoza lay "en la jurisdiccion que llaman Atrisco tres leguas antes del pueblo de la Alameda." *Ynterrogatorio de Preguntas* (testimony of Mendoza). According to the *Testimonio de Diligencias sobre la Fundacion de Albuquerque de Santa Maria de Grado, de Pujuaque, y Galisteo*, (1712, MS.,) there were, before the outbreak of 1680, nineteen ranchos, haciendas, etc. of Spaniards in the vicinity of where Albuquerque now is. See also *Peticion de los Vecinos de Albuquerque al Cabildo de Santa Fé*, 1708, MS.

<sup>2</sup> The date of the foundation of Bernalillo is taken from Escalante, *Relacion*, p. 169, sexto cuaderno. In the archives of the Surveyor General's office at Santa Fé there exists a *Revalidacion de la Merced de Bernalillo*, 1704, MS. The original grant to Felipe Gutierrez was presented on December 3, 1700, and claims "un Citio que se alla de esta banda del Rio del Norte en frente de la casa del Capitan Diego Montoya que llaman el Ancon del Tejon que coje legua y media de distrito."

I attach importance to the location of old Spanish habitations, because some of them in other parts of New Mexico have been taken for Indian ruins. For example, on the road from Santa Fé to Peña Blanca, eight miles southwest of the capital, near Bernalillo, there is a ruin which, I am informed, has been regarded as that of a pueblo, while it is in fact only that of a former hacienda or estancia of Juan Ramirez. Its owner was implicated in the assassination of Governor Luis de Rozas in 1642, and, although pardoned, he fled the country in the following year. Thereupon his property was confiscated, and converted into a post for one officer and fifteen soldiers. In 1680 that post no longer existed. See *Carta de Justicia, Autos, y Comisson al Sargento Mayor Franco Gomez*, October 20, 1643, MS.: "Y porque la dha estancia y sitio que esta á la orilla del Rio del Norte entre el pueblo de San Phelipe y el de Sandia y ser el comercio mas principal y por çosso de los poblaciones de este dho Reyno." According to the *Diario de la Retirada* (fol. 32 *et seq.*), the last Spanish house between San Felipe and Sandia was the hacienda of Cristobal de Anaya, two leagues south of San Felipe, in the vicinity of Algodones.

The three pueblos of Puaray, Sandia, and Alameda were burned by order of

Spanish power had been re-established. Albuquerque dates back to the year 1706.<sup>1</sup>

The valley of the Rio Grande is very fertile, but from Bernalillo to Albuquerque the cultivable lands lie mostly on the east side of the river, where the gravelly "lomas," or dunes, lie nearly two miles back from the stream. Beyond these dunes extends an arid table land to the foot of the Sierra de Sandia. The town of Bernalillo lies 5,084 feet above sea level, and the base of the Sandia Mountains is not over five miles distant. The summit is 10,609 feet high, and the western front descends in almost perpendicular cliffs and crags. The appearance of this chain, as seen from the town or from the opposite river bank, is therefore unusually impressive.

There stood at least one pueblo, perhaps two, on the site of Bernalillo during the sixteenth century, and there is no doubt that the group of villages which the Tiguas occupied on both sides of the river, between the Mesa del Cangelon and Albuquerque, was what the chroniclers of Coronado's expedition call Tiguex or Tiguez. Which of the numerous villages was the one destroyed by the Spaniards in the winter of 1540, is not ascertained, but it certainly was not Puaray. The description given by Castañeda of the locality is confused, and conflicting.<sup>2</sup> The events at Tiguex are a dark stain on

Otermin, in December, 1681. *Ynterrogatorio de Preguntas*. In 1683 they had not been rebuilt. *Declaracion de un Yndio Pecuri*, August 1, 1683.

<sup>1</sup> *Testimonio del Mandamiento del Virrey Duque de Alburquerque sobre la Fundacion de la Villa de Alburquerque*, 1705, MS. Escalante, *Relacion*.

<sup>2</sup> Castañeda (*Cibola*, p. 167, chap. iv., part ii.) describes Tiguex as follows: "La province de Tiguex contient douze villages, situés sur les rives d'un grand fleuve; c'est une vallée qui a environ deux lieues de large. Elle est bornée, à l'occident, par des montagnes très-élevées et couvertes de neige. Quatre villages sont bâtis au pied de ces montagnes, et trois autres sur les hauteurs." The great river cannot have been any other than the Rio Grande, but the high mountains to the west of it are somewhat puzzling. I have not the Spanish text of Castañeda at my command, and therefore cannot determine how far the word "occident" may be correct. Ternaux-Compans is a not very re-

the name of Coronado. He erred through weakness and credulity, and his subordinate, Garcia Lopez de Cardenas, displayed cruelty and deliberate treachery. The statements of Castañeda alone would not warrant such accusations, for that chronicler is extremely prejudiced in everything concerning the officers of the expedition, and therefore unreliable. But the fact that Cardenas was afterwards severely punished for his misdeeds at Bernalillo, and the testimony

liable translator. As to the width of the valley, two leagues, or a little over five miles, agrees with the distance from the foot of the Sandia Mountains to the river banks. North of Tiguex was the "province of Quirix," who were evidently the Queres; and from Tiguex Coronado communicated with the Cias. There were no pueblos between Tiguex and the Queres, either those on the Rio Grande or those on the Jemez River. Hence Bernalillo is the only point corresponding to these data. If the statement that the high mountains were west of the Rio Grande is really in the original, then the only places which would agree with the description are Cochiti, thirty miles north among the Queres, and the vicinity of Socorro, ninety miles south of Bernalillo. But neither agrees with the other data, and especially not with that remarkable statement of Castañeda (p. 182.), "Tiguex est le point central." The *Relacion Postrera* states: "Desde alli (Acuco or Acoma) al rio de Tiguex ay veinte leguas: el rio es quasi tan ancho como el de Sevilla, aunque no es tan hondo: va por tierra llana: es buen agua: tiene algun pescado, nasce al norte." From Acoma to Bernalillo the distance is, indeed, very nearly the number of miles (55) indicated, not by the wagon road, but in a direct line. Conclusive geographical evidence lies in the description of the route from Tiguex to Pecos. From no other point on the Rio Grande could such a route be traced. Socorro lies in an air line 130 miles from Pecos, and no troop of cavalry, however well guided by Indians, could make the trip in four days. Considering the long detours required, the route from Cochiti is entirely different from the one described. In place of only four villages, the Spaniards would have seen at least half a dozen. Castañeda must therefore have made the mistake of placing the Sandia Mountains west of the river instead of east, a mistake quite possible after a lapse of twenty-eight years, or his translator must have committed the error.

For the historical evidences in favor of the identity of Bernalillo with Tiguex I refer to Part I., p. 129, note 2, and would only add that Mota-Padilla (*Historia de la Nueva Galicia*, chap. xxxii. p. 160) says that the village of the Tiguas, where the Spaniards lodged, was called "Coofer"; this I have not been able to identify.

As for the word Tiguex, the Tiguas call themselves Ti-guan; but a woman of Isleta in my presence plainly pronounced the plural of that name Ti-guesh; "x" in old Spanish records of Mexico has the sound "sh."

of other eyewitnesses, prove how reprehensible was his conduct.<sup>1</sup>

I will not enter into details concerning this bloody episode. The origin of the conflict is variously stated, and was in all likelihood an inevitable result of the contact of people unable to understand each other, with views and customs directly at variance. Where the first wrong lay I shall not attempt to decide, but the massacre of prisoners after their surrender by order of Cardenas was not, as that officer afterwards alleged, the unfortunate result of a misunderstanding.<sup>2</sup>

Whether the ruin on the Mesa del Cangelon is that of a Tigua pueblo, or whether it was the ancient pueblo of the Queres of Santa Ana, is still doubtful.<sup>3</sup> But it is, at all events, the first of a series of ruins scattered along the right bank of the Rio Grande. The bluffs on that side hug the river bank quite closely, leaving only a narrow strip of fertile bottom, but affording excellent sites for lookouts. A huge lava flow approaches these bluffs from the west, and reaches the river south of Bernalillo, receding from it again near Albuquerque. It is separated from the great lava deposits of San Felipe by

<sup>1</sup> The most circumstantial report on the events at Tiguex, besides the one of Castañeda, is contained in Mota-Padilla, *Historia*, chap xxxii. He says of the massacre of the prisoners: "Esta accion se tuvo en España por mala, y con razon, porque fué una crueldad considerable, y habiendo el maese de campo Garcia Lopez pasado á España á heredar un mayorazgo, estuvo preso en una portaleza por este cargo."

<sup>2</sup> *Ibid.*: "Mataron con crueldad los nuestros mas de ciento y treinta gáñdules, teniendolos por bestias porque no entendían, y es que no había interprete." Castañeda throws as much blame upon Coronado as upon his lieutenant. But I think Castañeda is not to be trusted in a case like this. He is quite reliable in everything where his companions are not concerned, but as soon as he treats of the officers or men of the expedition he is either strongly for or violently against them, as his slanders upon Fray Marcos de Nizza plainly show.

<sup>3</sup> I have lately been informed that there is a ruin opposite Algodones, in which case the one on the Cangelon must have been a Tigua pueblo. Not having investigated the locality myself, I withhold my opinion.

the sandy bottom of the Jemez stream, and by a low mesa with reddish soil that faces Bernalillo. On the brink of that mesa stand four ruins, directly opposite the latter town.

North of the bridge across the Rio Grande lie the remains of a considerable village. I have not been able to ascertain whether it was one of the historical pueblos of Coronado's time, or whether its abandonment antedated 1540. The name given to me by the Sandia Indians, Kua-ua, seems to designate the site and not the ruin. Still it may also have been the name of the latter. Figure 24 of Plate I. is intended for a representation of its ground plan, and it will be seen that the village consisted of a main building with two wings, and a projection from the middle parallel to the wings. Another ruined structure, measuring 55 by 22.3 meters (168 by 68 feet), stands in front of this building, almost equidistant from the eastern ends of the northern wing and the central projection. The northern wing is 149 meters (455 feet) long, the west side of the house 132 meters (403 feet), and the southern wing 60 meters (210 feet); so that this building is one of the largest of the pueblo houses of New Mexico.<sup>1</sup>

It is impossible to determine exactly how many stories this great house originally had, but it seems almost certain that there were more than two in some parts of it; I therefore estimate its population at not over six hundred souls.

I was unable to detect any estufas, yet it is by no means certain that there were none outside the dwellings; the ground is covered with rubbish, and the circular depressions might have escaped my notice or have become filled up; or they may have been built inside among the rooms. The foundations show rubble and adobe, and most of the

<sup>1</sup> The large house at Pecos has a perimeter of 362 meters (1190 feet), and the "Pueblo Bonito" comes next to it; the length of the two wings at Kuaua and of the western side, together, is 350 meters (1063 feet).

walls are of the latter material. Their thickness varies from 0.17 to 0.38 m. (7 to 15 inches), and the average size of fifty-five rooms is 4.1 by 2.8 m. ( $12\frac{1}{2}$  by  $8\frac{1}{2}$  feet).

The pottery is largely of the type with coarsely glazed decorations, and I saw no corrugated fragments; but common cooking pottery, plain black, was also well represented. Much obsidian, moss-agates, chips of flint and lava, broken metates and "manos," and a few bits of turquoise, were the other objects lying about on the surface. The site also bears the Spanish name of "Torreon"; but I saw no trace of a round tower, as the designation would imply.

South of the bridge a short distance from Kuaua, on a rather elevated dune, are low mounds covered with bits of pottery, obsidian, and rubble. One of them forms a hollow quadrangle about 30 meters square (95 feet), and 300 feet south of it are two others. The mounds show great decay in both places, as if they were the ruins of houses much older than those of Kuaua.

In front of the southern portion of the town of Bernalillo, in a situation very similar to that of Kuaua, on a gravelly bluff overlooking the river, from which a magnificent view is enjoyed of the formidable Sierra de Sandia, stand the remains of the historic pueblo of Puar-ay, or Village of the Worm or Insect.<sup>1</sup> For its ground plan I refer to Figure 25 of Plate I. It was smaller than Kuaua, and I doubt whether its population ever exceeded five hundred souls.<sup>2</sup> Nothing but foundations and

<sup>1</sup> Vetancurt had heard of this signification of the word. *Cronica*, p. 312: "El nombre Puray quiere decir gusanos, que es un genero de que abunda aquel lugar." Whether by "gusano" a worm or a beetle, a centipede or a julus, is meant, I cannot tell. I noticed at the ruins of Kuaua a number of Coleoptera of a singular species, which attracted my attention the more, as beetles are scarce in New Mexico.

<sup>2</sup> Vetancurt (*Ibid.*) assigns to it "doscientas personas de nacion Tiguas y labradores españoles."

mounds remain, but recent excavations have revealed fairly well preserved rooms beneath the rubbish. The manufactured objects are like those at Kuaua, and the main buildings were built of adobe. Two smaller constructions, lying east and south of the first, appear to have been built of blocks of lava or trap. The one east may have been the chapel which existed at Puaray until 1681.

This village is also called "Pueblo de Santiago," although the patron saint of Puaray was St. Bartholomew.<sup>1</sup> From what this modern appellation was derived I cannot surmise. That it was really Puaray was asserted by Indians of Sandia, and it also follows from the location of the so called Gonzalez grant.<sup>2</sup> The correct location of Puaray is not devoid of importance, since it is not only an historical pueblo in the general sense, but a site around which cluster historical reminiscences of an almost romantic character.

That Puaray existed in 1540 may safely be assumed, although

<sup>1</sup> Ibid.: "La iglesia es al apostol San Bartolomé dedicada." Zárate, in *Relaciones de todas las cosas*, par. 7, makes a distinction between the pueblo of Santiago and Puaray. After stating that Fray Fr. Lopez and Fray Agustin Rodriguez had established themselves at Puaray and the former had been killed there, he adds: "El capitan del pueblo dió muestras de sentimiento por la muerte del religioso y porque no sucediese lo mismo con el religioso lego que quedaba, se lo llevó consigo al pueblo que se llama Santiago, legua y media el rio arriba." On the other hand, Espejo, who followed the tracks of the murdered missionaries less than one year after their death, says of the Tigua pueblos, "one of which is called Puala, where we found that the Indians of this province had killed Fray Francisco Lopez and Fray Agustin Ruiz." If Puaray is where I have been told, then the pueblo "of Santiago" is the one on the Mesa del Cangelon.

<sup>2</sup> *Venta Real al Capitan Juan Gonzalez*, 1711, MS. Vetancurt (*Crónica*, p. 312) locates Puaray "cerca de una legua de Zandia á la orilla del rio." Otermin (*Interrogatorios de Varios Indios*, fol. 124) says: "En este parage del Rio del Norte, y campo que da vista á los tres pueblos de la Alameda, Puary, y Zandia." Nothing can be gathered from the *Ynterrogatorio de Preguntas* except that the three pueblos mentioned lay near to one another. Villagran, who was at Puaray eighteen years after the death of the missionaries, intimates that at least two of them were killed there. *Historia de la Nueva México*, 1610, canto xv. fol. 137.



its name does not appear in the annals of that time. It looms up conspicuously, however, during the second Spanish attempt to penetrate into New Mexico. This was the expedition of 1580, when Francisco Sanchez Chamuscado, with eight soldiers and seven Indian servants, accompanied the Franciscan missionaries Fray Francisco Lopez, Fray Juan de Santa Maria, and the venerable Fray Agustin Rodriguez from Santa Barbara in Southern Chihuahua to the Tigua country about Bernalillo. It was a remarkable undertaking, and accomplished with wonderful tact as well as courage. Not a single conflict with the Indians marred the harmony of Chamuscado's intercourse with the Pueblos, and he succeeded in reaching Zuñi on the west, and in visiting the Salines of the Manzano on the east of the Rio Grande without the slightest opposition. But after the escort had left the friars at their posts, the Indians turned against the defenceless missionaries and slew them one after the other.

Of the murder of Fray Juan de Santa Maria I have already spoken. Fray Francisco Lopez was certainly killed at Puaray, and it is not unlikely that Fray Agustin Rodriguez met death at or very near the same pueblo. This occurred in the winter of 1580, but the exact dates are not known.<sup>1</sup> The reports of this massacre reached Santa Barbara in the following summer,

<sup>1</sup> I have treated at length of this episode elsewhere. All the authorities except Zárate-Salmeron mention the death of Father Rodriguez as having occurred at Puaray. Villagran (*Historia*, fol. 137) is perhaps the most positive witness, and he antedates Zárate by nearly thirty years. Yet the latter deserves great consideration, for he came as a missionary at a time when the history of the murder of the monks was much talked of in New Mexico, owing to the recovery of the body of one of them. I regard them as conjectural, as there was no means of fixing the day, and scarcely the month. Vetancurt (*Menologio*, pp. 404, 412) places the death of Father Lopez on the 21st, and that of his companion on the 28th of December. In this he only copies the martyrologies. Artur von Munster, *Auctarium Martyrologii Franciscani: Das ist Vermehrung dess Franciscanischen Ordens Calenders*, 1659, pp. 675, 691. Upon what grounds the dates were established I do not know.

and brought about the expedition of Espejo, which was as successful and conducted with as much skill as that of Chamuscado. Espejo had only fourteen Spaniards with him, and it is well established that he penetrated farther west than the Moquis. At Puaray the Indians fled on his approach, fearing he might take vengeance for the murder of the friars; but he succeeded in allaying their fears in time.

In 1591 Castaño de Sora also visited the Tigua country, and held peaceable intercourse with its people.<sup>1</sup> This was the case also when Oñate moved up the Rio Grande valley, in 1598, with his body of soldiers and colonists. He spent a night at Puaray. In one of the larger rooms, in which the priests who accompanied him were quartered, they discovered a painting on the walls partially effaced representing the killing of the missionaries in 1580. Oñate gave strict orders not to show any resentment at the sight, but to act as if the painting had not been noticed.<sup>2</sup>

<sup>1</sup> *Memoria del Descubrimiento*, p. 256: "Y por lo que allí había y en toda la tierra nos habían dado, que eran estos pueblos los que habían muerto los padres que á nos dijeron, habían andado por aquí." He saw fourteen pueblos "á vista deste pueblo y á la orilla del rio." Some of the inhabitants fled upon Castaño's approach, but others were friendly.

<sup>2</sup> Oñate arrived at Puaray on the 27th of June. *Discurso de las Jornadas*, p. 254. The story of the painting is related by Villagran, *Historia*, fol. 137. The Indians had covered the painting with whitewash, but the colors shone through: —

" Y haciendo jornada en vn buen pueblo,  
 Que Puarai llamauan sus vezinos,  
 En el á todos bien nos recibieron,  
 Y en vnos corredores jaluegados,  
 Con vn blanco jaluegue recién püesto,  
 Barridos y regados con limpeça,  
 Lleuaron á los padres, y allí juntos,  
     ueron muy bien seruidos, y otro día,  
 Por auerse el jaluegue ya secado,  
 Dios que á su santa Iglesia siempre muestra  
 Los Santos que por ella padezieron,  
 Hizo se trasluziesse la pintura,  
 Mudo Predicador, aquí encubrieron

Up to 1680 there is nothing important to relate concerning Puaray. The Indians of that village participated in the outbreak of that year, and they, as well as those of Sandia and Alameda, evacuated their pueblos upon the approach of Otermin's forces in 1681. When it became known to the Spanish commander that negotiations at Cochiti with the rebels had failed through their duplicity, he ordered the three Tigua villages of Puaray, Sandia, and Alameda to be burned. Puaray was never reoccupied; it became the property of Captain Juan de Uribarri, and, later, of Captain Juan Gonzalez. It is to-day a bleak and desolate spot, treeless and barren, exposed to the high winds that sweep through the Rio Grande valley and to a scorching sun. The view from it eastward is highly impressive and grand; to the west it embraces only arid plateaux and forbidding crests of black scorix and lava.

Where the church and the school of the Christian Brothers at Bernalillo now stand, vestiges of a former pueblo which had been destroyed by fire were exhumed; also metates, skeletons, and jars filled with corn-meal. In addition to these remains I was told of a ruin near Sandia, of one near Los Corrales south of Bernalillo, and of the old pueblo of Alameda, about midway between Bernalillo and Albuquerque; but I visited none of these places.

Con el blanco barniz, porque no viessen  
 La fuerza del martirio que passaron,  
 Aquellos Santos Padres Religiosos,  
 Fray Agustin, Fray Iuan, y Fray Fráncisco.  
 Quios cuerpos illustres retratados,  
 Los baruarios tenfan tan al viuo,  
 Que porque vuestra gente no los viesse .  
 Quisieronlos borrar con aquel blanco,  
 Quia pureza grande luego quiso,  
 Nostrar con euidencia manifiesta,  
 Que á furo azote, palo, á piedra fueron,  
 Los tres Santos varones consumidos."

If the ruin at the Cangelon is that of a Tigua village, we should then have at least eight pueblos on a strip about thirteen miles long, from north to south, and quite narrow transversely. There are few localities in New Mexico where there are so many villages in such close proximity to one another. These villages were mostly built of adobe, and the testimony of the chroniclers of Coronado's time is unanimous, that the houses at Tiguex were of sun-dried brick, and not of stone or rubble, like those of other Pueblo groups.<sup>1</sup>

It is also noteworthy that the number of pueblos mentioned by Espejo as inhabited by the Tiguas in 1582 corresponds to the number of ruins pointed out to me about Bernalillo. Most of them are of pueblos of ordinary size, and the number of inhabitants they could shelter is in conformity with the number of people who are said to have inhabited in 1680 the three remaining ones of Puaray, Sandia, and Alameda.<sup>2</sup>

I have no knowledge of the existence of ruins in the immediate vicinity of Albuquerque, nor of any south of that town on the bleak level extending east of the Rio Grande between it and the northern end of the Manzano chain. The Sandia Mountains terminate north of the latitude of Albuquerque, or rather they merge into the Sierra del Manzano. The two are but the beginning of a long cordillera that runs in sight of the Rio Grande as far south as El Paso del Norte.<sup>3</sup> Opposite Albuquerque the river

<sup>1</sup> I limit myself to quoting Castañeda, *Cibola*, p. 169. *Relacion Postrera*: "Estas casas con las paredes como á manera de tapias. De tierra é arena muy recias: son tan anchas como un palmo de una mano." Mota-Padilla, *Historia*, p. 159: "Los pueblos de Tzibola son fabricados de pizarras unidas con argamasa de tierra; y los de Tiguex son de una tierra guijosa, aunque muy fuerte."

<sup>2</sup> I judge of the size of the pueblos which I have not seen by descriptions. Vetancurt (*Crónica*, p. 312) estimates the population of Sandia, Alameda, and Puaray at 3,500. This would give for the eight original pueblos the reasonable average of four hundred souls each.

<sup>3</sup> The elevation of Albuquerque is 4,919 feet (Wheeler); of Isleta, 4,881

bottom on the west is comparatively narrow, and hugged by abrupt volcanic cliffs. I have inquired at Atrisco, the settlement opposite old Albuquerque on the west bank, and invariably received the answer that there are no ruins nearer than the Mesa de las Padillas, a few miles north of the present pueblo of Isleta.

The Mesa de las Padillas is a projection from the rim of the volcanic plateau that lines the Rio Grande on the west. It is only 36 meters (119 feet) high, and quite steep. On its summit stands a small ruin in the shape of an L, one wing of which is 55 meters (180 feet) the other 53 meters (174 feet) long. Each of these wings, which stand not exactly at right angles to each other, contains two rows of cells, the longer having in all thirty-two, the shorter twenty-eight rooms. An estufa, circular and 6.6 m. (22 feet) in diameter, stands about eight meters from the longer wing. The pottery is of the glazed kind, mingled with corrugated and the ancient black and white. I found no obsidian, but fragments of trap and lava, and flint chips. The buildings were of lava, and probably but one story high.

This small pueblo is called by the Tiguas of Isleta, according to the investigations of Mr. Lummis, Pur-e Tu-ay, but the mesa itself is named Hyem Tu-ay. Mr. Lummis also heard a tradition that the village had to be abandoned in consequence of the number of venomous snakes on the mesa.

I am informed that there is a more extensive ruin at the

feet. The highest peak of the Manzano chain is 10,086 feet. The cordillera mentioned divides south of the Sierra del Manzano into the following sub-chains: Sierra Oscura, Sierra de San Andrés, Sierra de los Organos (9,108 feet), Sierra de la Soledad, and Sierra del Paso. Formerly the whole chain, including the Sandia, was called Sierra de los Mansos. Rivera, *Diario y Derrotero*, etc., 1736, p. 29: "Con la diferencia de haverse terminado el curso de la Sierra de los Mansos. Que desde el Presidio de el Passo, sin intermision corre hasta la vanda de el Ueste de la uilla de Alburquerque."

foot of the Mesa de las Padillas, on its northern side; that there are ruins on the east side of the Rio Grande, at the Ojo de las Cabras; and at least one ruin on the flanks of the volcanic heights west of Isleta. Adding to it Isleta, and the ruins of Be-jui Tu-ay, or San Clemente, near Los Lunas, this southern group of Tigua settlements, provided they were simultaneously occupied, appears to have consisted of at least six villages.

The earliest mention I find of Isleta dates from the year 1629; it was then already a mission with a resident priest.<sup>1</sup> This leads me to infer that the pueblo existed in the sixteenth century, although positive proof is wanting. In 1680, the village is credited with 2,000 souls.<sup>2</sup> Its inhabitants did not participate in the butchery of 1680, owing to the fact that the Spanish settlers in the lower Rio Grande valley took refuge in that pueblo as soon as the uprising occurred, and their communications with Santa Fé became interrupted. Their position at Isleta, however, was untenable, and they marched hurriedly southward.<sup>3</sup> When Otermin on his retreat from Santa Fé came in sight of Isleta, he found the place already abandoned by the Indians, who were joining the rebels.<sup>4</sup> In 1681 Otermin succeeded in surprising Isleta,

<sup>1</sup> Vetancurt, *Crónica*, p. 302: "En 22 de Julio, el año de 629, llegaron al convento de San Antonio de la Isleta, donde estaba entonces el custodio, algunos cinquenta Xumanas á pedir religiosos que les enseñasen la ley del Evangelio." The Custodio must have been Fray Estéban de Perea, since he arrived in 1629, with a number of priests. In 1636, Fray Francisco de la Concepcion was resident priest there. *Autos sobre Quexas contra los Religiosos del Nuevo México*, 1636, MS. Fray Juan de Salas is credited with the erection of the "convent" of Isleta. *Crónica*, p. 311: "El convento es de claustros altos y bajos, que el venerable Padre Fray Juan de Salas edificó." This must have been between 1628 and 1643; probably about 1630. In 1643 Father Salas was priest at Cuaray.

<sup>2</sup> Vetancurt, *Crónica*, p. 311.

<sup>3</sup> *Diario de la Retirada*, fol. 43 et seq.

<sup>4</sup> *Ibid.*, fol. 35: "Y otro dia prosiguió su marcha para el dicho pueblo de la Ysleta, y pasando á el lo halló despoblado de toda la gente y naturales, y sin

and capturing it without resistance; and upon his return he took several hundreds of the Tiguas along to the south, where they were subsequently settled at Isleta del Sur, in Texas, where there is to-day a pueblo of Tiguas. Northern Isleta remained vacant and in ruins until 1718, when it was re-peopled with Tiguas who had returned from the Moquis, to whom the majority of the tribe had fled during the twelve years of Pueblo "independence."<sup>1</sup>

Previous to the uprising Isleta had received accessions from the Tigua settlements near the Manzano, when those pueblos were abandoned in consequence of the Apaches.<sup>2</sup> This explains why the southern Tiguas of Isleta in Texas claim to have descended from Cuaray at the Salines. The fugitives from the latter village fled to Isleta, and were subsequently transported thence to the south. Old Isleta, the one abandoned after 1681, stood very near the site of the present village, on a delta or island between the bed of a mountain torrent and the Rio Grande, from which comes its Spanish name. I am not informed whether any remains of this pueblo are yet to be seen.

It is not unlikely that the cluster of Tigua villages near Isleta was the group of pueblos called Tutahaco by Castañeda and others; but the evidence is not sufficiently clear to warrant the assertion. The number of villages credited to

persona ninguna así religiosos como vecinos." Vetancurt (*Crónica*, p. 311) states that there were seven "ranchos" of Spaniards in the immediate vicinity of the pueblo previous to the insurrection.

<sup>1</sup> *Documentos formados por Don Antonio de Otermin sobre el levantamiento del Nuevo México*, 1681, MS. Escalante, *Carta al Padre Morfi*, par. 5. The latter states the number of Indians brought from Isleta by Otermin at 385, 115 having fled while Otermin marched northward. This explains the discrepancy between Escalante and Vetancurt (*Crónica*, p. 311), who gives the number of Tiguas carried south by Otermin at 519. The settlement of the Tiguas at Isleta del Sur is too well known to need quotations. See Part I., p. 86.

<sup>2</sup> I shall treat of this more extensively later. The Indians of southern Isleta told me that they had originally come from Cuaray.

Tutahaco is variously stated as from four to eight, and I have no means of determining how far from Tiguex to the south these were situated.<sup>1</sup>

It is also impossible to establish which was the last Tigua pueblo on the Rio Grande below Isleta. Be-jui Tu-ay is a Tigua name, signifying the village of the rainbow, and it was in all probability inhabited by Tiguas. Farther south, as far as La Joya, it is uncertain which pueblos were Tiguas and which belonged to the Piros. As stated in the beginning of this chapter, the two tribes were near neighbors, — unusually near to each other for the custom of tribal seclusion and isolation peculiar to Indian institutions.

<sup>1</sup> Castañeda assigns to Tutahaco and to the lower course of the Rio Grande eight villages (p. 182): "Tutahaco, huit (on trouve ces villages en descendant le fleuve)." Tutahaco must therefore have been on the Rio Grande. It was also below Tiguex, since he says (p. 76): "Le général remonta ensuite la rivière et visita toute la province jusqu'à ce qu'il fut arrivé à Tiguex." This number of villages included those of Tutahaco, and four villages much lower down, which were seen by a Spanish officer in the fall of 1541 (p. 139): "Un autre officier suivit la rivière en descendant, pour aller reconnaître quelques autres cours d'eau qui suivant les habitants de Tutahaco, se trouvaient de ce côté. Il s'avança pendant quatre-vingts lieues, découvrit quatre grands villages qui se soumièrent, et parvint jusqu'à un endroit où le fleuve s'enfonce sous terre." Deducting these four pueblos from the number given by Castañeda collectively, it leaves four for Tutahaco alone. Tutahaco is identified with Acoma by Jaramillo, *Relation du Voyage fait à la Nouvelle Terre* (French translation of the Spanish original, p. 370): "Entre le village de Civola et Tihuex, à une journée ou deux environ est un village situé dans une situation très-forte sur un rocher taillé à pic; il se nomme Tutahaco." Mota-Padilla (*Historia*, p. 159) calls it Atlachaco, and also confounds Acoma with the Tutahaco of Castañeda, since he places the "fortified pueblo, or surrounded by cliffs," in the "province" of Tiguex: "D. Francisco Vazquez Coronado pasado el invierno, trató de salir de Tzibola en demanda de la provincia de Tigués, que distaba sesenta leguas, en cuyo medio se halló un pueblo fortalecido y cercado de peñas, al que se le puso por nombre Atlachaco, y se llama Tigués la provincia, por un rio muy caudaloso, que los Indios conocian por este nombre." I am convinced that Castañeda is right in as far as he speaks of a cluster of pueblos south of the region of Bernalillo on the Rio Grande; but I suspect that he was mistaken in regard to the name. Tutahaco sounds suspiciously like Tuthla-huay, the Tigua name for the pueblo of Acoma.



## THE RANGE OF THE PIROS ON THE RIO GRANDE.

From the country of the Tiguas on the Rio Grande it might seem more appropriate to pass over to the range occupied by Indians of the same stock, east of the Sierra del Manzano, rather than to turn to the territory held by a tribe speaking a different language. Still I prefer the latter course, in order to remain in the same geographical section, and because the fate of the Tiguas and Piros of the Salines carried them back to their kindred in the Rio Grande valley, whence possibly they had originally drifted into the valleys and plateaux surrounding the eastern salt lagunes.

The stretch of ruins lining the river, to which I alluded in part in the preceding section of this chapter, continues south of Los Lunas, and as far as the northern extremity of the Jornada del Muerto. That is, ruins are scattered at irregular intervals, sometimes fronting each other on both banks, again alternately situated on the east and on the west. The Rio Grande bottom below Isleta in former times was covered largely with shrubbery and groves of cottonwood trees. Names like La Joya, Sabinal, and Alamillo, indicate the former existence of a denser vegetation than that which is found at these places at present.<sup>1</sup> Its disappearance is due, not to a change in the amount of atmospheric precipitation and an increase of aridity in the climate, but simply to the necessity of clearing the fertile bottom for agricultural purposes. This growth of trees and bushes was not continuous; it appeared in patches and strips, interrupted by expanses of

<sup>1</sup> The chroniclers of Coronado's journey speak only in general terms of the Rio Grande valley south of Isleta, and as far down as Mesilla. But when Chamuscado ascended the course of the river in 1580, the Indian settlements and their cultivated patches were noticed from San Marcial on to the north. *Relacion Breve y Verdadera* (Doc. de Indias, vol. xv. pp. 147, 148): "Á veinte é un dias del mes de Agosto, descubrimos un pueblo que tenía quarenta y cinco casas de dos y tres altos; y así mismo descubrimos grandes sementeras de maiz, frisoles

arid sand, and by the plots where the Indians of the pueblos raised their crops by means of irrigation. The number and extent of these fields, and of the irrigating ditches connected with them, attracted the attention of Spanish explorers at an early day.

The Rio Grande bottom widens about Los Lunas, and remains broad until it approaches the mouth of the eastern Rio Puerco. The muddy waters of this stream reach the river only during heavy storms, when it suddenly becomes a dangerous torrent. The settlement of La Joya has suffered repeatedly from such floods; but it has also suffered from drought, since in rainless years even the Rio Grande dries completely between Sabinal and the mouth of the Rio Puerco. Regular water supply for purposes of irrigation cannot be relied upon much farther south than Belen, twelve miles south of Los Lunas. In former times, when the State of Colorado was still a wilderness, the river "sank" occasionally at Mesilla, below the Jornada del Muerto. The Piros villages, however, were not exposed to this danger. On the contrary, everything points to the fact that the Indians were afraid of floods, and most of the ruins are situated on ground much higher than that occupied by modern settlements. Tomé stands on the site of a former pueblo, as the results of excavations have proved; and at the Casa Colorada, also on the east side of the river six miles south of Belen, stands the Pueblo del Alto, which, as its name implies, is situated above the reach of inundations. At the Sabinal there is at

y calabazas. . . . Y desde allí caminamos cincuenta leguas el rrio arriba donde en él y á los lados, como á una jornada, descubrimos y bimos y passeamos sesenta y un pueblos, poblados todos de gente vestida, y los dichos pueblos, muy en buen lugar, llanos y en buena tierra." Espejo, *Relacion del Viage*, p. 112. "Y de todo esto hay sementeras de riego y de temporal con muy buenas sacas de agua y que lo labran como los Mexicanos." According to him, the Piros occupied ten villages along the river, but more were in sight: "En dos dias hayamos diez pueblos poblados, rivera de este rio, y de una y otra banda junto á él, de mas de otros pueblos que parecían desviados."

least one ruin.<sup>1</sup> There are indications that these villages may have belonged to the Piro tribe; still it is not certain, and the first ruin which can be identified as that of a Piro pueblo is the one near La Joya, or that of the old village of Sevilleta, a pueblo well known in history. Oñate arrived there about the middle of June, 1598, and found the village to be small. On account of its situation, he called it New Sevilla; <sup>2</sup> a name afterwards changed to Sevilleta.<sup>3</sup> Thence he proceeded sixteen miles north to the next village, which he reached on the 24th of June, and called it San Juan Baptista. The distance agrees with that between La Joya and Sabinal, so that the ruin at the latter place can be considered as that of a pueblo still inhabited in 1598.<sup>4</sup>

<sup>1</sup> I speak from information given to me by various persons.

<sup>2</sup> *Discurso de las Jornadas*, p. 251: "Andobimos tres leguas al pueblecillo que llamamos Nueva-Sevilla por su sitio."

<sup>3</sup> Vetancurt (*Crónica*, p. 310) explains the name of Sevilleta: "Por la multitud que se halló de Piro." I prefer to adopt the explanation given by Oñate.

<sup>4</sup> *Discurso*, p. 252. He says the village was "nuevo, y despoblado por nuestra ida." Villagran, *Historia*, fol. 136:—

"Y por ser otro día aquella fiesta,  
Del gran San Juan Baptista, luego quisó,  
El General que el campo se assentase,  
En vn gracioso pueblo despoblado,  
De gentes vezinos, y abundoso,  
De muchos bastimentos que dexaron,  
Aquí con gran recato preuenidos."

The Spaniards held a tournament in honor of the day, and while they were engaged in it there came three Indians, who, to the great surprise of the whites, pronounced the names of some of the days of the week in Spanish, and also mentioned the Spanish names of two Indians who had been baptized during one of the previous expeditions into New Mexico, and had remained in the country. *Ibid.*, fol. 137:—

"Y estando junto del, algo risueño,  
El vno dellos, dixo en altas voces,  
Iueues, y Viernes, Sabado, y Domingo.

El mismo Baruario algo temeroso,  
Dixo Thomas, Christoual, señalando,  
Que los dos destos nombres, dos jornadas,  
Estauan de nosotros, bien cumplidas."

These two Indians were afterwards met at Santo Domingo, where they had

Sevilleta was subsequently depopulated and destroyed by fire, in consequence of intertribal wars;<sup>1</sup> but I am unable to say whether these hostilities were between Pueblo tribes or with nomadic Indians. In 1626, it was resettled, and a church built, dedicated to San Luis Obispo. It became the seat of a mission, which embraced several other Piro villages; being then the most northerly pueblo of that tribe.<sup>2</sup> This would lead to the inference that the pueblo at the Sabinal was either Tigua, or else abandoned between 1598 and 1626. In 1680, Sevilleta was reduced to a mere hamlet, its inhabitants fled with the Spaniards to El Paso del Norte, and the place was never resettled.<sup>3</sup>

Oñate makes no mention of the Piro village of Alamillo, situated a few miles south of La Joya, on a bluff not far from the banks of the Rio Grande. That bluff overlooks a pleasant bottom dotted by cottonwood trees, from which the place derives its name. Until the uprising of 1680, Alamillo had a church dedicated to Saint Anne, and its population in that year amounted to three hundred.<sup>4</sup> It is known that the Piro did not participate in the general uprising of the Pueblos.<sup>5</sup> The Spanish fugitives from the Upper Rio Grande valley, forced to leave Isleta, therefore retreated as far as

been left by Castaño in 1591, and they became the interpreters of Oñate. *Discurso*, p. 254. Villagran, *Historia*, fol. 139.

<sup>1</sup> Benavides, *Memorial*, p. 16. "Estaua desipoblada por guerras con otras naciones que le quemaron."

<sup>2</sup> *Ibid.*: "Otro en el de Sevilleta, dedicado á San Luis Obispo, de mi religion."

<sup>3</sup> Vetancurt, *Crónica*, p. 310: "Y le habitan tres familias, hoy está asolado." Alonzo García, *Autos presentados en Disculpa* (in *Diario de la Retirada*, fol. 45): "Y habiendome llegado al Pueblo de Sevilleta donde hallé á los naturales de dicho pueblo quietos y pacíficos al parecer, pues dejaron su pueblo, y me fueron siguiendo hasta el del Socorro, que unos, y otros son de nacion Piro."

<sup>4</sup> Vetancurt, *Crónica*, p. 310.

<sup>5</sup> They had not been invited to join by the other pueblos. *Interrogatorios de varios Indios*, 1681, fol. 125: "Que [Pope] cogio un mecate de palmilla, y mar

Socorro at first, passing through Alamillo. Notwithstanding the friendly attitude of the Piroos, the frightened colonists did not consider themselves safe until they were beyond the reach of the Pueblos, and so they hurried on to the Jornada del Muerto, where they established a camp, while Lieutenant General Alonzo Garcia with a few men returned to meet his superior, of whose escape from Santa Fé and retreat down the Rio Grande valley he had been informed. At Alamillo he met the Governor, and, one league south of that place, about thirty soldiers commanded by the Maestro de Campo Pedro de Leyba also reinforced the slender forces of Otermin. It seems that at least a portion of the Indians of Alamillo joined the Spaniards on their retreat.<sup>1</sup> In the following year, however, the remaining inhabitants of the pueblo fled upon the approach of Otermin; whereupon the pueblo was set on fire, and destroyed.<sup>2</sup>

Passing by Limitar, where I was told there is a ruined pueblo, I now reach the vicinity of Socorro. There I investigated some of the numerous ruined pueblos on both sides of the river, and the vestiges of small houses scattered over the hills opposite the town of Socorro.

Between Alamillo and Socorro the Rio Grande flows through a defile, shut in by picturesque mountains on the west.<sup>3</sup> At Socorro, or rather at the Escondida, three miles north of it, the country opens again, and the peaks of

rando en el unos nudos, que significaban los dias que faltaban, para la egecucion de la traicion, lo despacho por todos los pueblos hasta el de la Isleta sin que quedase en todo el reyno, mas que el de la nacion de los Piroos."

<sup>1</sup> *Autos y Dilijencias hechas por dhos de algunas Personas: de Orden del Gobernador Don Antonio de Otermin*, 1681, MS. Testimony of the Maestro de Campo Francisco Gomez: "Saliendose todos con la fuerza que tenfan siendo la morcandad y mejores soldados del rno, lleuandose consigo la jente del puo de la Ysleta, Seuilleta y Alamillo, dexando los puecos desiertos y despoblados."

<sup>2</sup> Vetancurt, *Crónica*, p. 310.

<sup>3</sup> There are, however, openings of fertile and well cultivated soil along the pass, like Limitar, on the west side.

Socorro, steep and imposing, stand out above the plain on which the town is built. The Sierra del Socorro is only three miles from the river, but its summit rises 2,700 feet above it, and this difference of level, coupled with the abruptness of the mountain slopes rising in several high terraces, contributes to render the scenery interesting; while the east side shows only sandy and gravelly hills of dull monotony. Mezquite (*Prosopis juliflora*) and cacti characterize the dusty and scanty vegetation. The river flows between dense thickets of willows and cottonwoods; but this fringe is narrow, and the little plain of Socorro, sloping gently down from the base of the mountains, imparts to the landscape an apparent air of bleakness. The mines of Socorro were noticed early in the seventeenth century, but not worked to any extent.<sup>1</sup> On the site of the town, which was founded in the beginning of this century, stood the Piros village of Pil-o Pué, or Pil-abó; but no traces of it are visible, the spot having been built over. Still metates and pottery are occasionally exhumed. It was a considerable mission, founded in 1626, and had a church and convent, dedicated to the Virgin of Relief.<sup>2</sup> The abandonment of the pueblo dates from 1680 and 1681, most of its inhabitants following the Spaniards to El Paso del Norte.<sup>3</sup> In 1692 the church was still standing,

<sup>1</sup> Zárate-Salmeron, *Relaciones*, par. 34: "Hay minas en el Socorro." Benavides, *Memorial*, p. 53: "El cerro del pueblo del Socorro, principal y cabeza desta provincia de los Piros, que todo el es de minerales muy prosperos. Que corren de Norte á Sur mas de cinquenta leguas; y por falta de quien lo entienda, y gaste en su beneficio, no se goza de las mayores riquezas del mundo, y V. N. pierde sus quintas reales." This was in 1630.

<sup>2</sup> Benavides, p. 16: "El otro en el pueblo Pilabo, á la Virgen del Socorro." This dedication to the "Virgen del Socorro" was made in memory of Oñate, who in 1598 found stores of maize in the pueblo of Teypama, or Teypana, which stood opposite Socorro, on the east bank. *Discurso*, p. 251: "Dormimos frontera de Teipama, pueblo que llamamos del Socorro porque nos dió mucho maize."

<sup>3</sup> Vetancurt, *Crónica*, p. 310. He credits the pueblo with six hundred in-

except the roof, which had been consumed by fire.<sup>1</sup> In 1725 the ruins of the pueblo could be plainly seen from the hills on the east side of the river.<sup>2</sup>

That Pilabó existed in 1598 is certain.<sup>3</sup> Opposite, on the left bank, there then stood another village, called Tey-pam-á.<sup>4</sup> Possibly, even probably, it is the ruin of a many-storied pueblo four miles west of Socorro, in the Cañada de las Tinajitas, where there is said to be still another old village. I was further informed of at least one ruin in the Cañada de la Parida, northwest of Socorro, and of traces of small houses scattered along the hills.

The ruins which I have examined near Socorro are:—

1. The pueblo at El Barro, three miles north of the town.
2. The ruins at the Socorro hot springs, three miles west.

Both of these places lie on the west side of the Rio Grande.

On the east side:—

3. The pueblo at the rancho of Juan Domingo Silva, at the mouth of the Cañada de la Parida; not to be confounded with the Parida proper.

4. The small-house ruins opposite Socorro, and as far north as the previous site.

1. The ruins at El Barro are represented on Plate I. Figure 26. The pueblo was a small one, and its walls were of stones or rubble. Only one circular estufa accompanied the buildings, and its diameter is 8.8 meters (25½ feet). The four

habitants. That they followed Otermin to El Paso in 1680 is stated in *Diario de la Retirada*, fol. 45.

<sup>1</sup> Escalante, *Relacion*, p. 137.

<sup>2</sup> Rivera, *Diario y Derradero*, p. 28.

<sup>3</sup> It is mentioned under the name of Pilopué in the *Obediencia de San Juan Baptista*, p. 115, as lying on the west bank of the Rio Grande.

<sup>4</sup> Teypama is also located on the west bank in the *Obediencia*. But in the *Discurso de las Jornadas*, p. 254, it appears on the east side, which is correct since Oñate marched up on that bank.

houses of which the rooms were exposed showed on the ground plan fifty-nine cells, measuring on an average 2.6 by 1.9 meters ( $8\frac{1}{2}$  by  $6\frac{1}{4}$  feet), — a remarkably small size. The largest rooms measure 3.3 by 2.2 meters ( $10\frac{3}{4}$  by  $7\frac{1}{4}$  feet). The site is well selected for defence, being a bare promontory, the base of which is separated from the river only by the width of the railroad track and of an irrigating ditch. The pottery at this ruin is the same as at the Tigua ruins at Bernalillo, — plain, and with coarsely glazed ornamentation.

2. The ruins at the hot springs of Socorro are almost obliterated. They stand on two bare knolls, separated from each other by a gulch, and their surface is covered with flint chips of various hues and some obsidian. I also found a few plain red and black potsherds, but no decorated ware. With the exception of two places, there was nothing left but low mounds much worn by time and abrasion.

3. Opposite the promontory of El Barro, in the fertile bottom at the mouth of the Arroyo de la Parida, lies the ruin shown on Plate I. Figure 27, and which I have located "at the house of Juan Domingo Sylva." This Mexican adobe dwelling has been erected in the courtyard of the largest building of the former pueblo. The village consisted of at least three edifices: the main quadrangle, another one distant from it 25.7 meters (84 feet), and a low mound 75 meters (246 feet) to the north of the principal building. This measures 51.5 meters (170 feet) from east to west, and 69.4 (227 feet) from north to south. The only entrance to the interior square was on the east, through a narrow passage not more than  $1\frac{1}{2}$  metres (5 feet) wide. The surface of this square has been so disturbed by modern constructions that it is impossible to determine whether it contained any estufas. The hollow quadrangle to the west measures 31 by 36 meters



(102 by 118 feet), and the northern mound 47 by 11 meters (153 by 36 feet). There is no doubt that the main building was at least two, perhaps three, stories high, for longitudinal partition walls are still traceable on the surface that show six rows of cells; the transverse partitions are obliterated.

This pueblo was built of adobe, and the pottery fragments were of the same description as those at Bernalillo and at the historic Tanos ruins, with glazed decorations; but there were also a number of plain black and plain red potsherds. Mr. Sylva informed me that at the foot of the range of bluffs which overlook his home he found a burial place. There were a number of bodies having the head to the south and the feet towards the north; but there were no traces of stone graves. This cemetery may have been that of the "Pueblito" at his house, or it may have belonged to another quite different ruin, of which I shall now speak in connection with specimens of ancient small-house architecture about Socorro.

4. During my ineffectual search for the Cañada de las Tinajas, I came upon at least five ruins of small isolated buildings on the sandy heights above the east bank of the Rio Grande. One of them was 6 meters (19 feet) square, another measured 4.4 by 6 meters (14 by 19 feet). These buildings had stone foundations, but I am in doubt as to the material of the superstructure. Very little pottery accompanied these ruins, and what there was of it was of the ancient black and white, and of the corrugated varieties. No trace appeared of potsherds with glazed ornamentation. The corrugated specimens were made of a dark red micaceous clay, which is found in the bluffs about the mouth of the Parida.

While I was at the house of Mr. Sylva, he called my attention to a ruin on the ridge or bluffs not over half a mile east of his home. This ridge is about 20 meters (65 feet) high, and

although the base of it and the river bottom are of red clay, the brow is gray and sandy. Scrubby mezquite dots both summit and slope, but along the river the growth is more vigorous. I soon found the locality; but instead of large houses of the communal or Pueblo type, I was surprised to see a complete village of small buildings, irregularly scattered on the brow of the height, at intervals of from a few to over seventy meters. See Plate I. Figure 28. I counted not less than fourteen little mounds, or flat knolls, varying in size from 3 meters to 19 in length, and mostly oblong (10 to 62 feet). In one of these mounds charred corn had been dug up, and was lying about.<sup>1</sup> What, however, more attracted my attention was the character of the potsherds: not a single glazed specimen could I detect, but gray pottery, decorated with fine black lines, corrugated, indented, — in short, those types of Southwestern earthenware which Mr. Holmes recognizes as being the most ancient, — lay around in profusion. The contrast in architecture and in pottery between this ruin and the one below was so striking, that I could not resist the inference that they represented two distinct settlements. I concluded that I had before me the dwellings of a people, whose culture was probably on the same general plane as the historic Pueblos, but who had either disappeared from New Mexico previous to the Spanish occupation, or had changed the architecture for reasons of which we know nothing.<sup>2</sup> To which of the two types the burials before spoken of belonged, I am utterly unable to surmise.

I afterwards ascertained that small houses occur quite

<sup>1</sup> The ears of this corn, of which I sent some specimens to the Peabody Museum at Cambridge, were of the small variety.

<sup>2</sup> I will call attention to the remarkable article of Mr. F. H. Cushing on *Pueblo Pottery, as illustrative of Zuñi Culture Growth*, in the Fourth Annual Report of the Bureau of Ethnology, 1886.

numerously along the eastern bluffs of the Rio Grande, lower down than Socorro. I desire to call the attention of future investigators to one point: previous to the insurrection of the Pueblos, Spanish farm-houses, haciendas, and what may be called cattle ranches, existed at various places along the Rio Grande from above Socorro to about nine miles below, where the hacienda of Luis Lopez probably indicated the most southerly Spanish dwelling in New Mexico.<sup>1</sup> The houses of such establishments were like the adobe buildings on isolated ranches of this day, and the mounds formed by them through decay in course of time would be quite similar in size and appearance to those of ancient Indian small-house abodes. The investigator should also bear in mind that in many small-house ruins pottery is rare on the surface; so he is exposed to the double danger of regarding as very ancient what is in fact modern, or of disregarding as modern what really belongs to the most ancient type of aboriginal architecture in the Southwest.

The country west of the Socorro Mountains is unknown to me from personal inspection, but I have been told that there are no ruins in that direction nearer than thirty miles. In the mining district of the Sierra de la Madalena ruins of pueblos exist to which I shall refer in a later chapter.

In an easterly direction it is thirty-three miles from Socorro

<sup>1</sup> I infer this from Vargas, *Autos de Guerra*, 1693, fol. 16: "En quarto dias del mes de Nobiembre, etc. Yo dho Bouor llegué con dho campo á esta hazienda despoblada y cayda que dizen fué de Luis Lopez, que se alla doze leguas del puesto dho de Fray Christóbal y tres antes de llegar al pueblo del Socorro." No previous mention is made of ruins of Spanish houses along the Rio Grande. Rivera, *Diario y Derrotero*, p. 28, mentions the first remains of Spanish houses as near Socorro, on the east bank of the Rio Grande, during a journey of twelve leagues as far as Alamillo. "Y á la del leste, se encontraron varias ruynas, donde hubo haziendas de labor antes de la sublevacion." Twelve leagues, or thirty-five miles, south of Alamillo would locate the place from which he started on this journey at Valverde, twenty miles south of Socorro, and the ruins of Spanish houses appeared farther up, in the vicinity of Socorro.

to San Marcial, where the Atchison, Topeka, and Santa Fé Railroad crosses the Rio Grande, and begins to ascend the dismal northern slope of the Jornada del Muerto. Between the two places the Rio Grande valley presents a monotonous appearance; low gravelly hills skirt the bottom on both sides; vegetation is scrubby, except an occasional grove of cottonwood; the soil, however, is fertile wherever it is not covered by drift. Since the opening of large irrigating canals in Southern Colorado, this region has suffered considerably from lack of water in the months when irrigation is most needed. Even before this condition of affairs, complaints about drought are not uncommon in older documents. Dry years seem to recur in New Mexico with a regularity that perhaps indicates a decennial period. So long as the natives raised only corn, beans, and squashes, the Rio Grande always afforded a moderate supply of water. Their pueblos, small as they seem to have been, extended as far south as the vicinity of San Marcial, or of Fort Craig, some fourteen miles farther south. I have not examined any except at San Marcial. The most important of them during Spanish times stood near the present station of San Antonio, thirteen miles south of Socorro. Its ruins lie on an eminence west of the little village, and its situation is well described by Vetancurt as "on a height of gravelly cliffs."<sup>1</sup>

The name of this pueblo was Senecú, or Zen-ecú, and its past history, from the time of Oñate on, is better known perhaps than that of any other of the Rio Grande villages. The organization of the Piros into missions began in 1626, and the most southerly church and convent of New Mexico were constructed there in that year. Saint Anthony of Padua was made the patron of the place.<sup>2</sup> The founders of the mission

<sup>1</sup> *Crónica*, p. 309: "En una montaña de escollos pedregosos."

<sup>2</sup> So it is claimed by Benavides, *Memorial*, p. 16. Vetancurt (*Crónica*, p. 309)

of Senecú appear to have been Fray Antonio de Arteaga, a Capuchin monk, and Fray Garcia de Zuñiga, alias "de San Francisco." To these two friars the planting of the first vines in New Mexico is probably due, and the manufacture of wine. The last named priest is also credited with having placed an organ in the church of San Antonio<sup>1</sup>

places it in 1630. I follow Benavides, who was an eyewitness of the events in New Mexico. He left that territory for Mexico in 1628, and San Antonio must have already been in existence as a mission. The date of his departure is given by himself as 1631, in *Carta que embió á los religiosos de la Santa Custodia de la Conversion de San Pablo*, in the *Relacion histórica de la vida y apostólicas tareas del Venerable Padre Fray Junipero Serra*, by Fray Francisco Palou, p. 331. The name was probably Tzen-o-cué, whence "Senecú" or "Zenecú."

<sup>1</sup> Benavides does not mention either of these monks, but attributes the establishment of the missions to himself, which is true in the sense that he, as Custodian, directed them. Vetancurt (*Crónica*, p. 309): "El año de 630, fué hecha la conversion de los Indios de Senecú por el Reverendo Padre Fray Antonio de Arteaga, Provincial que fué de la Provincia Santa de los Descalzos de San Diego, y un templo y convento á San Antonio de Padua dedicado. Dejó allí á su compañero el venerable Padre Fray Garcia de Zuñiga, alias de San Francisco, que lo adornó de organo," etc. The same author (in *Menologio Franciscano*, p. 24) says that the two monks came to New Mexico in 1628. Fray Garcia de San Francisco died at Senecú, and was buried there, on January 22, 1673. From Senecú, Fray Garcia founded the mission of El Paso del Norte in 1659. *Auto de Fundacion de la Mision de Nuestra Señora de Guadalupe de los Mansos del Paso del Norte*, MS., December 8, 1659. The last entry in the handwriting of this missionary bears date January 15, 1671, and is found in the *Libro primero de Casamientos de la Mision de Nuestra Señora de Guadalupe del Paso del Rio del Norte*, MS., fol. 13. According to Fray Balthasar de Medina, *Chronica de la Santa Provincia de San Diego de México, de Religiosos des Calços de N. S. P. S. Francisco de la Nueva España*, 1682 (lib. iv. cap. vii. fol. 168 et seq.), Fray Antonio de Arteaga and Fray Garcia de San Francisco converted the Piroos between the years 1650 and 1660. This manifestly relates to the conversion of the Mansos only. In regard to the introduction of the grape into New Mexico, the statements of Vetancurt (*Crónica*, p. 309) appear plausible: "Y una huerta, donde cogió uvas de sus viñas y hacía vino que repartía á los demas conventos." See also Medina, *Chronica*, fol. 169. Villagran (*Historia*, fol. 140), speaking of the domestic plants cultivated since the arrival of the Spaniards, does not mention grapes, although he enumerates wild grapes among the native plants of the province: "Y vbas en cantidad por los desiertos." Zárate, *Relaciones de todas las cosas*, is silent on the matter of grapes.

This mission gradually attracted the inhabitants of the smaller pueblos, and induced them to congregate around its place of worship. In 1630 the Piroos still held fourteen villages, with an average population each of four hundred souls.<sup>1</sup> Fifty years later they were reduced to four. This was due not only to the efforts of the missionaries to gather their flock into larger pueblos, but also to the danger to which these Indians were exposed from the Apaches of the "Perrillo" and the "Xila,"<sup>2</sup> as the southern bands of that restless tribe were called. They harassed the Piroos as much as the Navajos did the Jemez. All efforts at taming them utterly failed; for, although willing to make peace with the Spaniards, they persisted in preying upon the pueblos, which the Spaniards were bound to protect.<sup>3</sup> This hostile relation between them and the Piroos and their Spanish protectors continued for more than forty years; yet this did not hinder some malcontents among the Piroos from entering into occasional conspiracies with their hereditary enemies against the Spanish power. During the government of Don Fernando de Villanueva, some Piroos of Senecú killed the Alcalde Mayor of the jurisdiction of Socorro and four Spaniards in the Madalena Mountains. This massacre was originally attributed to Apaches; but the participation of the Piroos being detected, six of them were executed for the

<sup>1</sup> Benavides (*Memorial*, p. 83) estimates the population at 6,000 souls, which gives about 400 for each one.

<sup>2</sup> These names were current in 1630. Benavides, *Memorial*, pp. 13 and 54 *et seq.*

<sup>3</sup> *Ibid.*, p. 52: "Es nacion tan bellicosa toda ella, que ha sido el crisol del esfuerzo de los Españoles, y por esto los estiman mucho, y dicen, que solo los Españoles merecen el titulo de gente, y no las naciones de los Indios poblados." Speaking of the Navajos he adds: "Porque algunas vezes, que allí han ido á pelear los Españoles, en castigo de los muchos Indios Christianos que matan." He attempted the conversion of the Apaches from Senecú (page 54), going to the Gila Apaches, fourteen leagues from that pueblo, but his endeavors proved fruitless in the end.

crime.<sup>1</sup> With the usual fickleness of the Indian, the Apaches subsequently turned against their former allies, and on the 23d of January, 1675, surprised the pueblo of Senecú, killed its missionary, Fray Alonzo Gil de Avila, and slaughtered so many of the inhabitants of all ages and both sexes that the survivors fled in dismay to Socorro, and the pueblo remained forever deserted.<sup>2</sup>

On the east bank of the river, in front of San Antonio, will be found the ruins of the former Piro pueblo of San Pascual. This village was already deserted in 1680, and probably was abandoned previous to Senecú.<sup>3</sup>

Whether there are any ruins between San Antonio and

<sup>1</sup> *Ynterrogatorio de Preguntas*, MS., testimony of Juan Dominguez de Mendoza: "Y en particular en tiempo del Sr. General D. Fernando Villanueva en la Provincia de los Pyros por traidores y echizeros ahorcaron, y quemaron en el pueblo de Sénecú." Testimony of Diego Lopez Zambrano: "Y despues acá se hizo otro castigo con los Pyros, por el mismo delito, gobernando el Señor General D. Fernando Villanueva, que se ahorcaron seis Yndios y otros fueron vendidos, y depositados, porque á mas de sus delitos y conjuraciones, se hallaron en una emboscada con los enemigos Apaches en la Sierra de la Magdalena, donde mataron cinco Españoles, y entre ellos al Alcalde Mayor, el qual lo mató uno de los seis Yndios Christianos que se ahorcaron llamado en su lengua el Tambulista."

<sup>2</sup> The oldest mention of this massacre at my command is found in the *Parecer del Fiscal*, dated September 5, 1676 (MS.): "Pasaron á dar muerte . . . y al Pe Fr. Alonzo Gil de Avila, Ministro del pueblo de Zennecú en el dia 23 de Enero del año passado de 675." Fray Juan Alvarez, *Peticion al Gobernador Don Francisco Cuerdo y Valdés*, 1705 (MS): "Tambien el pueblo de Senecú, mattaron al Pe Pr. Fr. Alonso Gil de Auila y destruyeron lo mas de la gente indiana." Vetancurt only says (p. 309): "Hoy está el pueblo despoblado y arruinado en la tierra de los enemigos."

<sup>3</sup> San Pascual is frequently mentioned in documents between 1680 and 1690. Indians from this pueblo were living at El Paso del Norte. Its site is indicated by Rivera, *Diario y Derrotero*, p. 27: "El dia veinte y ocho . . . caminé ocho leguas, siguiendo la rívera de el río, y haziendo noche en vn despoblado, como los antecedentes, que llaman de S. Pascual, tomando la denominacion de las ruynas de vn pueblo situado á la vanda de el leste de el río, que lo fué antes de la Sublevacion General. Y desde este mismo parage se miran los uestigios de otro, que se nombraba Senecú, situado á la vanda de el Veste de el río." San Pascual lay thirty-three miles south of Alamillo.

San Marcial I am unable to say. At San Marcial, however, on the site owned in 1882 by Estéban Gonzalez, I found vestiges of a former pueblo, in the shape of rubble foundations marking the end of a large rectangular building, and a low oblong mound. The pottery was red, and black, with faint traces of coarsely glazed decorative lines; but these vestiges have now doubtless disappeared. San Marcial lies in a fertile valley, and from it the view of the distant mountains, especially at sunrise, is quite striking. The lofty Madalena, the dark San Matéo, and in the far southwest the Mimbres, loom up with picturesque profiles. To the east the view is not attractive, as a black mesa of volcanic rock facing San Marcial, past which the Rio Grande ordinarily rushes with considerable velocity, is the last spur of the Jornada del Muerto, and from its top the eye surveys a dreary plain extending southward indefinitely. Pale mountains skirt the eastern horizon, and above them rise the peaks and crests of the Sierra Blanca in solemn grandeur. The pine-clad slopes of that mountain chain are almost the only tokens of vegetable life descried from the top of the mesa of San Marcial in the directions east and south.

This Black Mesa was a landmark even in the days of Juan de Oñate, and is spoken of as the "Mesilla of Guinéa," or the black rock.<sup>1</sup> Near its foot stood the most southerly pueblos of New Mexico in the sixteenth century. Trenaquel of the Mesilla was the last Piros village on the west bank of the Rio Grande, Qual-a-cú the last on the east; consequently they were the first ones met with on that river when coming from Chihuahua.<sup>2</sup> The region of San Marcial

<sup>1</sup> *Discurso de las Jornadas*, p. 249: "A veinte y siete, andobimos siete leguas hasta la Cienega de la mesilla de Guinéa, por ser de piedra negra."

<sup>2</sup> *Obediencia de San Juan Bautista*, p. 115: "Y ultimamente Trenaquel de la Mesilla que es la primera poblacion de este reyno, hacia la parte del Sur y



not only indicates the southern limit of the Pueblos in the sixteenth century, but it seems also that the many-storied Pueblo type of architecture at no time extended farther down the Rio Grande valley. I have diligently inquired, and have always been told that the ruins along the little streams running into the river from the west, the Cañada Alamosa, the Palomas, and others, are of a different type. The latitude of San Marcial therefore indicates the southern geographical limit of the Pueblo tribes, as well as of specific Pueblo architecture in New Mexico.<sup>1</sup>

The Piros, in times anterior to the Spanish discovery, had extended their settlements to the east of the Rio Grande valley, beyond the cordillera which begins with the Sierra de Sandia in the north, and terminates in the south at El Paso del Norte. Around the salt lake basin of the Manzano they had become the neighbors of the Tiguas. I must

Nueva España." This would lead to the inference that the ruins on the site of San Marcial are those of Trenaquel. Qualacú is mentioned in the same document as situated on the east bank. In *Discurso* (p. 250) it is stated still more explicitly: "Y dormimos frontero del segundo pueblo llamado Qualacú, hácia la banda del rio por donde nosotros ibamos."

<sup>1</sup> This is the conclusion to be drawn from the reports of all Spanish expeditions to New Mexico between 1580 and 1600. Whoever follows attentively the itineraries of Chamuscado, Espejo, and Oñate will find that the vicinity of San Marcial was the spot in the valley of the Rio Grande where the first pueblos were seen. The pueblo which Chamuscado and his men named Sant Felipe was probably Qualacú. Very conclusive testimony is also furnished by Benavides, *Memorial*, p. 14. The first Apaches were found at the Perrillo, and thence on began the Jornada del Muerto, at the northern end of which "hasta llegar á encontrar otra vez con el Rio del Norte, á orillas del cual comiençan las poblaciones del Nueuo México. . . . Llegado á este rio por esta parte, comiençan las primeras poblaciones, por la provincia y nacion Piros."

There may possibly be some pueblo ruin a few miles south of San Marcial, near Fort Craig; I have not examined the locality. West of it all the ruins belong to the peculiar small-house type connected with courtyards and garden plots, which is characteristic of the Salado and Gila in Eastern Arizona. Farther south in the Rio Grande valley the small-house variety alone is found, as far as El Paso del Norte.

therefore turn to that region and to its ruins, several of which are among the most picturesque in New Mexico.

THE SALT LAGUNES OF THE MANZANO, AND THE MESA  
DE LOS JUMANOS.

A. *The Tiguas from Chilili to Cuaray.*

At the close of Chapter II., I stated that the Tanos had penetrated as far south as the valley of San Pedro, and had thus become the northern neighbors of the Tiguas of the "Salines." The "Sierra de Gallego," also called "Sierra de Carnué," divides San Pedro from Chilili. The Carnué range is not very high, and pine forests cover its slopes, reaching to the crests and summits. In ancient times these pine-clad heights must have been solitudes, as they are to-day. The old grant of Carnué mentions a ruin in the mountains, west of the Spanish settlement, that was founded and soon abandoned towards the end of the past century.<sup>1</sup> While descending from the crest of Carnué, the traveller obtains an occasional glimpse of the region to the east and south, a vast expanse of singular bleakness.

Desolate plains spread to the east; dismal hills border them along the horizon; only two or three springs rise to the surface between Galisteo and the salt marshes. One of these bears the name of "Ojo del Cibolo."<sup>2</sup> This seems to imply that

<sup>1</sup> The grant of Carnué was made by Governor Tomas Velez Cachupin in 1763. *Real Posesion de San Miguel de Laredo*, MS. In 1771 the settlers petitioned for leave to abandon the place, which had become untenable on account of the Apaches. *Representacion de los Vecinos de San Miguel de Carnué para despoblar y Diligencias sobre esto*, MS. In the first of these documents occurs the following passage: "Que es para el Oriente vn pueblo antiguo al sentro de la cierra." In *Merced d Juan Ignacio Tofoya*, (1819, MS.,) that ruin is called "las ruinas antiguas del pueblo que llaman de S. Antonio." I find no other trace of such a pueblo; it must have been occupied within historic times.

<sup>2</sup> "Buffalo Springs," fifty-seven miles south of Galisteo. The other springs

the buffalo once ranged as far as the base of the San Francisco and San Pedro Mountains. The southeast presents the appearance of a yellowish basin, the saline deposits of the Manzano, — a series of lagunes whose waters are charged with salt, or the dry deposits of such pools. This region is at least thirty miles from north to south, and irregularly oblong. Beyond it rise the low cones of the Pedernal range.<sup>1</sup> South of the salt lakes the dark front of a vast mesa skirts the depression in which they lie, covered with forests on its brow and northern slopes. It is the Mesa de los Jumanos, behind which high mountain chains loom up, the Sierra de la Gallina in the southeast, and farther south the Sierra Capitana<sup>2</sup> and the Sierra del Carrizo. From the higher ridges of Carnué a lofty chain can be seen in the distant south, the Sierra Blanca, the culminating elevation between Santa Fé and the boundary line of Texas.<sup>3</sup>

The basin of the salt lakes is bordered on the west by hills and valleys rising to the densely wooded eastern slopes of the Sierra del Manzano. The lowest spurs of the chain, as far as the northern base of the Jumanos Mesa, were the country of the Eastern Tiguas. It is a narrow strip with a few unimportant watercourses.<sup>4</sup> The heart of the mountains appears to be without vestiges of human occupation, as are the salt lakes proper and the plains north of them as far as the Galisteo basin. I have heard ruins spoken of between the Pedernal and the Pecos River, and of ruins of pueblos

are "Ojo del Verrendo" (Antelope Springs), 41 miles, and "Ojo Hediondo" (Stinking Spring), 27½ miles south of Galisteo. There are scattered woods about the Ojo del Cibolo.

<sup>1</sup> The height of the Pedernal is 7,580 feet.

<sup>2</sup> The Sierra de la Gallina is 9,798 feet high; the S. Capitana 10,023; and the S. del Carrizo 9,360.

<sup>3</sup> The Sierra Blanca is about 12,000 feet high.

<sup>4</sup> Like the arroyos of Chilili and Tajiique. None of these watercourses reach the basin of the salt lakes; they sink some distance to the west of it.

in the Capitana and the Gallina. The Tiguas tell fairy and goblin tales about an ancient pueblo called "Car-far-ay," which they place in the distant east, somewhere beyond the Salines of the Manzano.<sup>1</sup>

The little village of Chilili lies in a nook on the slope, well sheltered to the north and west, but open to the east; and a permanent streamlet, the Arroyo de Chilili, runs through it. The former Tigua pueblo of Chilili stood on the west side of the creek, but its site is now built over, and only a few traces of the small chapel are visible. That chapel, dedicated to the Nativity of the Virgin,<sup>2</sup> stood on the east bank. The inhabitants of Chilili say that metates and arrow-heads are still occasionally found. I noticed some black and red potsherds, and later I saw a handsomely decorated water-urn, well preserved and ornamented with symbols of the rain, the tadpole, and of fish, painted black on cream-colored ground, which had been exhumed at Chilili. It is in possession of the Hon. R. E. Twitchell of Santa Fé.

The brook running through Chilili extends only about a mile beyond that hamlet; farther down it sinks, like all the watercourses that descend from the Manzano chain towards the Salines. These constantly fill up their own beds with drift and sand, and thus, in course of time, gradually recede. Years ago, so old residents affirm, this brook had permanent water for one mile and a half farther east. It is well to note such local peculiarities, for they tend to explain changes of locality of Indian villages in former times. The settlement of modern Chilili dates from 1841; that is, a grant was issued in that year for lands on that site.<sup>3</sup> But the first

<sup>1</sup> I owe the information about this mythical village to Mr. C. F. Lummis.

<sup>2</sup> Vetancurt, *Crónica*, p. 324: "El templo era á la Navidad de Nuestra Señora dedicado. Es el primer pueblo del valle de las Salinas."

<sup>3</sup> *Merced á Santiago Padilla, etc.*, March 29, 1841, MS.

houses were built some distance lower down the arroyo than the present village. Subsequently they had to be abandoned on account of the filling up of the bed of the stream with solid matter.

Chilili was an inhabited pueblo until about 1670. It appears first in 1630;<sup>1</sup> but there are indications, amounting almost to positive evidence, that it existed in the sixteenth century.<sup>2</sup> The conversion of the people to Christianity and the building of the chapel are attributed to Fray Alonzo Peinado, who became Custodian of New Mexico in 1608.<sup>3</sup> This would assign a very ancient date to the establishment of the church at Chilili. In 1680 it is said to have contained five hundred Tigua Indians.<sup>4</sup> Whether it was the seat of a mission or only a "visita," I am unable to say.

The persistent hostilities of the Apaches caused the abandonment of Chilili, and of all the pueblos about the Salines, previous to the uprising of 1680.<sup>5</sup> The exact date of their

<sup>1</sup> Benavides, *Memorial*, p. 23: "Dexando el Rio del Norte, ya partandose de la nacion antecedente azia el Oriente diez leguas, comienza la nacion Tompira por su primer pueblo de Chilili." The name of "Tompiros," as I shall prove further on, is a misnomer when applied to the Tigua Pueblos of the Salines.

<sup>2</sup> *Obediencia y Vasallaje á su Magestad por los Indios del Pueblo de Acolocú*, (Doc. de Indias, vol. G, p. 118). This document bears date October 12, 1598. It mentions four villages, "Paáco, Cuzaya, Junétre, and Acolocú." In Chapter II., I have identified the first one with the Tanos pueblo at San Pedro; Chilili is mentioned as "captain of Acolocú." The "province" is called "Cheálo." If Chilili existed in 1630, it is quite likely that it was in existence forty years previous.

<sup>3</sup> Vetancurt, *Crónica*, p. 324: "Tenía la nacion Piros mas de quinientos Cristianos que convirtió el reverendo Padre Fray Alonso Peinado, cuyo cuerpo está allí enterado." *Ibid.*, p. 300: "El año de 1608 . . . fué por custodio el Padre Fray Alonso Peinado, con religiosos, por cuenta de su majestad." Father Peinado was alive in 1617. *Autos de Proceso contra Juan de Escarranad*, 1617, MS.

<sup>4</sup> Vetancurt, *ut supra*.

<sup>5</sup> See the remarkable complaint of Fray Francisco de Ayeta, *Memorial en Novere del Governador, Cabildo Justicia y Regimiento de la Uilla de Santa Fé*, 1676 (MS.) and the confession alluded to in the *Parecer del Fiscal* of September 5

evacuation is unknown to me; but it certainly took place previous to 1676 and after 1669.<sup>1</sup> The inhabitants retired mostly to the Rio Grande Tiguas; but some joined the Mansos at El Paso del Norte.

The next ruin on the eastern slope of the Manzano range is at the village of Tajique, about fifteen miles south of Chilili. The road goes mostly through woods, with the dismal basin of the Salines in view to the east. I have diligently inquired for ruins both right and left of this route, but have invariably received the answer that only a few small mounds or knolls, indicating the former presence of "small houses," have been met with, and that there are no traces of regular pueblos.

The situation of Tajique is similar to that of Chilili, — a small valley open to the east and rising in the west. The ruins of the former pueblo border upon the present settlement on the north and west, lying on the south bank of the Arroyo of Tajique, which is here a permanent, though very modest stream. The houses of the pueblo were of broken

of the same year. The Licentiate Don Martin de Solis Miranda says (MS.): "Por no pasar de cinco hombres Españoles los que hay en cada frontera, y ser solo diez los que han quedado en la cabecera, Villa de Santa Fé, estando muchos de los Españoles sin armas algunas, y casi todos sin caballos por haberselos llevado el enemigo."

<sup>1</sup> That it was prior to 1676 is proved by the *Parecer del Fiscal*: "Que á demas destruido totalmente poblaciones pasaron á poner fuego á las yglesias, llevandose los vasos sagrados," etc. After mentioning these depredations, he refers to the destruction of the village of Hauicu, near Zuñi, in 1672, and of Senecú, in 1675. Escalante, *Carta al Padre Merfi*, 1778, par. 2: "Destruyeron los enemigos Apaches con casi continuas invasiones siete pueblos de los cuarenta y seis dichos, uno en la provincia de Zuñi, que fué Jahuicu, y siete en el valle de las Salinas, que fuéron Chilili, Tan que y Cuarac de Indios Tihuas, Abó, Jumanca y Tabirá de Tompiros." That it occurred previous to 1669 is established by a letter of Fray Nicolas de Freytas, contained in the *Dilixencias sobre la solizitud del cuerpo del venerable Pe Fray Gerónimo de la Llana*, dated October 26, 1706, (MS.,) from which it appears that in 1669 Father Freytas officially visited the pueblos at the Salines.

stones, but the chapel was built of adobe. The pottery is of the glazed variety; but I also found one fragment of the ancient black and white, or gray. In 1680 Tajique is credited with three hundred inhabitants, and the ruins do not point to any greater number.<sup>1</sup>

I doubt if the word Tajique belongs to the Tigua language; it strikes me as rather pertaining to the Tehua idiom, and to be a name given to the pueblo by its northern neighbors, the Tanos. Tûsh-yit-yay is claimed by the Isleta Tiguas, as Mr. Lummis informs me, to be the proper Tigua name for the place. It seems almost certain that the pueblo was in existence prior to the sixteenth century. Whether the word "Cuza-ya," used in the "Act of Obedience and Vassalage" of the villages of the Salines, (October 12, 1598,) is a corruption of Tuh-yit-yay, I do not venture to determine.<sup>2</sup> Chamuscado caught a glimpse of the Salines in 1580, and says that there were around that basin eleven villages similar to those in the Rio Grande valley.<sup>3</sup> The year after, Espejo also possibly went to the Salines; but the text of his report is not clear enough to render it absolutely certain.<sup>4</sup>

Tajique was abandoned for the same reasons as Chilili and the other pueblos of the Salines. Possibly its evacuation took place previous to that of the most northerly Tigua village. The Indians from Cuaray, a Tigua pueblo situated about ten miles southeast, retired to Tajique, taking with them the corpse of the founder of their mission, Fray Gerónimo de la Llana, which they buried again in the church of that pueblo.<sup>5</sup> There is a statement to the effect that the last

<sup>1</sup> Vetancurt, *Crónica*, p. 324: "Donde habla cerca de trescientas personas."

<sup>2</sup> *Obediencia del Pueblo del Acolocul*, p. 116. It may be a corruption of Cuaray, but I doubt it.

<sup>3</sup> *Testimonio dado en México*, p. 86.

<sup>4</sup> *Relacion del Viage*, p. 114.

<sup>5</sup> *Dilixencias sobre la solizitud del cuerpo del venerable Pe Fray Gerónimo de*

priest of Tajique escaped from the pueblo in company with two Spaniards, which would imply that the village was abandoned in consequence of a direct onslaught made upon it by the savages.<sup>1</sup>

Ruins of "small houses" are said to be visible at Torreon,<sup>2</sup> and a few miles higher up; but the existence of large-house villages nearer than Manzano was positively denied.

The country between the Manzano and Tajique becomes more barren as the road approaches the edge of the salt basin. Manzano itself lies in a fine valley, fairly well watered, near the foot of a high range, which from there presents a picturesque appearance, with its densely pine-clad slopes. Like Tajique it is a modern settlement.<sup>3</sup>

*la Llana*, 1759, MS., fol. 5: "El Yndio Tano de el Pueblo de Galisteo llamado el Ché tambien mui racional dixo: Que el sauía, y avía oydo varias vezes, que el Indio llamado Tempano mui viejo y que avía sido de aquellos pueblos aruinados, contaba que aquel pueblo llamado Quara se havia perdido primero. Y que los que quedaron de él se avían juntado con los Yndios de el immediato pueblo llamado Taxique, y que quando se perdió Quara sacaron de él un cuerpo de un religioso difunto, pero que no sabía donde lo avían puesto." From the investigation made at that time by direction of Governor Francisco Antonio Marin del Valle, it appears that the body of Fray Gerónimo de la Llana was found buried in the ruins of the church of Tajique, and not at Cuaray. The Indian Tempano here referred to was from the Salines, and well known in the beginning of the past century as a faithful and reliable man. His name appears in several documents of the time.

<sup>1</sup> Vetancurt, *Crónica*, p. 324: "Que administraba un religioso que escapó del rebellion con otros dos Españoles." If it is true that the priest escaped in the manner indicated, it was certainly at least four years prior to the rebellion, for Tajique was in ruins in 1680. Escalante, *Carta*, par. 2. Fray Juan Alvarez, *Memorial*. That the Apaches, and not the insurrection, caused the loss of the place, is beyond all doubt.

<sup>2</sup> Torreon is a small place situated between Tajique and Manzano, and about three miles from the former. Its grant dates from 1841. *Merced á Nerio A. Montoya*, MS.

<sup>3</sup> The Tajique grant dates from 1834. *Merced á Manuel Sanchez*, MS. The Manzano grant, *Merced á Jose M. Trujillo*, was issued in 1829, MS. The elevation of the village above sea level is given at 6,961 feet, or almost exactly that of Santa Fé.



During the whole of my stay at Manzano the weather was peculiarly unfavorable for archæological explorations, deep snow covering the ground, and one snow-storm following another. The few days of relatively calm weather I had to improve for the examination of more remote localities, like Abó and Tabirá. My information about ruins at Manzano is therefore from hearsay, and I cannot vouch for its absolute reliability. I was told that a pueblo existed on the hill, west of the place where a "Morada" of the so called Penitents stood in 1882.<sup>1</sup> Another pueblo is reported as having stood a few miles down the valley, at "Ojitos," and a third one opposite Ojitos, on the hills; small-house ruins were also mentioned. Of all these pueblos no trace appears in documents at my command; but it should be remembered that both Chamuscado, in 1580, and Benavides, in 1630, mention quite a number of occupied Indian villages about the Salines.<sup>2</sup> It is therefore unsafe to affirm that the Manzano ruins are prehistoric; they may antedate the sixteenth century, but they may be the remains of villages still occupied during the first century of Spanish domination.

There stands at Manzano a grove of tall apple trees, surrounded in 1882 by a wall of adobe. The trees are manifestly very old, and entirely neglected. It is probable that they were planted by some of the missionaries during the seventeenth century, which would give them quite a vener-

<sup>1</sup> The "Penitentes" are a branch of the "third order" of the Franciscans, but much degenerated. Their practices are partly secret, and for that reason they erect small buildings without windows, which they call "Moradas," or dwellings. The Church strongly disapproves of the ways of the Penitents, and they have repeatedly been excommunicated, and are now on the decline.

<sup>2</sup> Chamuscado, *Testimonio dado en México*, p. 86. Benavides, in *Memorial*, p. 23, says: "Quince pueblos en que auia mas de diez mil almas. Con seis conuentos y iglesias muy buenas." The six churches are easily found: Chillí, Tajiue, Cuaray, Abó, Tenabó, and Tabirá.

able age. There does not seem to have been a mission at Manzano, and I could not find out whether traces of an old chapel have been noticed; still the name of the place, "El Manzano," is derived from these apple trees. Consequently, they stood there when the settlement was made in the first quarter of the present century, unless, what is hardly probable, some of the settlers planted them before the municipal grant was issued in 1829. Probably the apple orchard of Manzano dates from prior to 1675. After that date, and until the foundation of the village of to-day, the Salines were a very dangerous region. An occasional hunter or large armed parties ventured into the valley, and beyond, at rare intervals; but nobody dared to establish himself permanently, for the Apaches held undisputed sway. I inquired diligently about the apple orchard, but not even the oldest inhabitants of Manzano, Torreon, or Abó were able to give me any other reply than that it was much older than the recollections of their fathers and grandfathers. Six miles east of Manzano stand the ruins of the mission of Cuar-ay, also called Cuarrá and Cuar-ac. It was a Tigua pueblo, and had a large church, dedicated to the Immaculate Conception.<sup>1</sup> The earliest mention of Cuaray in my possession dates from 1643, when Fray Juan de Salas was resident priest.<sup>2</sup> Among its missionaries, Fray Gerónimo de la Llana, 1659, whose remains lie buried within the walls of the old parish church of Santa Fé, is best known.<sup>3</sup>

<sup>1</sup> Vetancurt, *Crónica*, p. 324: "La iglesia era de ricos altares y vasos de plata proveida."

<sup>2</sup> According to the authority quoted above, the conversion of the Tiguas of Cuaray is due to Fray Esteban de Perea. This would put it between 1617 and 1630, probably in 1628, since Benavides mentions six churches at the Salines in the *Memorial*, p. 23. I have the originals of two short notes written by Fray Juan de Salas to Governor Alonzo Pacheco de Heredia, dated "de este Pueblo de Coarac," September 24 and 28, 1643.

<sup>3</sup> Fray Gerónimo de la Llana was a native of the city of Mexico, and came to

Cuaray was abandoned on account of the Apaches before the insurrection of 1680. Its inhabitants fled to Tajiue,<sup>1</sup> and at last gradually drifted to El Paso del Norte. If the people of the village of "Isleta del Sur" on the Texan side of the Rio Grande are asked whence their forefathers came, many of them point to the north in reply, saying, "From Cuaray."

Cuaray is among the few picturesque sites in New Mexico that deserve the epithet of lovely. Situated almost on the

New Mexico after 1629. He was at Santa Fé in 1636 according to a certificate signed by him, a copy of which is in my possession. *Carta de Fray Gerónimo de la Llana*, in the *Autos sobre Quexas contra los Religiosos del Nuevo México*, 1636, MS. According to Vetancurt he died at Cuaray, on July 19, 1659. *Menologio*, p. 240. Ten years after, Fray Nicolas de Freytas, noticing that the body was injured by moisture, had it taken up, and buried again in a rude coffin made of pine wood. *Certificacion del Padre Fray Nicolas de Freytas*, October 26, 1706 (in the documents upon the exhumation of the body of Father de la Llana, MS., 1759): "Y despues de diez años le hallé yntacto y incorrupto, con su hauto y le colocó en un caxon de madera de pino y lo puso en la mesa del altar mayor y entre las manos le puse un pergamino en que está escripto la notizia de dho Padre que fué varon apostólico." There is hardly any doubt that the body, when exhumed one hundred years after his death, was found at Tajiue, and not at Cuaray, according to the testimony of the Indian Ché, contained in the same documents. Vetancurt, however, inverts the order of the pueblos, by placing Cuaray three leagues (nine miles) south of Chilili, and Tajiue six miles farther south. The distances are of course incorrect, and the order in which the pueblos are enumerated still more so. From Chilili to Tajiue is at least twelve miles, and thence to Cuaray or Punta de Agua the same (military measure 11.51 miles). Furthermore, it is well established that the pueblos were then where they are now. Such inaccuracies are numerous in Vetancurt's otherwise valuable book. He errs in geographical statements, and sometimes in dates. This is not to be wondered at, since he himself was never in New Mexico, and wrote at a time when that province was still inaccessible to Spaniards and priests. But it is well to call attention to such mistakes, as they might mislead students who are not well acquainted with the localities.

<sup>1</sup> *Dilixencias sobre la solizitud del Cuerpo de Fray Gerónimo de la Llana*. In 1671 Indians from Cuaray were married at El Paso del Norte by Fray Garcia de San Francisco. *Libro Primero de Casamientos*, MS., fol. 12. The road to the Salines was then blocked by the Apaches, and it is possible that some of the pueblos were already abandoned. In 1669 Cuaray certainly was still inhabited. Freytas, *Certificacion*, "Y despues de diez años," since Fray de la Llana died in 1659.

southwestern edge of the dismal salt lakes, it is separated from them by wooded hills, while to the west and northwest the valley of Manzano and the mountains beyond are in full view. The red sandstone formation of the rocks that crop out in the neighborhood is in pleasant contrast with the sombre green of the trees and shrubbery covering the hills. I saw Cuaray several times, always in winter and under the most unfavorable circumstances, and yet carried away with me a vivid impression of its singular beauty. Above the low mounds of the former pueblo rise the stately ruins of the old church, a massive edifice of stone, the walls of which are still at least fifteen feet high, and four thick. It measures 16.4 by 34.1 m. (50 by 104 feet), and had two towers on the eastern façade. All the wood-work of the interior has been burned. The convent is reduced to indistinct foundation lines measuring 15 by 17 m. (49 by 58 feet). The pueblo is built of sandstone slabs, and the walls have the usual thickness of 0.25 to 0.30 m. (10 to 12 inches). The average size of a dozen rooms which I could measure was 3.3 by 4.5 m. (11 by 14 $\frac{3}{4}$  feet). The pueblo formed at least three squares, surrounded by the usual large buildings. I am not sure as to the existence of estufas, as deep snow filled every depression, and covered the mounds with a layer at least a foot deep. But on a second visit, when there was less snow on the ground, I think I noticed traces of a circular estufa. On the same occasion I also had an opportunity of examining the manufactured objects. The prevailing pottery was coarsely glazed, but there were also corrugated fragments, and quite a number of thin orange-colored shards with a fine glaze, decorated with black lines. This latter pottery, and potsherds of the ancient black and white and corrugated varieties, were exclusively represented on the top of a hill at the southern extremity of the pueblo ruins. This locality,

with pottery so distinct from that on the other mounds, and still not farther than twenty meters from the last of them, looked as if small houses had formerly stood on it. Much flint and some obsidian was scattered over the mounds indiscriminately.

Cuaray is credited with having had six hundred inhabitants,<sup>1</sup> and I should not consider this to be an exaggeration, as the houses were probably two and three stories high. There is an arroyo running past the village, and a spring near by with permanent water. The soil is fertile, but I think it probable that most of the fields of the pueblo lay higher up towards the Manzano. Possibly the apple grove at Manzano was the orchard of the former mission of Cuaray. Gardens, fruit trees, and vineyards in New Mexico, in the seventeenth century, were mostly connected with missions, except at Santa Fé and perhaps in the Rio Grande valley, where were the largest haciendas of the Spanish colonists. If there was no mission at Manzano, then the old fruit trees must have belonged to the mission of Cuaray. There were some Spanish ranchos in the district of the Salines, but cattle and horses, and not fruit raising, occupied the attention of their owners.<sup>2</sup>

The bitter hostility of the Apaches to the Pueblo Indians of the Salines did not prevent the latter from occasionally courting their friendship and even entering into alliances with them against the Spaniards. One of the best planned attempts at insurrection, previous to the successful outbreak

<sup>1</sup> Vetancurt, *Crónica*, p. 324: "Tenía seiscientos Cristianos de nacion Tigua, que hablaban el idioma de los Piro." The last sentence is one of the customary inaccuracies of Vetancurt.

<sup>2</sup> There seems to have been an Alcalde Mayor in the vicinity of Cuaray. This is indicated in the *Villetes* of Fray Juan de Salas, 1643, MS. At the estancia north of Cuaray there was a rancho inhabited during the lifetime of Fray de la Llana by Doña Catalina de Salazar. *Dilixencias sobre el Cuerpo, etc.*

of 1680, originated at the pueblo of Cuaray, between the years 1664 and 1669. An Indian of that village, known under the Spanish name of Estéban Clemente, was the soul of this conspiracy, and was in secret communication with most of the other pueblos. The plan was first to deprive the Spaniards of their horses by having them all stolen by the Apaches, and afterwards, on the eve of Holy Friday, to fall upon all the whites simultaneously. But the plot was detected, the leader executed, and the danger thus averted.<sup>1</sup>

Cuaray is the last pueblo on the borders of the Salines positively known to have been inhabited by the Tiguas. On the southeastern corner of the basin are ruins which I have not visited, but which I presume are those of a Piros village. The range of the Tiguas was limited to a narrow strip along the eastern slope of the Manzano chain, beginning with Chilili in the north, and ending with Cuaray in the south. Considering each site of these pueblos separately, they were all well selected; for each had its permanent water supply, sufficient wood, tillable land within easy reach, and an open view towards two at least of the cardinal points. But none of them occupied a very strong position for defence, nor are there any traces of defensive constructions other than the many-storied houses. The pueblos were at such short distances apart

<sup>1</sup> This plan of insurrection is mentioned in the *Ynterrogatorio de Preguntas* (MS.), by Diego Lopez Zambrano: "Y no obstante todos estos castigos, otro Yndio Gobernador de todos los pueblos de las Salinas, á quien en secreto obedecía todo el reyno, dando órden á los Yndios Christianos, hizo otra conjuracion en general, y éste se llama Estévan Clemente, haciendo que todas las caballadas de las jurisdicciones las echáron á las sierras para dexar á pié á los Españoles, y que Jueves Santo en la noche como se había tratado en el gobierno del General Concha, se había de consumir la christiandad, sin que quedára Religioso, ni Español, y habiendo descubierto esta traicion ahorcaron al dicho Yndio Estevan, y sosegaron á los demas, y en los bienes que sequestraron del dicho Yndio se halló dentro de su casa cantidad de idolos, y ollas enteras de polvos de yerbas idolátricas, plumas y otras porquerías."

that they could easily assist one another in case of attack, and yet they had to yield to their hereditary foes, and the feeble protection of the Spaniards could not save them. They were merely outposts of the Pueblo country, separated from their brethren on the Rio Grande by a forbidding mountain chain, through which only two passes lead, which an enemy could easily occupy. The destruction of the Pueblos of the Salines became inevitable as soon as the Apaches spread in that direction, which they had begun to do previous to the advent of the white man. When the Pueblos had received from him new domestic plants, and above all new domestic animals, the inducement for the nomads to prey upon the house-dwelling Indians was greatly increased. Only rapid colonization of New Mexico could have saved the villages on the east side of the Manzano chain, which was impossible, as Spain was too weak and New Mexico not sufficiently inviting to warrant extraordinary exertions.

Aside from the ordinary natural advantages which the Tigua pueblos of the Salines enjoyed, the region afforded some peculiar inducements. Not the least was its proximity to a country rich in game. The levels between the Salines and Galisteo were favorite haunts of the antelope, and the buffalo also may formerly have approached the Salines. The mountains in the west abound in bears, deer, and turkeys.

To what extent the great deposits of salt may have been an inducement to the Tiguas for establishing themselves in their vicinity is uncertain. The natives were acquainted with salt as a condiment in times anterior to the Spanish era, and it is not unlikely, therefore, that this commodity may have been one cause of the original settling of the Tiguas east of the Manzano chain. That a limited commercial intercourse resulted from it seems quite probable.

To the Spaniards in Southern Chihuahua the Salines soon

became very important. Salt from Manzano was carried in the seventeenth century as far as Parral for the reduction of silver ores,<sup>1</sup> and the salt trains had become a resource for the Apaches also. But by 1670 the Apaches had intercepted all communication with the Salines, and the trains returning from Southern Chihuahua were compelled to remain at El Paso del Norte.<sup>2</sup> They were probably the last that carried salt to Parral, for in that year, or very soon after, the missions at the Salines had to be abandoned.

The Tiguas shared the neighborhood of the salt lakes with the Piros. It is probable that the ruins on the southeastern corner of the basin were those of a Piros village, because the pueblos on the so called "Médano," or great sand-flow, of the Salines at that corner, according to a dim tradition, were also Piros pueblos. Tabirá, situated on the Médano, of which I shall speak presently, was an historic Piros settlement. The old pueblo at the northeastern end of the Jumanos Mesa appears to me, therefore, to be the most northerly settlement made by the same tribe. For the definitive settlement of such questions, we must wait until the folk-lore of the Tiguas and Piros becomes the subject of systematic investigation.

<sup>1</sup> Compare *Real Cédula*, June 30, 1668, MS.: "Pero que haudo treinta y cinco años que se pobló el Parral y siendo considerable su comercio a y gran cantidad de ellos que conduzen bastimentos y ropa al Parral y traen plata y otros generos y pasan de Vazio al Nueuo Mexco para traer sal á las minas con que," etc. Vetancurt, *Crónica*, p. 325: "Que en diez leguas que coge de circuito toda la agua llovediza se convierta en dura sal, que sacan como tablas y cargan para toda la Custodia y aun para las minas del Parral."

<sup>2</sup> *Libro Primero de Casamicutos de el Paso del Norte*, fol. 12. In 1670 many Indians from the pueblo of the Jumanos were at El Paso, but the roads to the Jumanos country (the Salines) were closed by the Apaches. In the following year, many Indians from Abó also were living at El Paso for the same reason.



B. *The Ruins of the Piros Pueblos, and the former Country of the Jumanos.*

Until within a few years previous to the great outbreak of the Pueblo Indians in 1680, the Piros occupied not less than three villages in the vicinity of the Salines: Abó and Tenabó southwest of the Manzano, and Tabirá about thirty miles southeast of it, on the so called Médano, in the southeastern corner of the Mesa de los Jumanos.

Besides these three pueblos there is mention of a fourth, the location of which I have not been able to ascertain, that of the Jumanos. In addition, there are several other ruins of large-house villages, some of which may have been still occupied in the seventeenth century, or at least at the close of the sixteenth.<sup>1</sup> Besides the Piros, the Jumanos inhabited, or roamed over, the country. To what extent the Jumanos of New Mexico were village Indians, I am unable to say. In Eastern Chihuahua they seem to have dwelt in huts or small houses of a permanent character, covered with roofs of sod or earth, similar to those of pueblo buildings.<sup>2</sup> There is much contradiction in the older authorities concerning the true condition of the Jumanos of New Mexico. Oñate, in 1598, speaks of the "three large pueblos of the Xumanas, or striated Indians, called, in their language, Atri-puy, Genobey, Quelotetrey, Pataotrey, with their subjects." Among these villages one is described as being very great.<sup>3</sup> Thirty-two years later, the Jumanos of

<sup>1</sup> I refer to the statements of Espejo, Chamuscado, and of Benavides, regarding the number of the inhabited pueblos in the neighborhood of the Salines.

<sup>2</sup> Espejo, *Relacion del Viage*, p. 105: "Y con pueblos formados, grandes, en que vimos cinco pueblos, con mas de diez mil Indios y casas de azutea, bajas y con buena traza de pueblos." *El Viaje que hizo Antonio de Espio* (page 4) corrupts this original text by adding, "y de calicanto." This means "of stone and lime."

<sup>3</sup> *Obediencia de San Juan Baptista*, p. 114. *Discurso de las Jornadas*, p. 266.

New Mexico are spoken of as living in tents and leading the life of nomads.<sup>1</sup> The same must be inferred from the diary of Juan Dominguez de Mendoza, in 1684.<sup>2</sup> But in 1700 a "pueblo of the Jumanos" is mentioned.<sup>3</sup> There are depositions of Indians from this pueblo of the Jumanos in the years between 1681 and 1684; but they declared themselves to be Piros.<sup>4</sup> I cannot determine, therefore, whether any of the ruins south or east of the Salines are those of permanent villages of the Jumanos tribe.<sup>5</sup>

The name "Mesa of the Jumanos" is given to the extensive plateau bordering the basin of the Salines in the south, which rises rapidly to about four hundred feet above the level of the salt lakes, and then gradually slopes down to the south and southeast. Its northern brow lies higher than Manzano, but the so called Gran Quivira, as the ruins of Tabirá are popularly called, lies five hundred feet lower, so that the slope, in its whole length of seventeen miles, is about nine hundred feet. The northern slope and brow of the mesa are covered with trees, but the southern declivity is a grassy plain without permanent water. On the north side, however, there are a few inconsiderable springs.

On the east, the mesa is bordered by a long flow of sand, resembling the bed of an ancient river. This "Médano," as it is called, runs in a southwesterly direction. The western rim of the mesa is cut off rather sharply, and its brink is wooded to some extent. The Médano, as far as known, is

<sup>1</sup> Benavides, *Memorial*.

<sup>2</sup> *Diario de las Jornadas*, 1684, MS.

<sup>3</sup> Escalante, *Relacion*, p. 180.

<sup>4</sup> These documents are interrogatories concerning insurrections of the Mansos and Sumas now at El Paso del Norte.

<sup>5</sup> The pueblo of the Jumanos is said by Escalante, *Carta al Padre Morfi*, (par. 2,) to have been destroyed by the Apaches. Vetancurt (*Crónica*, p. 325) says that fifteen leagues from Abó there were a few "Xumanas, que eran de Quarac administrados."

waterless, and on the whole surface of the mesa no traces of springs have been found. South of Quivira lies an arid waste. East of it, it is many miles to the nearest watering place, at the foot of the Sierra de la Gallina. The valley of Abó, west of the Mesa de los Jumanos, offers the only exception in this otherwise very unprepossessing section of New Mexico. It is a long depression, partially wooded, with a tiny stream, the Arroyo de Abó, running through it for some distance. The village of Abó itself lies twenty miles south of Manzano, in a pleasant valley, which, both higher up and lower down, narrows to a cañon of moderate depth. The site is quite romantic. Cliffs of red sandstone rise along the little brook, crowned by clusters of pines, cedars, and junipers. In the northwest, the Manzano chain like a diadem, silvery white in winter, dark green in summer, crowns the wooded landscape.

Nearly in the centre of this valley rise the picturesque ruins of the church of San Gregorio de Abó,<sup>1</sup> with the remains of its convent; and adjacent to it are the rubbish mounds of the former pueblo, forming several quadrangles communicating with one another. It was a pueblo similar to Cuaray, but larger, and built of stone and mud. Abó lies nearly a thousand feet lower than Manzano, and there was consequently less snow on the ground, so that I could make at least an approximate ground plan of the ruins. But I had the misfortune afterwards to lose the detailed field-notes upon which this ground plan was based.<sup>2</sup> The church is smaller

<sup>1</sup> Vetancurt, *Crónica*, p. 325: "San Gregorio Abbo. . . . Tiene su sitio en el Valle de las Salinas." This is another of the erroneous geographical statements of this author; Abó lies twenty miles south of the most southerly edge of the salt basins.

<sup>2</sup> When I surveyed Abó, on December 31, 1882, it was so cold that I could scarcely write in the open air, so I made but short notes, which I transferred to other sheets from time to time in the nearest house. From these sheets I drew a

than that at Cuaray, and built mostly of stone, with some pillars of adobe. The stones from the pueblo ruins have been used for building the houses of the modern hamlet of Abó, so that these ruins show traces of only one story. But the inhabitants informed me that forty years ago<sup>1</sup> there were three stories still visible in places. I saw two circular estufas, and judge the pueblo to have contained as many as a thousand souls, provided all the houses were simultaneously occupied. The pottery is of the coarsely glazed kind; and flint and some obsidian was also noticed by me. Old residents of Abó informed me that, when they first opened the lower cells of the pueblo, they found in some of them unburied skeletons.

I will quote here the earliest published description of the ruins in the English language, by Lieut. J. W. Abert, who visited the place on the 4th of November, 1846, and says: "At sundown we reached Abó, where I found my party comfortably encamped. This town is also one of the ancient ones; there are most extensive ruins scattered around in all directions, all built in the style of those at Quarra. Here, also, is a large cathedral. Its ground plan is in the form of a cross; the short arm is twenty-two and a half feet wide, the long arm is thirty feet wide; their axes, respectively, twenty-seven feet and one hundred and twenty feet; and at the head

ground plan in colors, which, together with the remainder of my water-color sketches, are now in the Vatican Library at Rome. They were presented to Pope Leo XIII. by the Archbishop of Santa Fé on the occasion of the pontiff's jubilee. The Archæological Institute had not the means for publishing them, and very kindly left me at liberty to dispose of them for my own benefit. All my endeavors to place the collection in this country failed, owing to lack of interest in the subject. But the ground plans of Cuaray and Abó will be carefully preserved in the Vatican Library. The sheets of field-notes I afterwards lost, together with a few other pages of my Journal; but this was after I had painted the ground plans in detail.

<sup>1</sup> The settlement at Abó, which consisted in 1882 of half a dozen houses, was made after 1849.

of the cross there is a projection about nine feet square; this makes the total length one hundred and twenty-nine feet. The areas, intersected at a distance of thirty-four feet from the head of the cross, or forty-three, including the projection. The areas of the cross coincide with the lines that pass through the cardinal points. In the east end of the short arm there is a fine large window, the sides of which have what is called a flare, a style often used in Gothic windows. The walls of the church are over two feet in thickness, and beautifully finished; so that no architect could improve the exact smoothness of their exterior surface.”<sup>1</sup>

The rocky bed of a small mountain torrent, called Arroyo del Empedradillo, separates the church and the ruins adjacent to it from another pueblo ruin consisting of several connected rectangles with faint traces of estufas in their interior squares. These ruins are much more obliterated than those about the church; the mounds are lower and more flattened, and gave me the idea that they were the vestiges of an older pueblo of the same tribe. According to the size of the mounds and their number, this second village contained more people than the first. I cannot decide whether there were two pueblos of the Abó tribe successively inhabited, or whether there was but one, built on both sides of the arroyo. The pottery is the same in both, with coarsely glazed decorative lines and symbols, plain red, and black. Some corrugated and indented shards also occur. If the size of the church be any indication, I should presume that the historical village was the one near it, and that the ruins beyond the Arroyo del Empedradillo are those of a more ancient town, abandoned previous to the establishment of the mission, or

<sup>1</sup> *Executive Document, No. 41. Report of Lieut. J. W. Abert of his Examination of New Mexico, in the Years 1846 and 1847, p. 488.* The accompanying view of the church is quite well executed.

soon afterwards. If, however, both settlements were occupied contemporaneously, that would make Abó a very large pueblo, probably equal in population to Pecos.<sup>1</sup>

No information on this question is found in the documentary material at my command. Abó is mentioned as early as 1598;<sup>2</sup> but the foundation of the mission dates between 1625 and 1644. Fray Francisco de Acevedo is credited with having caused the erection of its church, who died at Abó on the 1st of August, 1644, and his body was buried within the temple.<sup>3</sup> The Apaches compelled the abandonment of the mission and of the pueblo before the insurrection of 1680, and many of its inhabitants were already at El Paso del Norte in 1671.<sup>4</sup> To-day the Piros of Senecú in Chihuahua claim to be the last descendants of the Abó tribe.

I cannot sufficiently insist upon the necessity of studying the folk-lore of the small remnant of the once numerous stock of the Piros which to-day inhabits Senecú. With the help of these traditions we may possibly be able to determine which of the other ruins in the Abó valley are prehistoric, and which belong to the historic period. The dispersion of the Piros, the long period of complete abandonment of their country owing to the Apaches, and the absence of documentary material concerning the missions,<sup>5</sup> have created

<sup>1</sup> I may overrate the population of Abó in placing it at two thousand souls. This estimate of course includes both ruins.

<sup>2</sup> It appears first in the *Obediencia y Vasallaje por los Indios del Pueblo de Cúloce*, October 17, 1598 (Doc. de Indias, vol. xvi. p. 123). Abó is mentioned in company with "Xenopué," "Cuéloce," and "Patasce." These last I cannot identify. Previously, in the *Obediencia de San Juan Baptista* (p. 115), it is mentioned as "Abbo."

<sup>3</sup> Vetancurt, *Menologio*, p. 260. Fray Francisco de Acevedo was a native of Seville, and took orders at Mexico in January, 1625. "Hizo la iglesia en San Gregorio en Abbo." Also *Crónica*, page 325.

<sup>4</sup> *Libro Primero de Casamientos del Paso del Norte*.

<sup>5</sup> This is due to the destruction of the church records by the Indians in 1680.

a blank which could be partly filled only in Spain, unless the folk-lore of the Piros at Senecú comes to our rescue.

Abó is not the only historic pueblo in that vicinity. Fray Francisco de Acevedo is said to have built a chapel at a pueblo called Ten-abó,<sup>1</sup> but where it stood I am unable to determine. I have thought that the ruins at Siete Arroyos, to the left of the road that leads from Abó to the Rio Grande, may be those of that village. I was informed of the tradition that there had formerly been a church on this spot. The ruin at Siete Arroyos, which I was prevented from visiting by the state of the weather and by sickness, is described as that of a pueblo smaller than Abó, but larger than the other ruins found elsewhere in the valley. Of these I visited four with better success than I had at the main ruin.

Three miles south of Manzano begins a wooded ridge, on the summit of which stands a little settlement called "La Cienega." It is a very cold spot in winter, but there is permanent water and fertile soil. Precipitation is also greater at that altitude than lower down, so that irrigation was not required for the corn, beans, and squashes which only the Indian cultivated previous to the introduction of other plants by the Spaniards. I saw pottery found at Cienega, belonging exclusively to the most ancient kinds. I was not surprised, therefore, to hear that remains of small houses have been found scattered over the site of the present Mexican settlement. Such ruins also occur farther south, near the Abó road, at the "Loma Parda," and east and south of Abó.

About a mile east of Abó, on the "Cerro Pelon," a bare hill in the centre of a basin partly overgrown with trees and shrubs, stand some mere flat mounds, which were houses of

<sup>1</sup> *Menologio*, p. 260: "Y en dos pueblos pequeños de Tenabó y Tabira otras dos menores iglesias." *Crónica*, p. 325: "Tiene dos pueblos pequeños, Tenabó y Tabira, con ochocientas personas que administraba un religioso."

the small type. The pottery on their surface is characteristic, not a single glazed specimen appearing among it.

At the base of the western front of the Mesa de los Jumanos, about four miles northeast of Abó, at what is called "Torneada," I examined the ruins of two houses. The foundations are plainly visible, and from the number of cells I infer that at least one of these houses, if not both, had two stories originally. The walls were of irregular blocks of the red sandstone common in the country, of the usual thickness. The pottery was distinctly of the large-house kind, having a thick glaze over the decorative lines and symbols. Traces of a circular *estufa* appeared near one of the buildings.

There is an extensive view from the spot on which these ruins stand. The whole valley of Abó spreads out, and west of it loom up the peaks along the Rio Grande, from the Sierra de los Ladrones in the north to the Fra Cristobal in the Jornada del Muerto. The Mesa de la Torneada, at whose base the ruin lies, is an advanced post of the great Jumanos plateau, and the nearest watering place, the "Aguaje," is about a mile distant. For the few families, perhaps sixty people, which the two houses could shelter, there is sufficient arable soil in the neighborhood. As to the tribe to which this little pueblo may have belonged, I conjecture that they were Piro, since the latter held the entire valley, and I have no knowledge of any other stock preceding them that dwelt in buildings of the large-house type. The ruins do not show as much decay as some of the mounds at Abó.

If we follow along the western front of the Mesa of the Jumanos to the southward, a series of dry "cañadas" are crossed, all of which contain patches of very fertile soil, although there is no water. But the summer rains suffice for the growing of corn, and other vegetables, and the present inhabitants of Abó remove to these spots in summer, rather



than rely upon the scanty water supply afforded by the inconsiderable Abó Creek. The Cañada del Puerto Largo is the most considerable of these gulches, which all descend from the Great Mesa, and through two of which old trails lead to the famous ruins of Gran Quivira, or Tabirá. Not far from the Puerto Largo I found a number of ancient summer lodges, or ranchos, of Pueblo Indians, which were indicated by posts stuck in the ground, and by forked branches, half buried, scattered about them.

At the first glance these vestiges resembled those of huts of nomadic Indians; but a number of glazed potsherds scattered about indicated that earthen vessels had been used on the spot for a certain length of time; and, besides, the appearance of foundations of rubble proved that I had before me the remains of ancient summer ranchos of sedentary Indians. At this day the people of Abó spend part of the summer there to watch their crops.

There is a very characteristic cluster of small houses on a wooded mesa above the bottom in which the ruins of the church and pueblo stand. This cluster lies in a direct line not over a mile from Abó. A number of foundations of rubble, little mounds of rubbish, round as well as elongated, indicate buildings varying from 3 meters ( $8\frac{1}{2}$  feet) square to 3 by 6 meters ( $8\frac{1}{2}$  by 17 feet). The potsherds are characteristic, and as different from those at the large pueblo as is the pottery of the small-house village above the mouth of the Parida, near Socorro, from the pottery of the compact ruin in the bottom below. Here also were vestiges of the two types of buildings in close proximity to each other, indicating two successive occupations, perhaps by tribes distinct from each other, perhaps by one and the same tribe changing its architecture and house life in the course of time.

The mesa or "loma" on which these small houses stood

overlooks a gorge bordered by low cliffs, called the Cañon de la Pintada. The name is derived from a number of aboriginal pictographs, executed in red, yellow, green, black, brown, and white, in sheltered places on the walls of the cliffs. They are mostly human figures, and their colors lead me to suspect that they date from the historical period, for the yellow looks like chrome-yellow, and the green is far too bright not to be some paint unknown to the primitive Pueblo Indian. Some of the figures are interesting; for example, a man in yellow, with a round cap on his head. This figure is called by the people of Abó "El Capitan." Really important are two figures of Indian dancers, one of them masked, showing the naked and painted chest and the gaudy kilt worn by the men on solemn occasions. The other plainly represents a "delight-maker," or jester, with his body painted black and white after the manner of the Koshare, Kosare, Kuenshare, or Shi-p'hung, as these clowns are called among the Queres, Tchuas, Jemez, and Tiguas.<sup>1</sup> By the side of the human figure stands a snake, apparently rising to, or descending from the face of the dancer. When I showed a copy of this pictograph to one of the leading Shamans of San Juan, he appeared startled, and finally confessed that it was a record of the snake dance, in the shape of a Kosare playing with the reptile.<sup>2</sup> As the paintings are probably of the time when New Mexico was already Spanish, I believe that the Piros of Abó made them. The snake dance is a Cachina, and these pictographs therefore confirm what my Indian friend from Cochiti stated in regard to the paintings

<sup>1</sup> Part I. pp. 286, 303, 307, and 315.

<sup>2</sup> It forcibly recalls the observation recorded by Espejo, *Relacion y Expediente*, p. 180: "Hicieron un mitote y baile muy solemne, saliendo la gente muy galana y haciendo muchos juegos de manos, algunos dellos artificios con vivoras vivas, que era cosa de ver lo uno y lo otro." This was at Acoma. The pictograph seems to prove that the snake dance was also practised by the Piros.

at the Cueva Pintada, — that such records of the Cachina were usually executed whenever a pueblo was to be forever abandoned. Should this hold good in the light of future investigations, it is quite likely that the paintings in the Cañon de la Pintada date from the time when Abó was definitely abandoned, or from about 1671. Besides the human figures, there are various symbols, such as the rain, shields, and head-dresses, all of which figure in Pueblo Indian dances, and more particularly in the Cachinas.

An arid plain separates the pass of Abó from the Rio Grande bottom, and neither on that plain nor in the pass itself have I heard of or noticed any vestiges of Indian habitations. Absence of permanent water and lack of precipitation, combined with the want of arable soil, render it likely that these sections will be found to contain no ruins. West of Abó there were Piro pueblos along the Rio Grande, at Sabinal and La Joya; but at least twenty miles in a straight line separated them from the nearest village in the Abó valley, at Siete Arroyos. This separation of the two clusters is interesting. It may bear upon the problem of how and from which direction the Piro reached Abó and the Salines, in times anterior to the sixteenth century; and whether their pueblos on the Rio Grande are not the result of a gradual withdrawal from earlier settlements established still farther east.

I will now turn to the ruins about the Mesa de los Jumanos, and the long mysterious Gran Quivira.

Along the western rim of the Médano extends a line of pueblos, among which the Pueblo Blanco, the Pueblo Colorado, and the Pueblo de la Parida are best known. On account of continuous snow-storms, I could not visit any other of them than the so called Quivira, and two smaller ruins, three or four miles south of it. Southwest of these,

Chupaderos is the next place where pueblo remains are found, and thence on towards Socorro the ruins on the Parida gulch continue the series. Indian villages of the large-house type, seem to have extended on a line from Socorro northeastward, as far as the southeastern corner of the salt lake basin. Presumably they were Piros, and the line indicates either an advance of that tribe from the Rio Grande valley towards the Salines, and perhaps beyond, or the contrary.

A volcanic mesa rises east and south of Chupaderos. This plateau has been regarded by some as of modern origin, and the destruction of the pueblos on the Médano, especially of Quivira, has been attributed to its upheaval. That seismic disturbances may have proved disastrous in such remote regions, and remained unnoticed by the inhabitants of the Rio Grande valley except as violent but harmless earthquake shocks, is not impossible, but there is no doubt that Quivira, for instance, had to be abandoned on account of the Apaches, and not owing to volcanic phenomena of a destructive character.<sup>1</sup>

Of the ruins south of Chupaderos I shall treat hereafter. I have already noticed the ruins east of the Médano, at the Sierra Capitana, and perhaps beyond, nearer to the Pecos River. On the Mesa del Camaleon, towards the Sierra de la Gallina, there is said to be a considerable ruin, which was described to me as that of a large-house or typical pueblo.

<sup>1</sup> See Introduction to Part II, page 24. I also refer to my letter to the committee of the Institute in the *Fifth Annual Report*, page 88. My friend, Mr. R. B. Willison of Santa Fé, told me of a legend current among the Indians of Senecú in Chihuahua, that when their ancestors were moving from Abó to the Rio Grande they saw in the east or southeast a mountain burning. Some of the Apaches also speak of mountains being on fire in that region. I have not discovered any trace of such phenomena in my documentary material.

The ruins on the Médano north of the so called Quivira have also been described to me as regular pueblos, and as provided, each of them, with one or more artificial water tanks. There are no traces of springs near any one of them. Aridity is characteristic of the Mesa of the Jumanos and its surroundings, and it has perplexed all those who have investigated the region and paid some attention to its antiquities. Many have been the hypotheses resorted to in order to explain how agricultural Indians could subsist in such a waterless country, destitute not only of means for artificial irrigation, but even of the water necessary for personal use. The Médano has been imagined to have been a large river during historical times, which dried up in consequence of the volcanic upheavals at Chupaderos. I repeat here what I wrote to the Institute on this subject in February, 1884: —

“The tale that within historic times a great river flowed southward east of the Sierra Osdura, Sierra de San Andres, even of the Sierra de los Organos and of the Paso range, which stream had been interrupted by the upheaval of the great lava bed south of the Gran Quivira and north of the Sierra Blanca, is deeply rooted and often told. There is very positive evidence to the effect that within the documentary period no such cataclysm has occurred, and the cause of the abandonment of what is called Quivira now is well known.”<sup>1</sup>

To this I will add, that, since it is well established that the Salines were visited by Chamuscado in 1580, probably by Espejo in 1582, and certainly by Oñate in 1598, one of them could not have failed to notice this river had it existed; for a stream of such magnitude, second in size only to the Rio Grande, must have attracted their attention, and would have become an important factor in the subsequent settlement of the country. There is no trace of it in

<sup>1</sup> *Fifth Annual Report*, p. 88.

any of the documents of these periods. Hence it is legitimate to conclude that, if the Médano ever formed a considerable stream, it was prior to the sixteenth century, and if the obliteration of that river was due to the upheaval of the Chupaderos Mesa, that disturbance also took place before the Spaniards arrived in New Mexico. Lastly, since, as I shall hereafter establish, the pueblo called Quivira was in existence as late as the seventeenth century, its destruction cannot have been due to volcanic phenomena at Chupaderos.

I should not be surprised if, in the course of future historical investigations, it should be found that the pueblos of the Médano, or some of them besides Quivira, were occupied as late as the middle of the seventeenth century. That they were Piro villages is almost certain; and we must remember that Chamuscado, in 1580, saw eleven pueblos around the Salines, and Benavides, half a century later, speaks of fourteen or fifteen. Even allowing three pueblos to the Tiguas at Manzano, it leaves for the Piros a greater number than are positively identified as having belonged to them. The cause of the abandonment of these settlements was doubtless the inroads of the Apaches.<sup>1</sup>

<sup>1</sup> Allowing three villages (an exaggerated number) to the Tiguas at Manzano, one at Chilili, one at Tajiique, and one at Cuaray, it leaves to the Piros from five to nine. Only three are positively known. — Abó, Tenabó, and Tabirá, or Quivira. Adding to these the problematic "Pueblo de los Jumanos," there are still from one to five to account for. Therefore it seems to me probable that one or more of the pueblos called to-day "Blanco," "Colorado," and "Parida," were still inhabited after the Spanish occupation of New Mexico.

It is possible that the danger to which the Piros on the Médano were exposed from the Apaches caused the smaller pueblos to unite in a larger one, where a mission had been established, and where a small escort of soldiers did what was usually called "frontier" duty. Tabirá, or Quivira, was probably that mission; afterwards Abó. That there was such an escort at the Salines, not far from Cuaray, is proved by Fray Juan de Salas in his *Villetes* to Governor Pacheco de Heredia in 1643.

I have also heard of vestiges of detached houses on the eastern edge of the mesa, but this needs confirmation. The chief interest for the antiquarian, however, lies in the ruin called "La Gran Quivira." In the first part of this Report, I have already stated that this designation is a misnomer, and that these remains, long a mystery, are those of the Piro village and mission of Tabirá.<sup>1</sup>

A ground plan of the ruins is given on Plate I. Figure 29. It will be noticed, —

1. That the pueblo, although considerable, by no means justifies the extravagant descriptions of tourists and prospectors. The population of Tabirá cannot have amounted to more than fifteen hundred souls.

2. That it was a scattered large-house village, — a long, narrow pueblo, with many-storied houses, similar in its arrangement to the pueblos of Santo Domingo, Jemez, and Laguna, of to-day.

3. That there were two churches, each with its convent attached.

For a corroboration of my ground plan, as well as of some of the details which are to follow, I refer to the plat published by Lieutenant Morrison, U. S. Army.<sup>2</sup> It will be seen that his survey agrees with mine in the main, and that I have not underrated the extent of the settlement. Tabirá presents nothing unusual to one who is familiar with pueblo architecture, either of the past or of the present time. And yet for nearly a century these ruins have been looked upon as something unique among the antiquities of New Mexico, in size and in manner of construction, and as mysterious on account of their situation in a waterless waste.

<sup>1</sup> Page 131, note 2.

<sup>2</sup> *Annual Report of the Chief of Engineers for 1878*, Appendix NM (App. F.), Part III. p. 1558.

I have already said that Quivira was situated near the southern apex of the triangle formed by the Mesa de los Jumanos. From Manzano the distance is about thirty-five miles, and it is seventeen from the northern rim of the mesa. The space between that rim and the ruins is a gradual slope, covered with grass and without permanent water. At the foot of the ruins, on the west, lies the Médano, a sandy gulch, above which rises a hill of gray limestone, a promontory of the ridges bordering the Médano on the east. On this hill, which is quite narrow and dotted with the usual scrubby conifers, lie the ruins, the larger church occupying its westerly brow and overlooking a vast expanse of singular bleakness. In the west, the summits of the Socorro and Madalena Mountains peep over the wooded border of the Jumanos plateau; in the south, an undulating level dotted with black shrubs stretches towards the dim mass of the Sierra Blanca; in the east, over dreary ridges and hills, rise the mountains of the Carrizo, the Sierra Capitana, and the Gallina, rugged, dark, forbidding; while the north is occupied by the sloping surface of the plateau. Not a trace of a spring has been discovered near the ruins; not a brook trickles down from the heights in their vicinity.

In this arid solitude the massive edifice of the church, with the mounds of the pueblo, look strangely impressive. From the west the church can be seen miles away, a clumsy parallelepiped of gray stone; from the northeast, through vistas of dark cedars and junipers, the ruins shine in pallid light, like some phantom city in the desert.

An examination of the details dispels the illusions created by distance and surroundings. We find in all eighteen Indian houses of various sizes, and six circular estufas. The largest houses measure respectively 14 by 70 m.; 5.7, 7.8, and 17 by 60 m.; 58.3 by 33.6 m.; and 14.7 and 51.3 by 8.8 m.



The walls are of irregular pieces of gray limestone, laid in adobe mortar, and from 0.33 to 0.35 m. thick. As the stone is quite hard, the work on these walls looks more carefully executed than in many other ruins, but on the whole the difference is not considerable, and the statements that the stones were hewn are utterly without foundation. The pueblo had certainly three stories, in some places perhaps more. The estufas vary in diameter from 6.6 to 8 meters. They are still quite deep, and may have been, like those of Taos, completely under ground. Among the rooms I measured one which was 6.2 m. long by 2.3 m. wide (19 by 7 feet). But the average of 196 cells is 2.8 by 3.7 m. (9 ft. 2 in. by 12 ft. 6 in.). I saw some doorways, low and narrow as at Pecos, with lintels of stones. Traces of the roofs, consisting of occasional beams, of pieces of brush, and of frozen earth, proved that the roofing was the usual one. The estufas had thin stone walls. In short, after three days spent in examining every part of the ruin, I found nothing that was not strictly in accordance with the characteristics of ordinary pueblo architecture. That the village is longer than pueblos of the older kind usually are, and does not appear so compact, is not surprising, since the configuration of the ground compelled the inhabitants to build the houses along the crest of the ridge, and therefore to stretch them out, instead of arranging them in squares. To a certain extent, it might be said that Quivira consists of two rows of houses, forming an alley or narrow street.

A great deal of pottery was strewn over the ruins, the kind with glossy ornamentation largely prevailing; but there was also some corrugated, indented, and plain ware, and a few pieces of black and white. Much flint and some obsidian lay about, and arrow-heads were comparatively numerous. I also found a flint awl, and broken metates and grinders were abundant. In short, the artificial objects fully sustained the

impression conveyed by the architecture, that Quivira was an ordinary pueblo of considerable size, whose inhabitants stood on the same level as the other Pueblo Indians of New Mexico.

Southeast of the smaller of the two churches, I noticed a structure forming approximately a hollow square, and measuring 19.2 meters from north to south and 18.2 meters transversely. It had but one entrance, in its southeastern corner, which was one meter wide. The walls were 0.22 m. wide and only 1.6 m. apart. What this construction was intended for I am unable to conjecture.

I have stated that there were two churches at Quivira. The smaller one stands south of the main rows of houses, the larger on the brow of the hill, overlooking the western plain and the Médano. Connected with the former is a yard, some of the circumvallation of which is still visible. The church is much ruined, only the corners standing erect to the height of a few feet.

The larger, and from all appearances newer, church at Quivira is a building of considerable size, since it measures 35.6 meters (116 $\frac{3}{4}$  feet) from east to west, and 7.4 meters (23 feet) from north to south. Adjacent to it, on the south, are the ruins of a convent, containing a number of cells and a refectory, all built around an interior courtyard. This convent is 30 meters (98 $\frac{3}{4}$  feet) long from east to west, and 40.8 metres (133 $\frac{3}{4}$  feet) from north to south. The temple is therefore somewhat smaller than those of Cuaray and Abó, while the convent is larger, — so large even as to suggest the thought that it was destined for the residence of several missionaries. Both edifices are built of the same material as the pueblo houses, but the work is a little more carefully executed, and the walls are much thicker. The east front of the church is nearly two meters (six feet) in thickness, and flanked

by two buttresses or towers 4.4 meters (14½ feet) square. Huge beams, quaintly carved like those at Pecos, but more massive, fairly hewn, and approximately squared, are still in place across the doorways and in some parts of the interior of the church, but the roof is completely gone. Much rubbish fills the interior, and from appearances I should judge that the roof was never completed over the whole church, and that the walls of the convent had not been reared to their full height when work on them was given up. The whole has an unfinished appearance, and the same impression has been made by the ruins upon several other visitors. It looks as if the work had been suddenly interrupted, and was never resumed.

After examining the two churches, I turned my attention to the question of the water supply. The most diligent search revealed no trace of springs in the neighborhood, yet there appeared in the middle of the narrow street formed by the principal buildings of the pueblo a groove not unlike a channel. Following this channel in the direction of the northeast, that is up the crest of the eminence, I noticed that it was in places from two to three meters wide (6½ to 9½ ft.) and about 0.50 m. (22 in.) deep. Potsherds lined its course. Three hundred meters (980 feet) northeast of the most easterly house of the pueblo the ditch terminated in an artificial pond thirty-five meters in diameter (115 feet).

A short distance southwest of this pond I found another, thirty meters (98 feet) in diameter and nearly three meters (9 feet) deep. Fifty meters to the eastward of the first was a third reservoir, forty meters (130 feet) across and two meters deep. It stood on the highest point of the ridge, and still shows traces of a rim of stones. In several places this rim is broken through by gullies. The fall from this uppermost tank to the first house of the village is ten meters (32½

feet) in a distance of a quarter of a mile. The rims of all three tanks and of the channel were covered with fragments of pottery, showing that much water had been carried from them to the pueblo; also that washing and cleansing had been performed along the channel and at the ponds.

This system of reservoirs, so arranged that the highest one emptied into the others, fully explained the mystery of the water supply for the Gran Quivira. From the lowest tank the water was led not only to the pueblo, but through it, to the western slope of the ridge on which the village stood. I followed this channel back, and found that it emptied at its lower end into a fourth artificial pond constructed about thirty-five meters west of the northwestern corner of the pueblo, on the declivity, some distance below the church and northwest of it. This last reservoir is as wide as the largest of the upper ones. Its depth is still three meters, and the rim of stones around it is perfect, from northeast by north to west. In the direction of the north and northeast, two artificial channels run from it down the slope, by means of which the small garden plots could be irrigated.

As the aggregate area covered by the four ponds is about 4,100 square meters, or 44,075 square feet, that is, very nearly one acre, it follows that they afforded enough water for the daily supply of a population of fifteen hundred souls, but for the irrigation of the fields which this number of people would require they were of course inadequate.

But Quivira, as well as all the other pueblos in that region, did not require irrigation for the crops which they raised before the Spaniards brought them wheat, barley, and other European plants. The grass on the Jumanos plateau shows, as all those acquainted with the country know, that the precipitation is ample in ordinary summers for raising corn, squashes, and beans. All that was needed, therefore,

was water for drinking, cooking, for making adobe mortar, and for the limited amount of washing performed by the Indian. For such purposes the reservoirs sufficed, and they were in such close proximity to the houses that it was not easy for a prowling foe to cut off the water supply. The fact, repeatedly stated to me, that the other ruins on the Médano were all provided with artificial reservoirs, further shows that it was not a device peculiar to Quivira, but one generally adopted by the Pueblo Indians of that region.

On the last day of my stay at Quivira I satisfied myself of the truth of this conclusion. About three miles south-south-west of it, at the other end of a level covered with splendid grass, rises the Loma Pelada, a hill thirty-five meters (98 feet) above the surrounding plain. This bald eminence bears the remains of a pueblo similar to that of Quivira, but considerably smaller and much more decayed. The mounds are shapeless, flat; and, instead of being in long rows, are disposed in a circle around the top of the hill. I noticed two estufas, and only nineteen meters southwest from the village an artificial pond twenty-two meters in diameter. About one mile farther, at Lagunitas, is another pueblo ruin with an artificial water reservoir. It seems, therefore, that all over this arid region the villages relied upon such contrivances, in the same manner as they do to-day at Acoma.

Well may we ask, What could have induced the Indians to settle and to remain in a region where they had to forego the great convenience of a natural water supply? We may conjecture that necessity, the result of being driven back from other points, had something to do with it; still it cannot be denied that, however unprepossessing to the eye, the country offers many advantages to the sedentary native. The soil is far from sterile, wood is everywhere within reasonable distance, and game abundant; and every pueblo on the

Médano stands, as far I could ascertain, so as to be easily defended and to afford excellent lookouts. They are all specimens of that peculiar kind of Indian defensive positions, in which the absence of obstacles to a wide range of view becomes the main element of security. The roving Indian seldom could have taken a pueblo by surprise, still less by direct assault; against both, the villages on the Médano were almost impregnable; against persistent attacks on a small scale, however, the sedentary Indian could not long hold out.

Having shown that the ruins of the famous Quivira not only have nothing mysterious about them, but that they belong to the category of ordinary Indian pueblos, and that the water question can be solved in a very simple manner, it remains to investigate what Quivira was during historical times, and to which stock or tribe of Pueblo Indians it belonged. There is no doubt that it was an historic pueblo, for its churches and their convents are of Spanish origin, but that Quivira was not its true name is also certain, since the Quiviras, as I have elsewhere proved, were a nomadic tribe, and no permanent mission was ever established among them, still less churches built and convents erected.<sup>1</sup>

As it has been ascertained that "Quivira" was not the proper name of the place, and that the village was still inhabited after the year 1600, — and as we know that up to that date the Spaniards had built but a single church in New Mexico, the one at Chamita on the Upper Rio Grande, — for the identification of the place we must inquire which were the missions founded in the seventeenth century east of the Rio Grande valley and south of the Tanos region, where

<sup>1</sup> Compare Part I., page 170 *et seq.* Also my essay in the "Catholic Quarterly Review," July, 1890, *Fray Juan de Padilla, the first Catholic Missionary and Martyr in Northeastern Kansas*; and articles in "The Nation," October 31 and November 7, 1889, entitled *Quivira*.

they were located, their names, and which of them were provided with churches and with abodes for resident missionaries. In addition to the Tigua missions already spoken of, to wit, Chilili, Tajique, and Cuaray, there existed in the seventeenth century in the vicinity of the Salines three missions of the Piros, Abó, Tenabó, and Tabirá. A pueblo of the Jumanos is also spoken of, but, while repeated efforts were made to Christianize that tribe, I have nowhere found any mention of a permanent mission with a church or chapel. A priest had in his charge several "ranchos," or gatherings of lodges of the Jumanos, who lived about fifteen leagues (forty miles) east of Abó;<sup>1</sup> but the distance does not agree with that of Quivira from Abó, and still less does the fact that these Christian Jumanos were ministered to from Cuaray tally with the two churches and convents at the Quivira. Our choice is therefore limited to Tenabó and Tabirá; since at both places small churches had been erected by Fray Francisco de Acevedo, and a special priest attended to them.<sup>2</sup> Tenabó appears in but one document of the seventeenth century, while Tabirá is repeatedly mentioned; the latter, therefore, must have been the more important settlement. If the report is true that at the ruin called "Siete Arroyos" in the Abó valley there are the remains of a chapel, I hold that this was the pueblo of Tenabó; in which case Quivira can have been no other than the pueblo of Tabirá. Thus far documentary evidence from the time anterior to the uprising of 1680 has been followed.

On a map of New Mexico bearing date 1705, the original draft of which was transmitted to the French Academy by a Spanish grandee, Tavira is marked at a short distance south of Abó, but southeast of Cuaray.<sup>3</sup> On a manuscript map,

<sup>1</sup> Vetancurt, *Crónica*, page 325.

<sup>2</sup> Ibid.

<sup>3</sup> *Carte de Californie et du Nouveau Mexique*, par N. de Fer, Géographe de

however, of the second half of the past century, preserved in the National Archives at Mexico, Tabirá appears exactly in the position which the Quivira occupies; and the name is also accompanied by the figure of a large church.<sup>1</sup>

Lastly, an Indian of San Ildefonso, now deceased, but with whom I was well acquainted, assured me most positively that Quivira was the old pueblo of Tabirá; and this was afterwards repeated to me emphatically by an old Indian of Santo Domingo, who was well acquainted with the locality.

From all these indications I conclude that Tabirá is the proper name of what to-day is called "La Gran Quivira."

Tabirá was a settlement of Piroes beyond all doubt,<sup>2</sup> and was abandoned, probably before Abó and the Tigua villages of the Salines, in consequence of the Apaches.<sup>3</sup> Its evacuation therefore dates from between the years 1664 and 1671. The smaller and older church had been erected during the lifetime of the founder of the mission, Father Acevedo, prior to 1644, though after 1628.<sup>4</sup> The new church must be subsequent to 1644, and was probably commenced, but never completed, between 1660 and 1670. With these scraps of historical information touching the past of Tabirá, alias Gran Quivira,<sup>5</sup> I take leave of the place to cast a glance at ruins farther south.

A large pueblo exists at Nogal, about twenty-five miles north of Fort Staunton, near the Sierra Blanca, which a Piroes

Monseigneur le Dauphin, 1705. On the same map "Humanos" is marked distinct from Tabirá and south of Cuaray. The directions are of course wrongly indicated.

<sup>1</sup> Tabirá is also spoken of as a former mission, but abandoned, in Morfi, *Descripción Geográfica*, 1782, fol. 107.

<sup>2</sup> Part I. page 131, note 2.

<sup>3</sup> Escalante, *Carta*, par. 2.

<sup>4</sup> Vetancurt, *Crónica*, p. 325. *Menologio*, p. 260.

<sup>5</sup> For the manner in which the name "Quivira" came to be applied to Tabirá in the latter part of the past century, see my articles on *Quivira*, in "The Nation," already referred to.



Indian told me was in times long past a settlement of his own people. I doubt whether it was inhabited in the sixteenth century. Ruins are mentioned as being numerous about Tularosa, and thence eastward to the Pecos River. Precisely how far south such vestiges extend I am unable to say, but I have been repeatedly told that the Sierra del Sacramento contains no traces of ancient human occupation. That mountain chain lies very near the confines of Texas, and is outside of the territory assigned to me for investigation. It seems, however, that Southeastern New Mexico was not inhabited by sedentary Indians farther east than the Pecos River, or farther south than the thirty-third parallel of latitude.

If the ruin at Nogal is that of a Piros pueblo, and the ancient pueblos on the Médano north of Tabirá were also Piros villages, it points to a withdrawal of that stock from the north, east, and south towards the Rio Grande, in times anterior to the first appearance of the Spaniards. I reserve a discussion of such indications for a later chapter of this Report.

## VII.

### WESTERN NEW MEXICO.

IN a report devoted to the presentation of results obtained by personal investigation, it may seem out of place to treat of regions which I have not myself studied. Yet I have been compelled to do this in some of the preceding chapters, and I am obliged to do so here, in order to facilitate the understanding of many features, and chiefly in order to complete the general picture. I have personally investigated but a small portion of Western New Mexico, my work having been limited to a strip of country lying on both sides of the Atlantic and Pacific Railroad, and to parts of the southwestern portion of the Territory. But the antiquities which these sections contain cannot well be treated of separately, and I hope, by means of material gathered by other trustworthy investigators, to do better justice to the subject. In all that portion of New Mexico lying west of the Rio Grande valley and of the Jemez and Chama streams, I have visited but a few strips and patches; so that the entire northwest, the country between the ranges of Acoma and Zuñi, and also of the Mogallones, the interior of that chain, and the extreme southwestern corner of New Mexico, must be described by means of the work done by others. It is very difficult to subdivide the whole area geographically with profit to archæological results. We miss the guidance of ethnological and historical facts, which so materially assists us in Eastern New Mexico. With the exception of two

districts, Acoma and Zuñi, there is no historical information of any practical importance about the numerous ruins of the vast remainder. Navajo traditions speak of "pueblos," and of people who inhabited them, but as to who they were, and at what time the pueblos were inhabited, they tell nothing. Zuñi folk-lore may yet throw light upon the past of many pre-historic ruins. Of the few traditions of Acoma which I was able to obtain, I shall speak in their proper place.

It may be stated here as an historical fact, that the sedentary population, with the exception of the tribes of Zuñi and Acoma, had vanished from Western New Mexico previous to the arrival of the Spaniards. Laguna is a modern pueblo, founded in 1699.<sup>1</sup> The region in the northwest through which the pre-historic ruins are disseminated was found occupied in the sixteenth century by a semi-sedentary stock, the Navajos.<sup>2</sup> Farther south, outlying bands of the same stock, but so far estranged from it as to discard tribal connection, speak a different dialect, and bear a different name,—the Apaches,—roamed, hunted, and prowled through the otherwise uninhabited country.<sup>3</sup>

The Navajo country cannot be separated, so far as its

<sup>1</sup> It was founded by Governor Don Pedro Rodriguez Cubero, on July 4, 1699. Escalante, *Relacion*, p. 177: "Dia 30 de Junio del año siguiente pasó Cubero con el padre vice-custodio á tomar posesion de estos tres pueblos; dia 4 de Julio dieron la obediencia los Queres del nuevo pueblo, que Cubero nombró Señor San Jose de la Laguna."

<sup>2</sup> Espejo (in *Relacion del Viaje*, p. 117) mentions the Navajos under the name of Querechos in 1582, and represents them as being neighbors to the Acomas, and as living in the Sierra de San Matéo, north of that pueblo. The earliest mention of the name of Navajó which I have been able to find dates from 1626. Zárate-Salmeron, *Relaciones de todas las cosas*, par. 113: "La nacion de los Indios Apaches de Nabaju." In regard to their condition in the seventeenth and sixteenth centuries, compare Part I., page 175 *et seq.*

<sup>3</sup> The "Apaches" of the "Perrillo," of the "Xila." See Benavides, *Memorial*, pp. 13 and 53.

archæology is concerned, from Southwestern Colorado, Southeastern Utah, and the northeastern corner of Arizona. The San Juan region is a well watered country, and a number of streams empty into the main river from the north. The portions of Colorado, as well as of New Mexico, contiguous to each other, are said to be filled with ruins of compact many-storied pueblos, and of cliff-houses; and they also contain caves sheltering whole villages of one or more storied buildings.<sup>1</sup> Circular watch-towers are also quite common.<sup>2</sup> Much is said about superior workmanship exhibited in the construction of the walls, which are usually thicker than those of more southerly pueblo ruins. But I must recall here the words of Lewis H. Morgan in regard to the stone-work which he investigated on the Rio de las Animas in 1878: —

“The neatness and general correctness of the masonry is now best seen in the doorways. In the standing walls of the second story, and of the first, where occasionally uncovered, there are to be seen two doorways in each room. . . . The stones used in these doorways are rather smaller than those in other parts of the wall, but prepared in the same manner. . . . I brought away two of these stones, taken from the

<sup>1</sup> Lewis H. Morgan, *Houses and House Life of the American Aborigines* (Contributions to North American Ethnology, vol. iv. p. 192). W. H. Holmes, *Report on the Ancient Ruins of Southwestern Colorado* (Hayden's U. S. Survey, 1876, p. 383): “Yet there is bountiful evidence that at one time it supported a numerous population: there is scarcely a square mile in the 6,000 examined that does not furnish evidence of previous occupation by a race totally distinct from the nomadic savages who hold it now, and in many ways superior to them.” Lieut. Rogers Birnie, *Report on Ruins visited in New Mexico* (vol. vii. of Wheeler's Survey, p. 346): “The evidences that there were former inhabitants in localities now entirely depopulated were numerous, being observed along the Cañon Ceresal, Cañon Largo, Cañon de Chaco, and the San Juan and Las Animas rivers.”

<sup>2</sup> See the authorities quoted above, and my letter in the *Fifth Annual Report* to the Institute, p. 59.

standing walls of the main building, as samples of the character of the work with respect to size and dressing. . . The upper and lower faces of the stone are substantially, but not exactly, parallel. It also shows one angle, which is substantially, but not exactly, a right angle, and it was so adjusted that the long edge was on the doorway, and short one in the wall of a chamber or apartment, with the right angle at the corner between them. This stone was evidently prepared by fracture, probably with a stone maul, and the regularity of the breakage was doubtless partly due to skill and partly to accident. It shows no marks of the chisel or the drove, or of having been rubbed, and where the square is applied to the sides or angles the rudeness of the stone is perfectly apparent."

Comparing these specimens of the stonework on the Rio de las Animas with a sample of cut sandstone, Mr. Morgan adds: —

"The comparison shows that no instruments of exactness were used in the stone-work of the pueblo, and that exactness was not attempted. But the accuracy of a practised eye and hand, such as their methods afforded, was reached, and this was all they attempted. With stones as rude as that . . . a fair and even respectable stone wall may be laid."<sup>1</sup>

These remarks of the great American ethnologist might be applied with equal justice to many ruins farther south, such as Quivira, Cebollita west of Acoma, and others. Perfection or imperfection in a certain kind of house building is mostly a local feature, brought about by environment, abundance or lack of time, protracted peace or constant insecurity, and by the availability or absence of materials favorable to neatness and accuracy in execution.

<sup>1</sup> *Houses and House Life of the American Aborigines*, p. 179.

From my limited knowledge of the ruins in the extreme north of the pueblo region, I should presume that the compact type, in which one single large communal building sheltered the entire population of a village, prevails more exclusively in that section than anywhere else where pueblo architecture is represented.

Remains of small houses have been frequently noticed in the northwestern parts of New Mexico, and farther north, and Mr. Holmes has given the ground plan of a ruin on the Rio de la Plata, near the Colorado boundary line, which resembles in several ways the villages on the middle course of the Gila, in Arizona, at Casa Grande and its vicinity.<sup>1</sup>

The frequency of round or circular structures has been noticed by investigators, and a kind of double round tower construction has attracted particular attention. The interior is formed by a circular room, and around this is built a ring divided transversely into a number of cells.<sup>2</sup> The circular estufa also occurs, but seems to be distinct from those constructions which, as Mr. F. H. Cushing has ingeniously suggested, may have been first attempts at rearing buildings of stone on the part of village Indians.<sup>3</sup> While the ordinary round towers occur almost everywhere over the pueblo area, this more complex structure seems to be a feature peculiar to the extreme northwest of New Mexico and the adjoining sections of Colorado and Utah. One feels tempted, when perusing the suggestions offered by Mr. F. H. Cushing on the origin of Pueblo architecture, to accept also the conclusion of Morgan, "that the remarkable area within the

<sup>1</sup> See Plate I. Figure 1, taken from Holmes's *Report on the Ancient Ruins of Southwestern Colorado* (Hayden's Survey, 1876). For the compact pueblos, see Figures 2 and 3.

<sup>2</sup> Holmes, *ut supra*, p. 388 *et seq.*, and plates. Morgan, *Houses and House Life*, p. 191.

<sup>3</sup> *A Study of Pueblo Pottery as illustrative of Zuñi Culture Growth* (Report of Bureau of Ethnology, 1882-83), p. 474.

drainage of the San Juan River and its tributaries has held a prominent place in the first and most ancient development of village Indian life in America."<sup>1</sup> This remark should be limited to the use of stone in the construction of houses, as the round dwellings of the Mandans, made of wood and bark, and the rectangular buildings of wood and hide used by tribes along the Upper Missouri, were as permanently occupied as many of the pueblos of stone and adobe.<sup>2</sup>

The artificial objects found are those of a people limited to stone, bone, and wood for the material of its implements and tools. The pottery is described as of better make, and more tastefully decorated, than that of more southerly and particularly of historic pueblos. It is what I believe to be justly called the most ancient types: white decorated with black lines, red with black geometrical designs, corrugated, indented, plain red, and plain black. The coarsely glazed kind, so common farther south, is unknown there. In short, we find in these northern sections the class of pottery which, in Central and Eastern New Mexico, is characteristic of the small houses, and of a very few ancient pueblos; while in the northwest it appears associated with all kinds of ruins, — compact phalansteries, as well as detached family dwellings, round structures, cliff-houses, and villages built in caves or natural rock-shelters. This adds to the probability of the assumption that Northwestern New Mexico, Northeastern Arizona, Southwestern Colorado, and Southeastern Utah, were the regions where the Indian first began to practise and develop the art of constructing stone houses.

I have spoken of the northeastern corner of Arizona; in this I had in view chiefly the cliff-houses and cave dwellings which line the walls of the Tzé-yi, commonly called Cañon de

<sup>1</sup> *Houses and House Life*, p. 192.

<sup>2</sup> There is not a single pueblo which, as far as its houses are concerned, is three hundred years old, and few of them have been in existence two centuries.

Chelly. In that long and narrow cleft the house dweller was compelled to build his abode above the bottom, and therefore on ledges of rocks and in natural cavities. The pottery brought from the ruins in that cañon has been described to me as quite handsomely decorated; but the list of collections published by the Bureau of Ethnology mentions only the black and white, the corrugated, the indented ware, and some odd plastic decorations. Yet I believe that other shades of colors also appear, and that some of the specimens show much painstaking care in their ornamentation.

In regard to such local perfection in pottery I fully agree with Mr. F. H. Cushing, when he says: "There are to be found about the sites of some ancient pueblos potsherds incredibly abundant and indicating great advancement in decorative art, while near others, architecturally similar, even where evidences of ethnic connection is not wanting, only coarse, crudely moulded and painted fragments are discoverable, and these in limited quantity." After quoting some striking examples, Mr. Cushing continues: "In quality of art quite as much as in that of material this local influence was great. In the neighborhood of ruined pueblos, which occur near mineral deposits furnishing a great variety of pigment material, the decoration of the ceramic remains is so surprisingly and universally elaborate, beautiful, and varied as to lead the observer to regard the people who dwelt there as different from the people who had inhabited towns about the sites of which the sherds show, not only meagre skill and less profuse decorative variety, but almost typical dissimilarity. Yet tradition and analogy, even history in rare instances, may declare that the inhabitants of both sections were of common derivation, if not closely related and contemporaneous."<sup>1</sup>

<sup>1</sup> *Pueblo Pottery*, p. 494.



Instances of this kind may be found among the present Pueblos also. Taos and Picuries make no pottery, or only of the plainest kind. The pottery of Cia is quite elaborately decorated and handsome, much superior to that of Cochiti and San Felipe, although all three pueblos belong to the same linguistic stock. Among pre-historic ruins I would refer to the great difference in the pottery at Ojo Caliente and that of the other Tehua and Tano pueblos south of San Juan.

I have stated that potsherds with coarsely glazed ornamentation do not occur, at least to my knowledge, in the northwest. That variety appears farther south and south-east, and is more particularly associated with the ruins of historic pueblos. As I have before remarked, the discovery of this glazing process may have been a local incident; but its diffusion among different stocks is a feature of greater importance. That all the ruins in the northwest of the Pueblo region should be accompanied by the same general type of pottery, while farther south that type should become confined almost exclusively to the detached houses, while the compact pueblos adopted the coarsely glazed kind, is quite a significant indication.

I have also been informed by the late Mr. James Stevenson, that strings, thread, and textile fabrics made of yucca fibre have been discovered in the cliff-houses of the Tzé-yi. This is not an isolated find, as will be seen in the course of this Report. Skirts and kilts made of yucca leaves were worn by the Pueblos as late as the beginning of the seventeenth century, perhaps later.<sup>1</sup> The "Pita," as the thread made from Yucca fibre is commonly called, was used by all Pueblo Indians until very lately. In caves in which pueblo houses had been constructed, and in cliff-houses, such easily

<sup>1</sup> See Part I., page 158, note 1.

perishable remains were not so much exposed to decay as in villages constructed in the open air, and they have consequently remained intact for a greater length of time. They are not by any means evidences of a peculiar culture, or even of an industry peculiar to the inhabitants of the places where they were found.

I do not in the least doubt the accuracy of the statement as to the large number of settlements spoken of. But it does not follow that they were all flourishing at the same time. I cannot sufficiently insist upon the many changes of abode customary among the most sedentary Indians in their primitive state. Nor is it certain that the various types of architecture appeared in regular chronological sequence. In some parts of the same region, cliff-houses may have been inhabited at the same time with compact pueblos or cave towns in other districts. The country lacks the elements of support for a large population. That the sedentary Indian changes his location and his plan of living easily, under the pressure of physical causes and of danger from enemies, outweighs any explanations based upon hypothetical climatological changes, or upon geological disturbances supposed to have taken place since the first appearance of man in the country.

Nevertheless, even without any large ancient population, the northwestern corner of the Southwest presents itself as a starting point for the development of a peculiar kind of sedentary life, which expanded into more southerly regions. It was what Mr. Morgan aptly terms a "centre of subsistence"<sup>1</sup> for tribes devoting themselves to agriculture. On poorly irrigated lands a culture might spring up, which, from the nature of the countries over which it after-

<sup>1</sup> *Indian Migrations*, North American Review, October, 1869, and January, 1870.

wards spread, deserves the designation of "Aridian," applied to it by Mr. Cushing.<sup>1</sup> The spread of that culture was in the direction of the south and southeast, not towards the north and west. Physical causes may have been instrumental in compelling the sedentary tribes to move in one direction rather than in the other; but the pressure exercised by nomads upon the house dwellers has had equal, if not greater influence.

One of the most important tasks yet to be performed in the study of the archæology of the Southwest is to determine the northern limit within which ruins of stone or adobe buildings are found. I believe it to be about the 38th degree of latitude, and that it extends along that parallel as far west as the 110th meridian, and eastward to longitude 108°, or perhaps somewhat farther.

According to Mr. Holmes, the most northerly area of settlement of natives who dwelt in stone buildings lies "wholly on the Pacific slope."<sup>2</sup> So does the nearest considerable group of ruins south of it, the famous cluster of ancient pueblos in the Cañon de Chaca, made known by the exploration of General Simpson and the subsequent investigations of Mr. Jackson.<sup>3</sup> Nowhere south of the 36th parallel and east of the 107th meridian in a comparatively small compass is such a number of fine specimens of the compact one-house pueblo met with as along the Chaca Cañon. I refer to their elaborate reports for descriptions of these interesting ruins, and will only add what Morgan has stated in regard

<sup>1</sup> *Preliminary Notes on the Origin, Working Hypothesis, and Primary Researches of the Hemenway Southwestern Archæological Expedition*, Congrès International des Américanistes, Berlin, 1888, pp. 186 and 190.

<sup>2</sup> *Report on the Ancient Ruins of Southwestern Colorado*, p. 383.

<sup>3</sup> Simpson, *Report of an Expedition into the Navajo Country in 1849* (in Senate Ex. Doc. 64, 31st Congress, 1st Session). Jackson, in *Hayden's Report on the Geological Survey of the Territories*, 1876, p. 411 *et seq.*

to the question of water, which seems to present some difficulties there, as it has in regard to Quivira and the villages on the Médano in southeastern New Mexico: —

“The plain between the walls of the cañon was between half a mile and a mile in width near the several pueblos, but the amount of water now passing through it is small. In July, according to Lieutenant Simpson, the running stream was eight feet wide and a foot and a half deep at one of the pueblos; while Mr. Jackson found no running water and the valley entirely dry in the month of May, with the exception of pools of water in places and a reservoir of pure water in the rocks at the top of the bluff. The condition of the region is shown by these two statements. During the rainy season in the summer, which is also the season of the growing crops, there is an abundance of water; while in the dry season it is confined to springs, pools, and reservoirs.”<sup>1</sup>

It also should be borne in mind that irrigation is not indispensable to the plants cultivated by the Indian in primitive times, and that therefore the inhabitants of the Chaca had only to provide sufficient water for household purposes.

The pottery at the Chaca ruins is decidedly of the ancient type, and no specimen with glazed ornamentation has ever been found in that vicinity.

The Navajo Indians preserve traditions according to which there seem to have been, in pre-historic times, inhabited pueblos in the country which they now occupy.<sup>2</sup> They also place the origin of their tribe, as well as of the Pueblo Indians, in the San Juan country.<sup>3</sup> But no clue is given as to

<sup>1</sup> *Houses and House Life*, p. 171.

<sup>2</sup> Washington Matthews, *A Part of the Navajo's Mythology* (American Antiquarian, vol. v. p. 207, July, 1883). *Some Deities and Demons of the Navajos* (American Naturalist, vol. xx. p. 844, October, 1886). *The Gentile System of the Navajo Indians* (Journal of American Folk-lore, vol. iii. p. 89).

<sup>3</sup> See the monographs quoted above.

which tribes lived in the permanent villages spoken of in these traditions. When Mr. Simpson inquired of Nazlé, the well known Jemez Indian, about the ruins of the Chaca, he replied, "that they were built by Montezuma and his people when on their way from the north to the region of the Rio Grande and to Old Mexico."<sup>1</sup> When, a few weeks ago, I interrogated an Indian from Cochiti concerning the same ruins, he confirmed what I had been told years ago; namely, that Push-a-ya had built them, when on his way to the south. After inhabiting the Chaca villages for some time, Pushaya went to Zuñi, and thence into Sonora and Mexico.

Push-a-ya is the same mythical personage whom the Tehuas call Pose-ueve and Pose-yemo; the Zuñis, Pusha-iankia; and the Jemez probably, Pest-ia So-de. It is needless to add that he is the figure around whom the Montezuma tales have gathered in later years. How far the statement that Pushaya built the pueblos in the Chaca is originally Indian, I am unable to decide.

There are pueblo ruins southwest of the Chaca group, one of which Mr. Lummis has examined, called by the people of San Matéo "Pueblo Alto." He describes it as a rectangular house, measuring "some two hundred feet long north and south, and one hundred feet wide from east to west. It evidently faced west." The walls on the west side are said to be still "thirty, forty, and forty-five feet" high. He adds: "Just in the centre of this side is the distinctive wonder of

<sup>1</sup> Simpson (*Report of an Expedition into the Navajo Country*, pp. 77 and 83). The same was told by a Navajo chief named Sandoval, "that the Navajos and all the other Indians were once but one people, and lived in the vicinity of the Silver Mountain; that this mountain is about one hundred miles north of the Chaco ruins; that the Pueblo Indians separated from them (the Navajos), and built towns on the Rio Grande and its tributaries." The same Navajo asserted that the pueblos on the Chaca "were built by Montezuma."

the whole pueblo, a great tower, square outside, round within, with portions of its fifth story still standing. The walls still hold the crumbling ends of the beams of the successive stories, and the loopholes in the two lower stories are plainly visible." There are at present no traces of water in the vicinity of this ruin; and the pottery appears to be of the same kind as that in the Chaca ruins.<sup>1</sup>

It is a well known fact that the Indian is expert in closing springs. They have been discovered in places where for decades they have been sought in vain; and invariably they have been found to be filled and every trace of them on the surface obliterated in the most skilful manner. Possibly this may be the case at the Pueblo Alto.

South of the ruin just mentioned, and in a direct line about fifteen miles north-northeast of Grant's Station on the Atlantic and Pacific Railroad, lies the settlement of San Matéo. The first attempts at colonization were made there in the latter half of the past century.<sup>2</sup>

San Matéo lies at an altitude of 7,323 feet, and southeast of it, not ten miles distant, rises the extinct volcano called Sierra de San Matéo, or Mount Taylor, and by the Queres of Acoma, Spi-nat. The summit of this mountain cluster is 11,391 feet high. The valley of San Matéo is a narrow basin along the wooded northern slopes of the sierra. Bare hills extend to the north of it, and to the east lies a bleak

<sup>1</sup> Mr. Lummis has published a description and sketches of this ruin in the San Francisco Sunday Chronicle of January 27, 1889, under the title, *Mysterious Ruins, a Visit to the Pueblo Alto*, from which I quote.

<sup>2</sup> Pedro Fermin de Mendinueta, *Merced del Ojo de San Mathéo*, 1768, MS. There were a number of Navajos settled at the time at Cebolleta, and near the San Matéo springs. Unsuccessful attempts to establish a mission among these had been made previously. A church was built, but the mission did not prosper and was given up. Joachin Codallos y Rabal, *Consulta sobre Misiones de Navaja*, 1744. MS. *Despacho del Exno Sr. Conde de Fuenclara, Virey, etc. En Orden d el Establto y Fundacion de Cuatro Misiones en la Provia de Navajo*, 1746, MS. *Documentos Tocantes d las Misiones de Encinal y de Cebolleta*, MS.

pass in the direction of the eastern Rio Puerco. Not far from the town, on the road leading to that stream, rises a sharp columnar rock of great height, so steep as to be inaccessible and completely isolated, the Alesna, or "awl," a designation very characteristic of its form. Hidden springs, called by the people "Sumideros," are scattered on both sides of the road both west and east of San Matéo, and he who is not thoroughly acquainted with the country should be very careful not to leave the beaten path. Nothing on the surface (unless it be the carcass of some animal which has perished in the treacherous mud-sinks) indicates impending danger, and the unsuspecting wanderer suddenly finds himself engulfed in liquid mire. The soil at San Matéo is fertile; wood is near at hand, and a diminutive stream, the Arroyo de San Matéo, furnishes the water supply

On a bleak slope near the town the ruins of a stone pueblo have been discovered by the Hon. Amado Chavez. The excavations which he caused to be made have revealed a stone building of the pueblo type. The work on the wall, like that on the Chaca and farther north, is well executed. One room was twenty feet by twelve feet, and the tall and perfect walls show traces of a second story. I have uncovered doors in this pueblo not more than three feet high and eighteen inches wide. I copy these statements of Mr. Lummis rather than give my own hasty impressions, gathered during a visit at San Matéo made under most unfavorable circumstances, since it snowed and rained incessantly for two days, and I could only cast a glance at the ruins. Still, that visit satisfied me of the correctness of these statements; it was evidently a compact pueblo of moderate size.

I was greatly surprised, however, at seeing the specimens of pottery which the excavations had yielded. I can safely assert that, in beauty and originality of decoration,

they surpass anything which I have seen north, west, and east of it in the Rio Grande valley, and around the Salines. There were among them bowls of indented pottery, one half of their exterior being smooth and handsomely painted and decorated with combinations of the well known symbols of Pueblo Indian worship. On another specimen I noticed handles in the shape of animal heads. Such specimens are quite rare. The shape of the vessels did not differ from those which other ruins and even the pueblos of to-day afford. It was only the decoration, and especially the painting, that attracted my attention. Among the other remains, there was nothing to indicate a culture different from that of the sedentary Indian of the Southwest in general. The beauty of the pottery is therefore only another instance of the influence of environment upon one particular branch of primitive industry. Mr. Lummis speaks of other objects found at this pueblo ruin, — “shell-beads, stone axes, hammers, metates, and arrow-heads.” The skeleton of a woman, whose long black hair was still perfect, and a lot of bones, were also taken out of the same room.

Between these ruins and his house Mr. Chavez made an interesting discovery, which Mr. Lummis reports as follows: — “In crossing a barren plain west of his home at San Matéo, and near some undistinguishable ruins, he noticed that a bit of ground ‘gave’ under his horse’s feet. Dismounting to investigate, he found that a small area seemed elastic and moved up and down when he jumped. Being of an inquiring turn of mind, he took men out to dig there. They removed about a foot of earth over a place some ten feet square, and came to a deep layer of long strips of cedar bark. Below this was a floor of pine logs, then another thick layer of bark, and so on down for several feet. Below the last layer they found a little spring of clear running water, which has re-



sumed running since they dug it out after centuries of enforced idleness. So thorough had the ancient owners been in their work that they had even obliterated the long, shallow gallery through which the waters of the spring used to escape."<sup>1</sup>

The Indian, when he evacuates a place at leisure, "kills" his household pottery by perforating and breaking it. He also "kills" the spring of water that furnished his daily supply by closing its issue. If the spring which Mr. Chavez discovered belonged to the pueblo which he has excavated, it would be an indication that the inhabitants had ample time for its evacuation. Still, Mr. Lummis noticed that the beams had been destroyed by fire.

I know of no tradition connected with the San Matéo ruins; but there is no doubt that they are prehistoric, since only one pueblo, Acoma, existed in that vicinity in the sixteenth century. Many small houses lie both west and east of San Matéo, none of which, however, was I able to investigate. The small-house type of architecture, in isolated buildings as well as in groups forming villages, is quite numerously represented, not only in the San Matéo district, but all along the line of the Atlantic and Pacific Railroad, from Cerros Mohinos on the eastern Rio Puerco, to the Little Colorado River in Arizona. The line of that railroad I now propose to follow as far as the western boundary of New Mexico, for two reasons. First, I have examined personally most of the belt through which it runs. Secondly, in that belt are found the only ruins in Western New Mexico about which some definite historical knowledge can be had, and I wish to dispose of these before turning to the exclusively prehistoric remains in the area covered by this chapter.

<sup>1</sup> I copy this from the newspaper article before quoted, page 305, note 1.

The plateau or mesa lying between the Rio Grande valley and the Rio Puerco of the east is, as far as I know, destitute of aboriginal remains. It is waterless, bleak, and bare. The banks of the Puerco are sandy, and traces of ruins are said to be rare along its upper course. The stream sinks usually thirty miles above its junction with the Rio Grande, and above that point the volume of water is not always adequate for the needs of a small population.

At Cerros Mohinos the Rio Puerco is still far from being a permanent stream. On its eastern side the soil is exceedingly fertile, and primitive crops grow there without irrigation. It is saturated with oxide or hydroxide of iron. On the west bank volcanic hills rise abruptly and in picturesque clusters. Their height above the river I estimated at over three hundred, probably four hundred feet. They culminate in several protuberances of dark gray trap, and over the ridges leading to these peaks and in the hollows between them are scattered the remains of a small-house village. I counted eleven buildings at distances from one another varying between 4 and 130 meters (11 and 426 feet). The peculiarity of these buildings is that they are quite narrow in proportion to their length. They are built of irregular pieces or blocks of trap, and what remained of the walls seemed to be piled up without the usual binding of adobe mud, as if the structures had been very hastily erected. Still it is possible that, as the houses are much exposed to wind and weather, the crude mortar may have disintegrated, and that I may have overlooked traces of it still remaining. I failed to notice any obsidian about the premises, but flint chips were not uncommon. The pottery was strictly of the older type,—red and black, red outside with black decorations inside on white ground; but not a trace of indented, corrugated, or of glazed potsherds. The situation

of this settlement was very favorable for defence; from all sides the approach is steep, and an enemy could only achieve a surprise by creeping into one of the depressions between the summits. Against an Indian foe the place was almost impregnable.

I could not ascertain anything concerning the water supply of this cluster of abodes, and the presumption is against there being springs in trap rock. But the Puerco hugs the eastern side of Cerros closely, and it is not impossible that tanks may have supplied the inhabitants of the cliffs with water in the dry time, while during the rainy season it was furnished by the river. That stream grows remarkably during the months of July, August, and September. Its tendency is to wear away the west side until it strikes some very hard ledge, by which it is deflected again to the east. The water question, therefore, presents no insurmountable obstacle. The houses could not have been more than one story in height, and consequently not much building timber was needed, and there are enough scrubby conifers within reasonable distance to supply the small number of inhabitants with firewood.

On the east side of the Puerco, about a mile and a half from the present Mexican settlement, and on the open plain, are the ruins of a regular pueblo. They are reduced to mere mounds of red earth, and only here and there were the lines of walls of adobe traceable along the surface, showing the ordinary thickness. One mound measured about 75 by 16 meters (245 by 52 feet); another contiguous one, about 22 meters (98 feet) square. It was therefore a regular large-house community. Much obsidian appeared on the surface, and in unusually large fragments; also flint, broken metates, and the prismatic grinders used on them. The pottery was of the coarsely glazed kind, and the colors uncommonly

brilliant; shades of chocolate, crimson, brown, and cream-yellow were frequent. Although the decorative patterns were not at all different from those of Pueblo pottery in general, the ware was thinner and appeared to be of a better make than that usually found. The abundance of iron ochre, which, when mixed with the other ingredients of Indian paint, gives the tints of red, brown, black, and intermediate shades, may account for its exceptionally fine appearance. Combined with the still unknown glazing material, it may also have contributed to produce greenish and other uncommon hues shown in the glazed decorative lines.

There is no visible spring in the vicinity, so that the Puerco seems to have been their only resource for water; but, as I have already stated, that cannot be relied upon except at certain seasons. They may have had tanks, but there are no traces of any, neither are there any estufas visible. Fierce winds blow over the bleak plateau from time to time, which rapidly fill up hollows if they are not kept clear from rubbish. There is also a possibility of there being springs, artificially closed. For fertility of soil and for scope of view the situation of the "Pueblito" at Los Cerros is admirable, and wood was not too far distant, so that the inducements for occupation, leaving aside those furnished by compulsion and religious influence, were therefore considerable.

Fifteen miles north of Cerros, on the Mesa Colorada, a large ruin is said to exist, with pottery similar to that on the summits of the latter. There may be still others between the Puerco and the pueblo of Laguna, but I know nothing of them. Their number cannot be very great, as in that section the water supply is limited to a few springs. Around Laguna there are numerous ruins within one mile west and three miles south of the pueblo. I could not ascertain in what connection these remains stood to the

modern pueblo, and so turned my attention mostly to the surroundings of the remarkable village of Acoma, the foundation of which antedates the first appearance of Europeans in New Mexico, and where consequently there was some hope of finding a clue to the past of ruins scattered through its neighborhood.

An exceptional situation, a site isolated and impregnable to Indian warfare, is the formidable cliff on which Acoma stands. The fragment of the Queres stock which peopled the rock chanced to drift towards it gradually, and at last came to rest on its summit, where they are known to have resided for the past four centuries, if not longer.<sup>1</sup> Acoma is, therefore, in point of site, not only the most remarkable, but also the most ancient of the New Mexican pueblos of to-day.

The fragments of Acoma tradition which I was able to gather speak of the north as the direction whence that branch of the Queres originally came, and also of the pueblo of Cia on the Jemez River as the place where they separated from the other Queres. One Indian stated to me that at "Teguay-ouqué," in the distant north, a Queres Indian by the name of "Hua-toro" told the mother of mankind (who is supposed to live at the bottom of the lagune of Shi-pap-u) that he was going to Acoma to live. He went as far as Cia, and there was joined by his younger brother, called "Ojero" or "Hua Estéva" (?), and together they proceeded to the vicinity of Acoma. I call attention to the Spanish tinge in the above

<sup>1</sup> Acoma existed in 1540; for the year previous Fray Marcos de Nizza had heard of it, under the name of Hacus, from an aged Zuñi Indian, who had fled to the Sobaypuris of the San Pedro River in Arizona years before. It is therefore nearly certain that the pueblo was standing on the top of the cliff at the close of the fifteenth century. All the other pueblos (possibly with the exception of Cia) have more or less changed their position since 1598. Isleta stands very near the place of old Isleta, but that pueblo was abandoned for thirty-seven years, whereas Acoma never was for any length of time.

names. This is still more prominent in the rest of the tradition, which states that Huatoro was the first to settle near Acoma; that after him came "Jeronza," then José Popé, both of whom came from Cia; and lastly Catité, from the direction of Santa Ana. In Jeronza we easily recognize Don Domingo Jironza Petriz de Cruzate, the Spanish Governor who issued to the Pueblos their so called land titles in 1689; Popé is the well known medicine-man and instigator of the rebellion of 1680; and Catité was the Queres half-breed from Santo Domingo who led the Queres Indians in the uprising, and for some time afterwards. In the above traditions, consequently, the events of 1680 and later are mingled with a small percentage of recollections of primitive times. Many so called traditions which the Indians volunteer to give must be received with caution. Nevertheless, so far as I am able to judge, the gist of Acoma folk-lore assigns the origin of the tribe to a separation for some cause or other from the tribe of Cia. Thence they drifted to the southwest, across the bleak and unprepossessing valley of the Rio Puerco, and, dividing into two bands, established themselves in pueblos of small size to the right and left of the Cañada de la Cruz, and on the mesa above Acomita, twelve miles north of their present village. How many and which of these pueblos were simultaneously occupied is not known, nor is it positive that thence they moved directly to the cliff. According to a folk-lore tale obtained by Mr. C. P. Lummis, the last settlement of the Acomas preceding the one on the historic rock was made on the so called Mesa Encantada, a towering isolated mesa with vertical sides several hundred feet in height, utterly inaccessible, which stands nearly in the centre of the oblong basin in the southwestern corner of which the "rock of Acoma" is situated. It is one of the most imposing cliffs in that portion of the Southwest, and it is claimed by the Acoma In-

dians that, while the top of the mesa is to-day utterly beyond reach, it was accessible many centuries ago by an easy trail, and that their forefathers had built a pueblo on it after the manner of their present village. At last dangerous fissures appeared in the rocks on which the trail ascended, and a portion of the tribe retired to the bottom for safety. While some of the inhabitants still occupied the mesa, a part of it fell suddenly, and the unfortunates on the summit, unable to descend, while those below were equally unable to come to their assistance, perished from hunger.

Whatever may be true in this folk-tale about the rock of Katzim-a, (as the Mesa Encantada is called by the Acomas,) it is certain that its appearance and the amount of detritus accumulated around its base give some color to the legend. Together with the other tales of which I have spoken, it indicates that the Acomas successively occupied several villages between San Matéo and their present location. All the ruins in that section of the country, therefore, do not belong to a period antedating the traditions of still existing Pueblo tribes.

Nine miles northeast of the pueblo of Laguna, and fourteen north of Acoma, the little town of Cubero stands in the corner of a plain that extends along the southern base of the dark mesas above which the Sierra de San Matéo rises as from a pedestal. This plain is fertile, and about fifteen miles long from west to east, and five to six broad. In its north-eastern corner the Picacho stands up like a black tusk.

There are a number of ruins on the plain around Cubero, the largest one of which is represented on Plate I. Figure 30. It was a pueblo capable of sheltering a few hundred souls, with pottery of the coarsely glazed kind, some corrugated and indented ware, and a sprinkling of the ancient black and white and red and black. Excavations have revealed cells of

the usual size and form, and more pottery. Whether this ruin, which seems to belong to the class of those on the Rio Grande and about the Salines, is claimed by the people of Acoma as one of their former pueblos or not, I am unable to say.

Remains of detached houses, all built of stones, are common on the Cubero plain, and the pottery with which these ruins are covered is of the distinctively ancient type. At the Riconada de San José, on the western extremity of the plain, at the foot of a mesa the eastern front of which bends around in a semicircle, I found fifteen of these dwellings, similar in size and in arrangement to the clusters which I have already described in the vicinity of Socorro and of Abó, and with the same kinds of potsherds. In most cases the walls of the houses could easily be traced. There my attention was for the first time directed to this class of ruins, and my suspicions awakened that they might represent a peculiar type, and were not, as I at first supposed, ancient summer-houses of the inhabitants of communal buildings.

Between the basin of Acoma and the railroad extends a high mesa, mostly covered with scrubby wood, on which are several ruins of small pueblos, only one of which I examined. It may have sheltered as many as one hundred people, and there is hardly any pottery to be found in it. The walls are of stone, and it lies on the brink of a little gorge called the Cañoncito, and the water supply was derived from the bottom of that shallow rocky trench. Not far to the north of this ruin the mesa breaks off abruptly above the fertile bottom of the Agua-azul, or Blue-water Creek, and in that bottom are situated the fields of the Indians of Acoma, at Acomita and the Pueblito, twelve miles in a direct line north of the pueblo. I cannot determine whether the fields were cultivated in 1582, when Espejo visited Acoma. The distance



indicated by him, two leagues, does not agree; but since he adds, "on a middle-sized river whose water they hold up to irrigate," I infer that their fields were on some point along the course of the Blue-water.<sup>1</sup> On both sides of the Cañada de la Cruz, towards Laguna, the mesas bear ruins of pueblos, which the Acomas claim for their ancestors. As the size of these ruins is small, it gives color to their tradition, that they drifted into this region in several bands, which at first settled apart from one another, and ultimately consolidated, and established themselves first on the Mesa Encantada, and finally on the cliff of Acoma, where they have remained ever since.

Due south of Acoma I examined an isolated cliff-house, the walls of which were perfect with their coating of yellow clay. The doorway is higher than those of ancient pueblos, with lintels of wood, and the stone-work well executed. Hardly any pottery was found about this ruin, which stands on a rocky shelf above a steep declivity, and in a recess formed by the rocks, which in that vicinity are mostly perpendicular, though somewhat weatherworn. Along the base of these rocks there were caves, and nearly every one of them showed traces of partition walls. Rock paintings in various colors, and very rude carvings on large detached blocks of stone, are to be seen not far from the ruins, which lie about two miles south of Acoma. The Indians of this village of course denied any knowledge of the origin of these buildings, as well as of the pictographs and carvings, except that they were the work of people who had moved southward previous to the coming of their ancestors. This is quite probable as far as the buildings are concerned, but the paintings are remarkably fresh in color, and a boy who guided me to the spot attributed them to the Koshare, or delight-makers, of Acoma.

<sup>1</sup> *Relacion*, p. 179.

Indeed, the cavity in which they are painted contained plume-sticks of various colors and size, showing that it was a sacrificial place still in actual use.

Small houses are occasionally met with southwest of Acoma, but there seems to be no important ruin in that direction nearer than Cebollita, almost due south of the settlement of San Raphael, or Old Fort Wingate. The last place lies northwest of Acoma, so that Cebollita is due west of that pueblo.

In my mention of the plain of Cubero and of the ruins which are strewn over its surface, I got as far as the Rinconada de San José. Thence on to the northwest, as far as Grant's Station, the plateaux of the San Matéo range hug the railroad track on the north. In the direction of San Matéo there are said to be no ruins except those at the last named settlement, but near the railroad, between McCarthy's and Grant's Stations, are interesting localities. The track follows the curves of a flow of black lava, which has ploughed through the eroded gorges of the sandstone rock without penetrating to any considerable depth. It is of comparatively modern origin, and I have been informed, since my visit to that portion of New Mexico, that ruins of small houses have been discovered somewhere along the course of the stream of lava, partly covered by it. The tale of the "year of fire," current among the Indians of Laguna, seems to have some connection with such statements as these, as there is at least one extinct crater in the neighborhood of that pueblo. If the reported great display of fire is not to be explained as an auroral exhibition of unusual brilliancy, we may suspect it to have been some volcanic eruption, and the presence of relatively recent lava-flows gives still further color to it. But the region previous to the foundation of Laguna was in more or less constant intercourse with the Rio Grande valley, and

some record of such a phenomenon might be expected to exist in Spanish documents of the seventeenth century. Yet the same objections prevail as in regard to the earthquake hypothesis about Quivira. There is a possibility that volcanic eruptions may have occurred, of which the Spanish records are lost or undiscovered; and there is also a possibility that they took place previous to the establishment of permanent missions at Acoma and at Zuñi, in 1629.

A few miles northwest of McCarthy's, and a short distance south of the railroad track and of the lava stream, rises an elliptical mesa of small extent, called the Mesita Redonda. Its height above the surrounding level is thirty-five meters (115 feet), of which the uppermost three meters are vertical. The rock is sandstone, the top flat, and mostly overgrown with junipers and cedars. It measures seventy-six meters from west to east, and forty-five transversely. Ten meters from its western brink begins a structure consisting of nineteen rectangular cells, built on three sides, around what may have been a circular watch-tower, the diameter of which is 5.1 meters (nearly thirty feet). The walls are of stone, and their thickness shows nothing unusual. The pottery is of the ancient type, red and black prevailing.

I copy what follows from my journal of May 22, 1882: "Looking down from the Mesita on the south side, I was surprised to see extensive ruins below. After collecting whatever pottery caught my eye, I clambered down through a fissure and surveyed the ruins. It strikes me that in this instance the communal house is smaller, that a greater number of buildings compose the pueblo, and that the rooms are sometimes larger. . . . Among the pottery I also found several specimens which are glossy, but the gloss is less bright, or rather less resinous, than that of the old Rio Grande pottery. The color of these pieces is red. . . . The objects

which I found besides were only flakes and some rude mallets, all of lava and trap; obsidian is very scarce, not transparent, and of a pitchy gloss." This is the ruin which, together with the one on the summit of the Mesita Redonda, I have represented on Plate I. Figure 31.

All appearances favor the presumption that the remains on the top of the little butte, and the more extensive ones at its foot, formed but one settlement. Whether all the structures were in use at the same time it is of course not possible to establish; in every pueblo of to-day there are abandoned houses or portions of houses by the side of occupied ones. It may be that the circular edifice was a watch-tower, or it may have been the estufa belonging to the people who occupied the nineteen cells built around it. Below, there is at least one estufa, and also a large round depression, 12.5 meters (41 feet) in diameter, which may have been a tank.

The ground around the Mesita Redonda is fertile; there is water along the lava-flow, and the Blue-water Creek runs close by. It was an exceedingly favorable spot for an aboriginal settlement; for, in addition to its agricultural advantages and the proximity of wood, the Mesita afforded an excellent point for observation, and a place of refuge in case of dire necessity.

It would be tedious to refer in detail to every trace of ancient habitation in the vicinity of McCarthy's and Grant's. The small-house type prevails, in isolated buildings as well as in clusters. Of pueblos proper, beyond the one at the Mesita Redonda, I know nothing, but this does not exclude the possibility of their existence. Still, the country is not, like the Rio Grande valley, the Chaca, the extreme northwest, and the Salines, favorable for the support of numerous aggregations of people. Extensive mesas cut up by steep trenches cover the greatest portions of it, and springs do not abound. I

should therefore not be surprised to learn that between San Matéo and the Mesita Redonda no structures of the joint tenement kind have been discovered except those on the plain of Cubero. Also that, south of the ruin at the Mesita, the line of pueblos scattered between Acoma and the Zuñi country are the nearest specimens of that class of ancient architecture.

The country west of Acoma is mostly bleak and arid. Wooded mesas, largely of sandstone and of volcanic rocks, alternate with bare levels. Springs occur in places, and near those springs aboriginal remains have been found. But there are also ruins where no water has been discovered; in such instances, some hidden source may be looked for, or the existence of reservoirs is presumable. It is sometimes difficult to distinguish between a small tank and a large estufa.

My investigations were made from McCarthy's Station, and directed first to the plain of the Ventanas, about ten miles southwest from that place, and separated from the railroad line by wooded mesas. On these mesas I noticed two small houses of the usual kind. On the eastern extremity of the grassy basin called Las Ventanas stands a rock forming a natural arch, and from this freak of nature the vale derives its Spanish appellation. The basin is about two miles long, and bordered by high mesas in the north and east, by a steep ridge in the south-southwest, and in the west by an extensive flow of black lava. I counted at least twenty-five small houses scattered along the border of the basin, on the slope of wooded foothills, whereas the centre appears devoid of ruins. The pottery, while of the old black and white kind, is thicker than usual. Of water I only noticed one pool, to which access is possible through the natural arch mentioned. Ventanas is a lovely valley, well sheltered on all sides, and with fertile soil, and the most interesting ruins stand on

the edge of the lava-flow, or malpaís. A circular depression, 2.6 m. (8 feet) deep in the centre and 16.8 m. (55 feet) in diameter, first attracted my attention. It has a wall of stones, and at each of the four cardinal points a small square cell is built against that wall. Near this structure I saw half a dozen disks of sandstone, shaped like mill-burrs, 0.61 m. (2 feet) across and 0.18 to 0.20 m. (7 to 8 inches) thick, two of which were superposed. They were nearly circular. On the face of one of them the figure of a lizard, or water-salamander, on another the print of a foot, was carved. It is my impression that the depression was a tank, it being too large and deep for an estufa. What the object of the stone disks may have been I cannot imagine. The carvings, now much obliterated and originally not deep, may have been made subsequently to the abandonment of the place. I add a sketch of these enigmatical contrivances.



CARVED DISKS, LAS VENTANAS.

Not far from this supposed tank lies a large rubbish pile, indicating the ruins of some structure, and over two hundred meters northwest of it is the main ruin, — a house built on a slope descending from west to east, and of which the western wall was still standing in 1882, to the height of three meters (10 feet). Its width is 0.81 m. (2 feet 8 inches). Both faces appear straight and vertical. I made the following entry in my Journal, May 24, 1882: "The stones are thin plates of reddish sandstone with their natural cleavage, but the outside face, while not hewn, is still smooth, though not polished. There was much pottery about, mostly of the gray and black

and of the corrugated kinds, with some red and black also. The chips are of lava, and there is a very little obsidian of the dark opaque kind."

This ruin appears to have consisted of three tiers, not superposed but built so as to lie one higher than another, successively, on the ascending slope.<sup>1</sup> The partition and side walls on the north, south, and east were about half as thick as those on the west, where the ground is highest. "It looks as if there were three rows, each of one story, and higher than the preceding one, from east to west." The western tier may have been two stories high.

The ruins at Ventanas might have accommodated, small and large buildings included, about six hundred people. Thence on south to Cebollita I noticed no vestiges whatever. The picturesque cañon is wooded, and the bleak level beyond, with its magnificent rim of smooth walls of sandstone several hundred feet high and absolutely perpendicular, is equally devoid of ancient remains. There is a small natural cave in the rocks on the southeast of that plain with partition walls 0.27 m. (11 inches) thick, of stones, and well plastered. The interior of the cavity shows traces of fire.

The ruins at Cebollita deserve closer attention. The spot itself is a beautiful one, well watered, with woods and shrubbery more dense and varied than anywhere else except in the cañones of Santa Clara and of the Jemez region. I noticed chestnut trees. On the southeastern border of the wooded basin forming this vale, hidden from below by thickets of oak, cactus, and other plants, stand the remains of a small pueblo. I doubt whether this pueblo was more than one

<sup>1</sup> Compare Figure 495, page 477, "Section illustrating Evolution of Flat Roof and Terrace," in Cushing's *Pueblo Pottery* (Report of Bureau of Ethnology, 1882-83).

story high. It presents in fact the appearance of an intermediate form between the large joint-tenement and the detached house villages. What is most remarkable, however, is the beauty of its stone-work. The walls are 0.45 m. (18 inches) in thickness, and made of blocks of red sandstone, very neatly formed and nearly square, almost all of equal size, 0.30 by 0.45 m. (12 by 18 in.), and so carefully worked as to suggest the idea of their having been dressed with some metallic instrument. But it must not be overlooked, that the sandstone consists of thin alternate layers of hard and soft material, and that the effect of wear and tear would be to erode the more friable spaces, leaving the harder seams intact, thus producing a very finely ribbed surface, which might at first glance create the impression of stone-dressing. Not only is the work on each stone extremely well done, but the surface of the walls has an unusually vertical appearance for an Indian construction; but they do not "break joints," and the mortar is plain adobe mud. The cells are small, and the doorways as narrow as in all other ancient pueblos. The outer buildings form a polygonal circumvallation, all the apartments opening into a court, in the centre of which stands an irregular cluster of houses, attached to each other at various angles, and with two, three, and four rows of cells of considerable uniformity in size, somewhat larger than the average chambers of pueblo ruins. No traces of estufas were visible. The circumvallation has only two entrances, the stone-work on the angles of which is surprisingly handsome. The pottery is characteristic of the small houses, and the same as at the Mesita Redonda.

The ruins at Cebollita have been thought to be those of a Spanish settlement, but there is no doubt about their Indian origin. They belong to a series of ruins, scattered at irregular distances along an ancient trail leading from Acoma



to Zuñi. It is not certain whether this trail, which was in regular use as late as the seventeenth century and is to-day visible in many places, dates from the time when the pueblos now in ruins were built. There are indications that it began to be used after Acoma had been founded, or at least the Acoma tribe established in that vicinity.

I received the impression that the pueblo might have been only a beginning, perhaps never finished, or only inhabited for a short time and then abruptly abandoned; but this is a mere conjecture. The site was certainly well chosen. Close by running water, with fine woods around it, and a fertile, well irrigated valley, it appears like a beautiful oasis in an arid country. For defence it was equally well adapted. On the side where the mountains rise behind the ruin, the circumvallation protects it, following the sinuosities of the rock, and the rise and fall of the ground. On the other side, it is open for a short space, but the rocky shelf on which it stands is cut off abruptly, allowing a free view over the little valley beneath, surrounded by abrupt mesas. Its width is hardly more than one mile, and the only level entrance to it is on the south side. Whether the ruin which I visited is the only one in that valley, or whether, as I have been told, there are two more, I had not time to ascertain.

The Acomas have a name for Cebollita, — *Ka-uin-a*; but they strenuously denied any knowledge as to who were its builders. That may be true, but I doubt it. More and more we are finding out that the Pueblos conceal much information, traditional and mythological, about the ruins in their vicinity, as well as not infrequently about ruins situated a considerable distance from their villages. They regard such knowledge as specially sacred, — the privilege of special branches of their ritual organization.

Two roads now lie open to me by which to reach the

Zuñi country and the western boundary of New Mexico. One lies along the track of the Atlantic and Pacific Railroad, and I have followed it step by step almost as far as the frontier of Arizona. But with the exception of the ruins of small houses, isolated as well as in clusters, the vicinity of the railroad track offers to my knowledge not much of archæological interest as far as Fort Wingate. At a place three miles west of the station of Chavez, and not far from the ruins of several detached buildings, I examined a site where a spring, artificially concealed, had been discovered. The issue had first been choked with rubbish, on which a number of entire pieces of earthenware, black and white, had been placed, and the whole covered with a layer of clay filled with flint implements. A wooden idol or fetich was also exhumed, in the shape of a stick with the head of a serpent. When the discoverer asked the Navajos what that idol represented, they replied it was the "charm of the spring." A similar fetich, green, with a head painted red, was found by Mr. Cushing in sacrificial caves at Tule, in Arizona, and I heard of another find of the same nature at Mangus Springs, on the Upper Gila, in Southwestern New Mexico.

Leaving the consideration of the ruins about Fort Wingate for a later part of this chapter, I turn to the other route, which I have travelled but a very short distance. It is that ancient trail, already mentioned, which passes near Cebollita, and connects the pueblo of Acoma with the Zuñi region. We have documentary information about this trail from as early as the year 1540, when Hernando de Alvarado, accompanied by Fray Juan de Padilla, followed it from the village of Ha-ui-co to the "rock of Acuco," as Acoma is called by the chroniclers of Coronado's expedition.<sup>1</sup> The trail passes, after

<sup>1</sup> I refer here to the short but highly valuable document, *Relacion de lo que*

leaving Cebollita, to another "rancho," named Cebolla, and thence south of the famous "Inscription Rock" and of the head-waters of the Zuñi River at Pescado, and also of the Zuñi plain, in an almost straight line, to the Zuñi hot springs, where Haicu is situated. Some distance southeast of the Zuñi basin another trail diverges from it, which leads to Cia, also ancient, well known in the country, and noticed in 1540 by Alvarado. These trails indicate a regular intercourse between the most westerly group of Pueblos in New Mexico and some of the more central clusters at an early date; for three hundred and fifty years ago they were already well traced.

I have stated that Alvarado, when he was sent from Zuñi to Pecos, followed the trail from Hauicu to Acoma. Coronado himself took a more southerly route, but the main body when it marched to the Rio Grande (towards the end of the year 1540) again took the old trail. The latter must therefore have had a number of watering places along its line, distributed at convenient intervals.<sup>1</sup> This would account for the number of ruins along that line; but the fact that the Spaniards marched several times over it without noticing anything but ruins, establishes beyond all doubt that there were

*Hernando de Alvarado y Fray Joan de Padilla descubrieron en demanda de la Mar del Sur* (Documentos de Indias, vol. iii. p. 511). Muñoz, from whose papers the document was copied, made a marginal note expressing his doubts as to the reliability of the document. He knew nothing of New Mexico, else he would certainly have recognized the importance of this report. In the index of the volume in which it is contained, the name of Alvarado is changed into De Soto. It was included by Buckingham Smith in his *Coleccion de Documentos*, p. 65.

<sup>1</sup> Castañeda, *Cibola*, p. 69. mentions no lack of water on the route followed by Alvarado, or (p. 81) on the route followed by the main body under Tristan de Arellano in December, which was the same, since it led the Spaniards through Acoma. But Coronado, when he took a more southerly direction, was two days and a half without any water (p. 76). I suppose that Coronado took a trail towards the Rito Quemado.

no inhabited pueblos at that time between the Zuñi country and Acoma.

I have learned from informants thoroughly acquainted with the country, and reliable, that ruins similar to those at Cebolita exist near Cebolla, but I am not certain as to intermediate points. Farther west the trail in question passes very near the "Cerro de la Cabra," one of several volcanic cones named collectively, after the well known geologist, Marcou Buttes. It leaves Inscription Rock and its important historic monuments to the right, and passes south of Thunder Mountain, as To-yo-a-lan-a, or the high mesa of Zuñi, is called by the Indians.

Hernando de Alvarado has left a description of the ruins on this trail, which is very accurate except so far as their size is concerned, which he has exaggerated. It appeared to him as if the sites had been abandoned but shortly previous.<sup>1</sup> According to the investigations of Mr. Cushing, they were villages of a branch of the Zuñis, known by the name of Mak-yat-a, or Mat-ya-ta. There is no doubt that this is the Marata of Fray Marcos of Nizza, and according to the story of a fugitive Zuñi Indian told to the monk on the San Pedro River in Arizona, Marata was at war with the remainder of the Zuñi tribe, and was rapidly yielding to the pressure which the "Seven Towns of Cibola" brought to bear upon it.<sup>2</sup> The abandonment of the ruins noticed by Alvarado in 1540 dates, therefore, from the beginning of the sixteenth century, or the close of the fifteenth.

I have not seen any of these ruins, but they are said to display unusual workmanship; I suspect that by this is meant a degree of accuracy similar to that found at Cebolita. The same has been said in regard to the ruins south

<sup>1</sup> *Relacion de lo que Hernando de Alvarado, etc.*, p. 511.

<sup>2</sup> *Descubrimiento de las Siete Ciudades, etc.*, p. 341.

of Fort Wingate, not far from Nutria, at a place also called "Cebolla."

In the eastern ramifications of the Sierra de Zuñi, between San Raphael and the source of the Zuñi River, aboriginal remains are comparatively scarce. There are two pueblos on the summit of the mesa of El Morro, or Inscription Rock. The Zuñis, as Mr. Cushing has ascertained, claim that they were two of their former villages, to which they give the name of Hesho-ta Yasht-ok. They were abandoned previous to the appearance of the Spaniards in New Mexico.

General Simpson has furnished a plan and description of one of these ruins, which description I insert here: —

"These ruins present, in plan, a rectangle two hundred and six by three hundred and seven feet, the sides conforming to the four cardinal points. The apartments seem to have been chiefly upon the contour of the rectangle, the heaps of rubbish within the court indicating that here there had been some also. There appear to have been two ranges of rooms on the north side, and two on the west. The other two sides are in so ruinous a condition as to make the partition walls indistinguishable. On the north side was found traceable a room seven feet four inches by eight and a half feet; and on the east side, one eight and a half by seven feet. There was one circular estufa apparent, thirty-one feet in diameter, just in rear of the middle of the north face. The main walls, which, except for a length of about twenty feet, were indistinguishable, appear from this remnant to have been originally well laid; the facing exposing a compact tabular sandstone varying from three to eight inches in thickness, and the backing a rubble kind of masonry cemented with mud mortar. The style of the masonry, though next, as far as our observation has extended, to that of the pueblos of Chaco, in the beauty of its details is far inferior.

Here, as usual, immense quantities of broken pottery lay scattered around, and of patterns different from any we have hitherto seen. . . . To the north of west, about three hundred yards distant, a deep cañon intervening, on the summit of the same massive rock upon which the inscriptions are found, we could see another ruined pueblo, in plan and size apparently similar to that I have just described."<sup>1</sup>

The situation of the ruins is a very good one for defence and for observation, since they are perched on a plateau over two hundred feet in height, the sides of which are everywhere steep, and absolutely vertical on the north, and nearly so on the east. The pottery is largely of the kind with glazed ornamentation, but the glaze seems to be less coarse than that of historic ruins, and the ornamentation, while after strictly Pueblo Indian patterns, is better executed. Similar pottery accompanies the ruins of Hesho-ta U-thla and Hesho-ta Mimquoshk-kuin, two other Zuñi ruins.

The chief interest of the place consists in the numerous inscriptions with which the faces of a spur projecting eastward from the mesa are covered. In 1849 it was observed that "the greater portion of these inscriptions are in Spanish, with some little sprinkling of what appeared to be an attempt at Latin, and the remainder in hieroglyphics, doubtless of Indian origin."<sup>2</sup> To-day the Spanish inscriptions are in the minority, modern names have been added in profusion, and in some instances the ancient and historically valuable memorials scraped off, in order to secure room for modern ones. Fortunately General Simpson recorded nearly all he could discover, and although the translations given in his report are sometimes defective, and the copies in many cases

<sup>1</sup> *Journal of a Military Reconnoissance*, p. 121 (Senate Ex. Doc., 1850, No. 64).

<sup>2</sup> *Ibid.*, p. 120. For the pottery of Inscription Rock, see Plate No. 64 of the same book.

show that the reading was imperfect, dates and names have been preserved by him that now are no longer to be found.

The oldest inscription which is positively established commemorates the return of Juan de Oñate from his wonderful journey to the Gulf of California. It bears date April 16, 1605.<sup>1</sup>

The next in date, according to General Simpson, is of the year 1619.<sup>2</sup> I could not find it when I copied the inscriptions two years ago. A very well executed inscription commemorates the passage at the Morro of the Governor Don Francisco de Sylvia Nieto in 1629, and another his return from the Zuñi pueblos, after having pacified them again and established the permanent missions.<sup>3</sup> There were, forty years

<sup>1</sup> General Simpson has 1606. And there are indications that the "5" has been changed into a "6." The inscription reads, "Pasó por aquí el Adelantado Don Ju de Oñate del descubrimiento de la Mar del Sur á 15 de Abril, 1605." It cannot have been 1606, since, according to Zárate-Salmeron, (*Relaciones de todas las cosas*, par. 44.) Oñate left San Gabriel on October 7, 1604, returning again (par. 57) on April 25, 1605. That Father Zárate has made no mistake in the year is proved by the document entitled *Peticion de los Pobladores de la Villa de San Gabriel de la Nueva México, á Don Cristóbal de Oñate tocante al destierro de Juan Lopez Holguin*, 1604, MS. Christóbal de Oñate declares in the *Mandamiento*, on the 2d of December of 1604, "asta tanto el Excelltísimo Sr. Don Jua de Oñate Govr Capitan General y Adelantado su Padre y Sr. benga de la Jornada de la Mar del Sur."

<sup>2</sup> *Military Reconnoissance*, Plate 69. There is no name with the date.

<sup>3</sup> Both are on the northern wall. I give them here from my Journal. with translation: "Aquí [effaced] nador Don Francisco . . anuel de Silva Nieto [effaced] que lo ympucible tiene y á sujeto su braco yndubitabile su balor con los carros del Rei nro Señor cosa que solo el puso en este efecto. . . . De Abgosto y seis cientos beinte y nueue que [illegible] á Cvñi pase y la Fé lleue." Translation: "Through here passed the Governor Francis Manuel de Sylva Nieto, whose valor and unflinching arm have overcome the impossible, with the carts of the King our Lord which he alone put in this state. . . . August and six hundred and twenty-nine . . . to Zuñi passed and carried the faith thither."

The other inscription reads: "El Capn Genl de las Pro: del Nuevo México por el Rey nro Sr pasó por aquí de buelta de los Pueblos de Zuñi á los 29 de Julio del año de 1629, y los puso en paz á su pedimto pidiendole su fabor como basallos de su magd y de nuebo dieron la obediencia todo lo que hizo con el agasaxe selo y prudencia como tan christianisimo . . . tan par

ago, inscriptions of 1632, 1636, 1641, and 1667. Only those of 1629 and 1636 remain.<sup>1</sup> The passage of Diego de Vargas (1692) is also recorded.<sup>2</sup> The Spanish names and dates of the past century are quite numerous.<sup>3</sup> For the history of the Spanish domination previous to 1680, Inscription Rock affords a certain number of data that are the more valuable since we possess very few documents of that period.

Mr. Cushing wrote to me that, after I had left him at the Morro in 1888, he had discovered the name of Francisco Sanchez Chamuscado. It is not impossible, although I did not see it myself. Chamuscado certainly went to Zuñi with his eight men, and returned, but did not visit Acoma. Hence

ticalar y gallardo soldado de inacabable y loada memo." Translation: "The Captain General of the Provinces of New Mexico for the King our Lord, passed through here on his return from the pueblos of Zuñi on the 29th of July of the year 1629, and put them in peace at their request, begging him for his favor as vassals of his Majesty, and again they pledged obedience; all of which he performed with the zeal, gentleness, and prudence as so Christian . . . particular and gallant soldier of unending . . ."

Don Francisco Manuel de Sylva Nieto was Governor of New Mexico in 1629. Vetancurt, *Crónica*, p. 300. The journey to Zuñi referred to in this inscription was manifestly for the purpose of establishing permanent missions there. According to Vetancurt (*Menologio*, p. 53), Fray Francisco Letrado was the first missionary. The inscriptions are confused in regard to the dates of going and coming, if the first refers to the journey to Zuñi, which is not clear. In the year following, the Zuñis revolted and killed the missionary. Vetancurt (*Menologio*, p. 53) places this event in 1632, but I doubt the correctness of the date.

<sup>1</sup> Of 1636 there is the following: "Pasamos por aquí el Sarjento Mayor y el Capitan Jua de Archuleta y el Aiudante Diego Martin . . . 1636." Simpson completes the rest, which has since been obliterated, "Barba." The rest of the copy given by him is unintelligible. Diego Martin Barba was Secretary to the Governor Francisco Martinez Baeza in 1636. *Autos sobre Quexas contra los Religiosos del Nuevo México*, MS., 1636. The Sargento Mayor mentioned in the inscription was probably Francisco Gomez. The other inscriptions are simply names and dates.

<sup>2</sup> The month and day of the passage of Diego de Vargas are not given. Vargas was at the Morro on the 8th of November and 1st of December, 1692. *Autos de Guerra de la Primera Campaña*, fol. 166 and 206.

<sup>3</sup> Juan de Uribarri, 1701; Juan Paez Hurtado, 1736; Governor Felix Martinez, in 1716; Bishop Martin de Elizaecoechea, 1737; and many others.



it is quite possible that he may have passed Inscription Rock, and been the first to record his presence.<sup>1</sup>

There is another inscription which may also be of 1580, but it is too indistinct to justify the assertion.<sup>2</sup> That Coronado did not, in all likelihood, pass by Inscription Rock, but took a more southerly route, I have already stated; neither did Espejo in 1582. In the year following, it is possible that the latter may have taken the northern trail, when he returned from Zuñi to the Rio Grande.<sup>3</sup> There are indications that Oñate passed near or at the Morro in 1598, but he has left no memorial of his passage.<sup>4</sup>

General Simpson states that there was a spring at Inscription Rock forty years ago,<sup>5</sup> but to-day it has been sought for

<sup>1</sup> That Chamuscabo visited the Zuñi pueblos in 1580 admits of no doubt, although in the *Testimonio Dado* it is called "Cami."

<sup>2</sup> The date is either 1580 or 1580; the name is Pedro Romero. I cannot find it in the *Relacion Breve y Verdadera*, or in Villagran, *Historia de la Nueva México*, fol. 35. The latter gives only seven names besides that of Chamuscado, although it is certain that there were eight.

<sup>3</sup> He does not mention Acoma in his narrative of the return trip.

<sup>4</sup> It may be that the rock near where Villagran at last found water, when he had lost his way in search of Oñate, was the Morro. Oñate's camp was not far from the place. *Historia*, fol. 170:

"Hasta que por gran suerte fuy llegando,  
Al pié de vnos peñascos lebandados,  
En cuio assiento y puesto vi que estaua  
Vn apazible estanque de agua fria."

From the itinerary of Oñate in *Discurso de las Jornadas* (p. 273), it is not quite clear.

<sup>5</sup> *Military Reconnoissance*, page 120, with a plat of the rock: "So, taking him as our guide, we went around to the south face of the wall, along which we continued until we came to an angle, thus: [sketch] where, canòped by some magnificent rocks, and shaded by a few pine trees, the whole forming an exquisite picture, we found a cool and capacious spring." According to Simpson the spring lies in the very corner where the southern wall of the projecting spur touches the main body of the mesa, but I can certify to the fact that there is no longer any trace of it on the surface. Vargas, in 1692, found only water in a tank, and no spring. *Autos de Guerra*, p. 166: "Que es vn peñol muy grande y dilatado á cuyo pie á vn concauo á manera de vna naranja y en el se rrecoxen las aguas llobedizas."

in vain. Water-holes have been met with, but they are not permanent. Either the spring has disappeared recently, or all surface traces of it have been purposely obliterated.

Between Inscription Rock and Pescado, where the Zuñi River rises, extends a bleak and waterless plain, upon which I know of no remains. The Zuñi mountains sweep around it from southeast to northwest, densely pine-clad. On the south rise the black volcanic cones, with extinct craters, which bear the name of Marcou Buttes. In the west, low hills, clad in the sombre green of scrubby junipers and cedars, close the view. There is no water on this plain, which is about fifteen miles wide, but the western hills contain the sources of the Zuñi River, and in the very gateway where these abundant springs come to the surface stand the two circular, or rather polygonal ruins, called by the Zuñis Heshota Tzinan. Both are prehistoric, and they yield peculiar and handsome pottery.

The course of the Zuñi stream from Pescado to Arizona is dotted with ruins of villages of the Zuñis. Heshota Uthla, another polygonal pueblo, stands a few miles lower down, near the mouth of Nutria Creek. Still farther below is Heshota Thluc-tzinan, a rectangular ruin. Neither of the two is large. The pottery of the first one is similar to that near Inscription Rock. For a ground plan of Heshota Uthla see Plate I. Figure 32. The pottery of the other ruin I have not examined.

At Heshota Uthla Mr. Cushing and I noticed skulls lying on the surface, showing signs of having been fractured by some blunt instrument. Now it may be that these skulls had been disinterred and thrown about afterwards, or possibly the village was surprised and sacked by enemies, and they are the broken and mutilated vestiges of an Indian slaughter.

Three miles from Zuñi, the muddy rivulet of that name

emerges from the valley and enters the basin, or Zuñi valley proper. To the left or south rises To-yo-a-lan-a, or Thunder Mountain, over nine hundred feet above the plain, in precipitous crags and vertical walls of variegated sandstone. Ascent is possible on four trails only, one of which can be trodden by horses, though the rider must dismount; the other trails are of frightful dizziness. The mesa is four miles long in a north and south direction, and from one to two miles wide. The top is partly covered with low woods; there is tillable soil, and permanent water in tanks, so that it could afford both room and subsistence for a moderate Indian population; we accordingly find on it the ruins of six small villages.

Mr. S. I. Bigelow, C. E., of San Francisco, has drawn for Mr. Cushing a plan which the latter has published in the "Comptes Rendus" of the International Society of Americanists,<sup>1</sup> presenting the arrangement of the ruins. The houses were not over three stories in height, mostly two, of stone, and showing sometimes the marks of hasty construction. To these ruins the name of "Old Zuñi" has been applied by modern investigators.

That designation is far from correct. The buildings in question date from between the years 1680 and 1692, probably from a few years only previous to the latter date. They were erected by the Zuñis, during the absence of the Spaniards from New Mexico after the Pueblo rebellion, when the Navajos threatened to destroy the tribe. Abandoning their villages on the plain, they retired to the summit of Toyoalana for safety. There Diego de Vargas found them in 1692.<sup>2</sup>

<sup>1</sup> Congrès. Berlin, 1888, p. 164, Plate IV; a complete map showing the position of the more important ruins near Zuñi is given in Mr. Fewkes's "Journal of American Ethnology and Archæology," vol. i. p. 95.

<sup>2</sup> *Autos de Guerra de la Primera Campaña*, fol. 167 et seq. *Auto de Remission*, MS., fol. 243: "En cuya dilatada messa demas de dos leguas se hallan viuir los

It is known that they remained on the mesa for several years, and returned to it in 1703, after having killed four Spaniards in revenge for many excesses committed by the latter at the pueblo.<sup>1</sup> They finally returned to the site of their present village of Hal-onan in the spring of 1705.<sup>2</sup>

The flight of the Zuñis to the Great Mesa after 1680 was not the first instance of that kind in the annals of the tribe. Toyoalana is mentioned in 1540 as a place of refuge to which the Zuñis retired in case of danger.<sup>3</sup> It may be, therefore, that traces of a more ancient temporary occupation may yet be discovered. In 1629, the Zuñi missions had been established, and Fray Francisco Letrado left at one of the pueblos as resident priest. The year after, on the 22d of February, he was killed by the people, who thereupon fled to the summit of Thunder Mountain,<sup>4</sup> where they remained

naturales de dicha nazon Zuñis de sus zinco pueblos, hayandolos despoblado por los Apaches sus enemigos."

<sup>1</sup> The massacre took place in church, on the 4th of March, 1703. Escalante, *Relacion*, p. 182: "Sobre el Levantamiento de los Zuñis."

<sup>2</sup> *Ibid.*, p. 190. The date was April 8.

<sup>3</sup> *Traslado de las Nuevas y Noticias que Dieron sobre el Descubrimiento de una Ciudad que Llamaron de Cibola situada en la Tierra Nueva* (Doc. de Indias, vol. xix. p. 532): "Y que a xix del mes de Julio pasado, fue quatro leguas de esta ciudad á ver vn Peñol, donde le dixeron que los Yndios desta provincia se hacian fuertes." But the so called "Twin Buttes" of Zuñi lie nearer to Hauicu, from which place the Spaniards started for the trip to the rock, than Thunder Mountain, and they are equally steep and high; but their surface is much smaller, and I never heard that they had been used as a place of refuge. I therefore believe that the "Peñol" mentioned was Thunder Mountain.

<sup>4</sup> The year of the death of Fray Francisco Letrado is given by Vetancurt as 1632 (*Menologio*, p. 53). I believe, however, that it was 1630. That the Zuñis thereupon fled to the summit of the mesa is stated in *Autos sobre restablecer las Misiones en los pueblos de los Zuñis*, 1636, MS. The Custodian of New Mexico says: "Digo qe por quanto los Yndios del Peñol de Caquima de la Prouyca de Çuni qe se abian alsado en tiempo del gouro Don Franco de Silua los quales Yndios." Also: "Y como los Yndios de la prouyca de Zuñi qe se alzarón y mataron á su ministro en tiempo de Dn Franco de Silva, los quales Yndios de paz Don Franco de la Mora que sucedió en el gouerno y de poco tiempo á esta parte se ban reduziendo á sus pueblos." This is the event, in all probability at least, to which the Cabildo of Santa Fé referred in 1680 (*Diario de la Retirada*,

until 1635.<sup>1</sup> A residence of several years could not be possible without the construction of durable abodes.

Sacrificial caves in actual use, and spots sacred on other accounts to the Indian, are quite numerous on and about Thunder Mountain, and a host of legends and folk-tales cluster around the towering table rock. It is not strange that such should be the case, but since these tales have as yet been only imperfectly published, out of the vast collection made by Mr. Cushing, I reserve references to them for a future section of my Report. When Coronado made his first entrance into New Mexico, in 1540, Toyoalana was not occupied; the Zuñi villages were all at the foot of the imposing mesa and along the Zuñi River as far as Haucú, fifteen miles southwest of the Zuñi of to-day.

I will not dwell here on the identification of the Zuñi country with Cibola, and of certain Zuñi pueblos with the "Seven Cities" of Fray Marcos of Nizza.<sup>2</sup> In the Zuñi basin, the following seven ruins are known to have been occupied within historic times.

Matzaki lies at the foot of the northwestern corner of Thunder Mountain. It was a large pueblo in 1540, was probably polygonal, and dwindled down to a mere hamlet until 1680. Between that year and 1692 it was abandoned, the people moving to the mesa. As the Zuñis afterwards

fol. 71): "Y aunque es verdad que en diferentes ocasiones han intentado el alzamiento y desobediencia los Indios alzados del Nuevo México, ha sido en diferentes pueblos, y naciones, como fué los Zuñis, en el Peñol de Caquima."

<sup>1</sup> *Autos sobre restablecer las Misiones*, MS. "Desde qe enbio el dho Don Franco de la Mora al mro de campo Thomas de Albizu y subieron los rreliгиозos qe yvan con el dho mro de campo al Peñol con algunos soldados los quales Yndios, tengo noticia qe se ban poblando en sus pueblo de un año á esta parte."

<sup>2</sup> I have treated of this matter extensively in my *Contributions to the History of the Southwestern Portion of the United States*, published by the Institute in No. V. of the American Series, and by the late Hemenway Expedition, in whose archives is also a manuscript bearing the title of *Documentary History of Zuñi*, upon the same subject.

concentrated and settled in one village, Matzaki was never again occupied.<sup>1</sup>

Kiakima is at the foot of the southwestern corner of Thunder Mountain. The ruins lie in a niche and on a ridge formed by débris, and the pueblo does not appear to have been a large one. Here, so Zuñi tradition states, the negro Estevan was killed in 1539. Kiakima shared the fate of Matzaki.<sup>2</sup>

Halona, on the site of the present pueblo, was occupied until after 1680.<sup>3</sup> When the Zuñis descended from the Mesa, they selected the site of Halona for their future residence; but it would appear that the Halona, which antedates the Spanish occupation, lay mostly on the south side of the Zuñi River, while the present village lies exclusively on the north bank. The excavations which Mr. Cushing made on the older site revealed a number of very interesting features, principally in the modes of burial. As I was associated with the late Hemenway Archæological Expedition, of which Mr. Cushing was Director, I do not consider myself justified in anticipating the publications of the results of that enterprise.

<sup>1</sup> Matzaki is the "Maçaque" of the original of Castañeda's report, which the careless translation of Ternaux-Compans makes "Muzaque," *Cibola*, p. 163: "Le plus grand se nomme Muzaque; les maisons du pays ont ordinairement quatre étages; mais à muzaque il y en a qui en ont jusqu'à sept." It is probably Matzaki, of which the same author speaks (p. 80), and which he describes as "un village, le plus beau le meilleur et le plus grand de la province, on y trouva des maisons de sept étages." As far as I could see, the pueblo was polygonal in shape, but only excavations could establish the true form and original size of the pueblo. Matzaki appears again in the *Obediencia y Vasallane de los Indios de Agüscobi* (Doc. de Indias, vol. xvi. p. 133) as "Macaquia." In 1680 it is mentioned by Vetancurt in *Crónica*, p. 320, as one of the two "aldeas de visita, que cada qual tenía su pequeña iglesia" of the mission of Alona.

<sup>2</sup> Kiakima also is mentioned in the *Obediencia* above quoted, under the name of "Coaqueria." It was inhabited at the time of the great uprising, but had also dwindled down to a mere hamlet.

<sup>3</sup> "Halonagu" (Halona Kuin) in *Obediencia de Agüscobi*, p. 133. It became the mission of "La Purificación de la Virgen de Alona." In 1680 the people of the pueblo murdered Fray Juan del Bal, their priest.

Pin-ava, which appears to have been a comparatively small pueblo, lies a short distance to the west-southwest of Halona. It appears to have been abandoned between 1626 and 1680. The ruins indicate quite a compact pueblo.<sup>1</sup>

Hauicu (see Plate I. Figure 34) is an elongated polygon on a rocky promontory overlooking the plains that stretch out on the south side of the Zuñi River, and about fifteen miles southwest of the present Zuñi. This was the village first seen by Coronado, and which he had to take by storm.<sup>2</sup> Hauicu was occupied till 1672, when the Navajos surprised it, killing the resident missionary, Fray Pedro de Avila y Ayala, on the 7th of October.<sup>3</sup> The ruins of the church, built mostly of adobe, stand at the foot of the eminence on which the pueblo was erected.

Chyan-a-hue, two miles from Hauicu, on a partly wooded mesa, was occupied until after 1630, and abandoned previous to the catastrophe of Hauicu.<sup>4</sup> Here are ruins of a

<sup>1</sup> It is probably the "Aquinsa" of the *Obediencia*. In 1598 that document mentions six villages; in 1604 there were still six left; and the same number existed in 1626, for Fray Zárate-Salmeron says (*Relaciones*, par. 44), "Son 6 pueblos." Benavides (*Memorial*, p. 35) mentions eleven or twelve, with more than ten thousand inhabitants; but this author usually exaggerates, or else he counted the summer villages also. In 1680 there were only four; Pinava must therefore have been abandoned between 1626 and 1680.

<sup>2</sup> Hauicu is the first Zuñi village the name of which is mentioned. It is the "Ahacus" of Fray Marcos of Nizza. Coronado stormed it in July, 1540. It appears as Aquico in Espejo's *Relacion del Viage*, p. 118. The corrupt relation in Hakluyt omits that name. Oñate in *Obediencia*, p. 133, calls it "Aguscobi." Fray Zárate, *Relaciones (ut supra)*, calls it "Havico," and says: "El pueblo mayor, y caveza de todos es el pueblo de Cibola que en su lengua se llama Havico, tiene 110 casas," thus identifying it specifically with the Cibola of Coronado.

<sup>3</sup> Vetancurt places the massacre at Hauicu in 1670; but a contemporaneous document fixes the date on the 7th of October, 1672. *Parecer del Fiscal*, September 5, 1676 (MS.): "Y lo que es mas que despues de haber muerto muchos christianos sin reserbar á los Parbulos pasaron á dar muerte al Pe Fr. Pedro de Ayala, ministro en el pueblo de Auuico en el dia 7 de Octubre del año passado de 672."

<sup>4</sup> It was the "Canabi" of the *Obediencia*. Since there was a church at Chyan-

well preserved chapel, built of stone. The pueblo was considerable.

There are doubts concerning the seventh pueblo of the Cibola cluster. Kya-kuina, west of the present Zuñi, may have been that village, but there are also indications pointing to Ketchip-a-uan, near Hauicu. Suffice it to say, that at least seven out of the ruins scattered over the Zuñi range, from Matzaki to the Arizona frontier, cannot lay claim to great antiquity.

There are other ruins of Zuñi origin, which should not be classified with the prehistoric ones. During the past century the Zuñi tribe again spread out in smaller pueblos in different directions. Most of these were summer villages; still the houses were so durably constructed as to leave débris which to the inexperienced appear like ancient vestiges. The pottery of all these ruins is characteristic Zuñi pottery, and there are glazed fragments among it; also corrugated and indented ware, black and white, and red and black. Other remains are so closely connected with the present ethnology of Zuñi as to render detailed reference to them superfluous.

In a west direction, there is a ruin at the Ojos Bonitos, the ground plan of which I have given on Plate I. Figure 35. The ruins are much disfigured, and they merely show that it was a pueblo of the compact kind. In the Cañada del Venado, on bare rocks, are numerous pictographs, and on the wooded ridges that border the gorge, isolated small houses accompanied by characteristic potsherds occur frequently.

Not far from the Ojos Bonitos lies the small-house village represented in Plate I. Figure 33. It is very characteristic, as well as its pottery. Several circular depressions are found

ahue, of which I have satisfied myself by ocular inspection of the ruins, the pueblo cannot have been abandoned previous to 1629; probably only after 1636. The chapel was small, and its walls are still standing.



near the houses. Some of the latter have as many as sixteen rooms, and none can have been higher than one story. I counted eight dwellings, and three circular depressions. One of these last may have been a tank, the others were probably estufas.

Turning now to the region north of the Zuñi River, and within the boundaries of New Mexico, I ascend the Nutria Creek as far as Nutria, where the village of "To-y-a" represents probably the only specimen of a polygonal one-house pueblo which is still inhabited, although not permanently. A few miles from it lie the important ruins of Heshota Imkuosh-kuin, or Mim-kuosh-kuin, in a very fertile and well irrigated valley, surrounded by woods and in an admirable situation for Indian agricultural purposes. It is also a polygon and similar to Heshota Uthla in plan, only larger. The pottery shows the handsome shades and nice workmanship of that at Inscription Rock, with glazed decorations. It was, like Toya, a Zuñi village, but abandoned previous to the sixteenth century, as far as I was able to ascertain from Mr. Cushing. Near this ruin, and between it and the Mormon settlements at Rama, others occur; also at Cebolla, where the stone walls show a degree of workmanship equal to that displayed at Cebollita near Acoma. The form of the ruins is said to be polygonal also.

The prevalence of this type of pueblo architecture in the Zuñi region is rather surprising. Including the historic Cibola villages, I know of at least ten ruins of this class on the range which the Zuñi tribe claims to have once held. This kind of construction implies a circumvallation of a polygonal shape, with one or more gateways. The circumvallation forms a building with a number of cells, the entrances to which were from the inside, while the outer front was probably not otherwise perforated than with loopholes. This polygonal house

enclosed an open space containing estufas, and sometimes a cluster of other buildings, so that the whole consists of a central group surrounded by a ring of many-storied edifices, forming a defensive wall. The idea is fundamentally the same as that of the one-house pueblo with its central square or courtyard, but it denotes progress in the adoption of a form nearly round, and therefore better adapted to purposes of defence. The round pueblo required always a level, while the rectangular type, easily decomposed into isolated buildings, could be preserved, after breaking up the original large house into several, by separating the angles. The prevalence of the polygonal pueblo in the Zuñi country must therefore be ascribed to other than physical influences, and it seems as if a protracted state of insecurity might be regarded as the immediate cause of it. The Navajos (whom the Zuñis call A-pa-chu, whence the name of Apaches) from time immemorial have been a constant threat to them, and it is not impossible that the neighborhood of these warlike hordes determined the adoption of an architecture which, while preserving the accommodations required by the social organization of the people, at the same time presented an improved defensive plan.

In addition to the specimens of small houses mentioned and figured in these pages, the Zuñi country contains a number of others which are so similar that I need enter into no detail concerning them. According to Zuñi tradition, they dwelt in such villages previous to resorting to the joint-tenement pueblo houses. Certain it is, also, that when the Spaniards came into New Mexico they found no small houses inhabited, unless the Jumanos dwelt in buildings of that class, and that the Pueblo Indians all occupied large communal dwellings.

Of the interesting ruins south of Zuñi, near the salt lagunes

and the Carrizo, I can only speak from hearsay. They are said to be in a fair state of preservation, and belong to the specifically Pueblo type. The salt deposits were known to the Spaniards at an early day, and were certainly visited by them in 1598.<sup>1</sup> The fact that the vicinity of these Salines was uninhabited at the time shows that the abandonment of the ruins antedates 1540, if not the sixteenth century.

Interesting ruins are visible on the road leading from Manuelito on the Atlantic and Pacific Railroad to Zuñi. They partly crown the rocky sides of a cañon, and the walls, which are still visible to the height of at least two stories, display very good workmanship. Loopholes and small windows appear in them, and there are also natural cavities partitioned for dwelling.

The same perfection in the stone-work is said to be displayed in the ruins at Navajo Springs, farther northwest, which I have not visited.

<sup>1</sup> The earliest information about these Salines was obtained by Captain Melchor Diaz, whom Don Antonio de Mendoza sent, after the return of Fray Marcos of Nizza, to inquire into the truth of the friar's statements. Diaz left Culiacan on November 17, 1539, with only fifteen men, on horseback; but the cold was so intense that, after penetrating to Southern Arizona, he was obliged to retrace his steps. Among the many matters of interest which he heard concerning Cibola, he learned that the people of the "Seven Towns" used salt, which they drew from a lake situated two days' journey from Cibola. Antonio de Mendoza, *Deuxième Lettre à l'Empereur Charles V.* (Appendix to *Cibola*, p. 295). In a direct line the distance is about forty-five miles, so that the information was quite accurate. The next statement is from Villagran (*Historia*, fol. 164). While Oñate was at Zuñi, in November, 1598, he sent Captain Farfan to explore the salt lakes.

"Que fuesse á descubrir ciertas salinas,  
De que grande noticia se tenia  
Y poniendo por obra aquel mandato,  
Con presta diligencia, y buen cuidado.  
En brebe dio la buelta y dixo dellas  
Que eran tan caudalosas y tan grandes,  
Que por espacio de vna legua larga,  
Mostraua toda aquella sal, de grueso.  
Vna muy larga pica bien tendida."

Before leaving the Zuñi country, I must allude to the ruins in the neighborhood of Fort Wingate. What I examined of these belong exclusively to the small-house class. North of the post, on the northern banks of the Rio Puerco, are the vestiges of a settlement. The houses lie at considerable distances from each other, and the number of circular depressions in their vicinity is quite considerable. One of these was doubtless an artificial tank, the others may have been estufas. The largest of the buildings, the one close to which the tank was constructed, contains as many as forty-two cells on the ground-plan. The walls were of sandstone, and, as far as discernible, 0.25 m. (10 inches) thick. Much pottery accompanied these ruins, which was corrugated, indented, and the kind of painted ware peculiar to small-house ruins.

At the foot of the bald ridge over which these ruins are scattered, the traces of an old irrigating ditch were visible, its width nowhere exceeding two meters (6½ feet). This ditch runs parallel to the Eastern Rio Puerco, one of the confluent of the Little Colorado. It may be that the ditch belonged to the ancient settlement, but this is not absolutely certain, as the Navajo Indians irrigate to-day, and it was stated in 1630 that, while their habitations were the same perishable structures in which they dwell at present, they raised fair crops.<sup>1</sup> I therefore leave the question undecided. My friend Dr. Matthews will doubtlessly, sooner or later, be able to gather reliable information on the subject from the Navajos themselves.

There are a few small houses scattered through and about Horse-Pen Valley, near Fort Wingate. In the same valley a round tower, partly ruined, was shown to me by Dr. Matthews. One side of the structure was completely broken

<sup>1</sup> Benavides, *Memorial*, p. 59: "Y estos de Nauajo son muy grandes labradores, que esso significa Nauajo, sementeras grandes."

down, but on the other half of the circumference two and three stories were still standing. The diameter of the structure inside was 4.3 meters (14 feet); the walls of the first story (which was 2.7 meters or 7 feet high) were 1.07 meters (42 inches) thick. The second story measured eight feet in height, and the thickness of its walls only 0.45 m. (18 inches). The uppermost tier I could not reach, but estimated its thickness at 0.30 m. (one foot), so that the walls of the tower were built in steps or terraces receding from below upwards, like the stories of pueblo houses. The stone-work is fairly executed, and the ceiling of the second story was still partly discernible in the spring of 1883. A transverse beam supported the free ends of a number of poles, like spokes of a wheel resting loose on the axle. The other ends were of course imbedded in the walls, and it is presumable that the poles supported the usual layers of brush and earth. I had examined two-storied watch-towers of stone in the vicinity of Zuñi which were square instead of round, and their analogy with this round structure in size was striking. But I failed to find in the latter the contrivance for ascending to the upper tier which the square ones exhibit, — a stone staircase built outside from the ground, leading to a small doorway in the upper story. At Horse-Pen Valley there were some projecting stones in the walls, which might have facilitated ascent from the outside, but they were at irregular distances.

Such tower-like constructions are not always to be looked upon as strictly military. Square towers are common around Zuñi, built for guarding the crops, and not for the use of a small garrison. The one at Horse-Pen Valley appears to have belonged to this class. It stands in a beautiful situation, for the vale is fertile, and there is permanent water in sufficient quantity for the household purposes of a small

Indian population. Nevertheless, every one of the small buildings which I examined, one of which had sixteen cells, had contiguous to it a circular depression, which the Navajos say was a tank. They are rather small for such a purpose, measuring only from three to five meters across (10 to 16 feet); I therefore suspect them to have been estufas. The ground was wet in each of these depressions, and one of them had a wall around it, which, like the walls of the adjacent house, was 0.28 m. (11 inches) in thickness.

The houses are much scattered, and small square constructions are quite numerous, so that the whole has the appearance of a small farming community. If there were in the neighborhood any ruins of larger pueblos with the same distinctive kind of pottery, I should unhesitatingly admit that the ruins at Horse-Pen Valley are those of summer ranches of their inhabitants. As it is, I know of none, and must therefore abandon all explanations based upon such a theory. There are no traditions known to me concerning the origin of the ruins; they are not only prehistoric, but beyond the scope of tradition.

Cliff-houses, and more round towers, are said to exist north and west of Fort Wingate, but they were too remote for me to visit. The remarkable study of the Zuñis made by Mr. Cushing, and the equally thorough investigations of Dr. Matthews among the Navajos, relieve me from the necessity of giving more than a superficial notice of the antiquities in those portions of the Southwest.

South of the Zuñi country extends a region comparatively unknown, and to which I can but briefly refer from hearsay. There are probably ruins around the forbidding mountain chains of the Escudilla and Sierra del Datil,<sup>1</sup> and there are

<sup>1</sup> The Escudilla is properly in Arizona; its height above the sea level is 10,691 feet; the elevation of the western peak of the Datil is 9,440 feet.

certainly ruins along the course of the San Francisco, and near Clifton in Arizona. There are also ruins farther north, about the Rito Quemado, but the plains of San Agustin seem to be devoid of aboriginal remains. East of this break the Magdalena Mountains hug the Rio Grande valley, and it is well known that pueblos of considerable size are found there, within forty miles west of Socorro, one of which was mentioned as early as 1692 by Diego de Vargas.<sup>1</sup> The accounts which I received concerning these ruins are too indefinite to warrant their reproduction here. Specimens of pottery coming from them are curious in shape, but still typical Pueblo pottery. Of the builders I know nothing.

The same may be said of ruins in that wild and intricate mountain region bordering the course of the Gila on the north, and called by the collective name of Mogollones. That it contains ancient remains is well known, but beyond this, and an occasional notice of cave dwellings and of cliff-houses, I am not informed. The last two types of building attract more attention than the common pueblo or the small-house village, because they are better preserved, and the objects which they contain are also in a better condition.

I have previously stated that the latitude of San Marcial (or about  $33\frac{1}{2}^{\circ}$ ) is the southern limit to which the joint-tenement or Pueblo house architecture extended on the Rio Grande and east of it. It seems that this holds good also for the western portions of the territory, for on the few confluents of the Rio Grande, known as the Cañada Alamosa, Palomas, and Cuchillo Negro, the ruins, from concurrent reports, appear to be small buildings, either scattered or in

<sup>1</sup> Escalante, *Relacion*, p. 137: "Anduvo cinco leguas costeando la sierra de la Magdalena, en cuya falda occidental, están ruinas de un pueblo antiguo grande. Medio cuarto [ó uno] de legua, al Surueste de dichas ruinas, está entre unos carrizales altos, un venero de agua mediano."

clusters. The same occurs on the Upper Rio Gila, north of the thirty-third parallel. Into the region of the sources of the Gila I penetrated in the winter of 1883-84 from the southeast, taking the station of Rincon (on the Atchison, Topeka, and Santa Fé road) for my point of departure. Before going to the Gila and Mimbres streams, however, I cast a glance at the Rio Grande valley about Rincon and farther south, and I have purposely delayed until now giving an account of the remains which I noticed there. I repeat here what I wrote to the Institute on the 2d of February, 1884, about the ruins at the Cerro de San Diego: "My examination of the ruins at the foot of the Cerro San Diego, nine miles south of Rincon, has given ground plans of small houses of rubble, without connection of the groups or single buildings by contiguous walls of enclosures. The pottery not only shows bright colors, but a much more carefully executed pattern, often composed of fine lines forming geometrical designs of great regularity, indented and corrugated pottery, painted like that of the ruins at Fort Apache in Eastern Arizona, flint and basalt chips, and metates of lava, comprise what industrial products remain on the surface."<sup>1</sup>

The village was small, and it stands on a low promontory below the picturesque cliff to which the name of San Diego was given as early as the seventeenth century.<sup>2</sup> The valley of the Rio Grande, fertile, partially wooded, but subject to overflow, stretches to the foot of the ruins, and the site was well selected. I have been informed that there are ruins as far south as Fort Selden, and even as Doña Ana, from which the distance to El Paso del Norte is about fifty miles; but I have not been able to obtain any information

<sup>1</sup> *Fifth Annual Report*, p. 89.

<sup>2</sup> *Autos de Guerra de la Segunda Campaña*, fol. 10.



concerning the existence of ancient remains near Las Cruces, Mesilla, and as far as the mouth of the Pass. The Rio Grande bottom is quite fertile, but trees, except cottonwood groves, are scarce and distant. On the west side perfectly bleak plains expand, above which in the distance project isolated cones. To the east, the arid and gravelly slopes rise in dismal perspective to the foot of mountain chains equally arid, and so rugged that their picturesque profiles become an ornament to the otherwise dreary landscape.

If subsequent investigations confirm the absence of aboriginal remains in the Rio Grande valley between Doña Ana and the "Pass of the North," it becomes an interesting question why that bottom, so fertile and open, should have been unoccupied by the sedentary Indians. One reason may be that the river bottoms which are favorable for agriculture were too densely wooded in former times; or that, on account of the periodical droughts and consequent fluctuations in the volume of water of the river, tribes who irrigated found it unprofitable to settle; or it may be that the openness of the country afforded insufficient protection against surprises by enemies. It is certain, however, that not only Pueblo architecture, but also the small-house type, seem to be lacking on the stretch of less than fifty miles between the vicinity of Doña Ana and the narrow pass from which El Paso derives its name.

In 1726 it is stated that at a place thirteen leagues (35 miles) south of San Diego, the Mansos lived until 1659, when Fray Garcia de San Francisco persuaded them to remove to El Paso del Norte.<sup>1</sup> Thirty-five miles south of San Diego

<sup>1</sup> Rivera, *Diario y Derrotero*, p. 26: "Haziendo alto en vn parage, junto al Rio que llaman Ráncheria; por haver sido la mas frequente habitacion de los Yndios Mansos, antes de estar reducidos á pueblo." See Part I., page 165.

would be in the Mesilla valley, somewhere near the present station of Mezquite. It is well to remember this, as the finding of Indian remains there need not be taken as evidence of a former establishment of sedentary natives. The Mansos were less nomadic than the Apaches, but they still did not dwell in permanent abodes. It is doubtful whether they made pottery previous to their colonization by the church at El Paso del Norte.

I have not heard of any vestiges beyond the Cordillera that skirts the Rio Grande on the east. But near Rincon, in the approaches to the Perrillo, or the ascent to the plateau of the Jornada del Muerto, I found traces of former habitations; they are, however, scant and much obliterated. In the Jornada proper nothing is to be found, for there is no water, but I have heard of vestiges in the Sierra de San Andrés, about thirty miles east of the river. On the west side of the Rio Grande, barren levels expand as far as the foot of Cook's Peak. Beyond that chain flows the Rio Mimbres, a stream the head-waters of which lie near those of the Gila, but which runs southwards, while the Gila turns to the west. The Mimbres belongs to an interesting inland drainage system, which is independent both of that of the Pacific and of the Gulf of Mexico.

In close proximity, therefore, on a three-fold water-shed, between the parallels of  $33^{\circ}$  and  $34^{\circ}$  and along the 108th meridian, are the sources of the Gila, which send their waters to the Gulf of California; the numerous rivulets flowing towards the Rio Grande between Fort Craig and Rincon opposite the Jornada del Muerto, which belong to the drainage system of the Gulf of Mexico; and the Mimbres, emptying into the inland basin, without visible outlet, of which the northern lagunes of Mexico, the lagunes of Palomas, Guzman, and Santa Maria, form the centre.

The pottery of the ruins along the Mimbres, as well as on the Upper Gila, is like that which I found on the Rio Grande at San Diego. It is different from any on that river higher up, different from the pottery of the Salines, and also different from the potsherds accompanying ruins in the northwest, except in some localities, such as San Matéo, and perhaps Tzé-yi. It has a marked resemblance to potsherds from Eastern Arizona, and especially to those from the Sierra Madre and Casas Grandes in Chihuahua. Although the architecture along the Mimbres is of a different type from that at San Matéo, Fort Apache, and in Chihuahua, the pottery is similar; and although better in material and more elaborately decorated, with a greater variety of shades, the same fundamental patterns underlie that decoration as in Utah, in Colorado, in Northern New Mexico, in the Rio Grande valley, in short, everywhere where pueblos are found. It is Pueblo pottery in the widest sense of the term, as well as in its narrowest acceptance. The basis for the decoration is always the well known religious symbols of Pueblo ritual, only more elaborately and tastefully combined and modified. We recognize the Clouds, the Earth, Rain, Lightning, the double line of "life," but there is a progress in execution as well as in combination of the figures. The corrugated and indented ware also has undergone a transformation. The crude concentric ribs are less abundant, nicely indented surfaces take their place, and these are painted, not unfrequently, as at Fort Apache, with symbolic designs, applied to the indentations and corrugations without regard to the pattern of the latter. There is in this feature something very characteristic of Indian art before the sixteenth century. It shows that it had not everywhere attained the conception of harmony between the plastic design and color. At San Matéo, however, as well as at

Casas Grandes, two localities separated by five degrees of latitude, the painting was adapted to the plastic ornamentation, while at intermediate points I did not find any evidence of this. This does not, of course, exclude the possibility of the existence of such specimens, but they must be rare, and it shows how much perfection or imperfection in Indian art is a purely local feature. The crudest specimens of this class are found in the northwest, and they display a certain original and peculiar development among the ancient Tehua ruins north of Santa Fé. Along the Rio Grande, and east of it, the types become primitive again, as if that class of work had been neglected, or superseded by the coarsely glazed variety. A gradual and steady development, however, shows itself in the direction of the south through Western New Mexico, spreading out both to the southeast as far as the Rio Grande near Rincon, and thence to El Paso, and to the southwest into Arizona.

Other manufactured objects do not seem to display the same change. The stone and flint implements are neither better nor worse than any in the north; stone axes from Northern New Mexico even show a degree of finish which I have looked for in vain in Chihuahua. It is the material which, in the case of this implement, has determined the improvement. The actinolite accessible to the Northern Tehuas, and especially to the Taos, takes a beautiful polish.<sup>1</sup> But southern stone axes display one peculiarity. The groove is cut only on three sides, while the bottom of the axe is flat, and sometimes polished. The stone axe of Southwestern New Mexico, Arizona, and Northwestern Chihuahua, has more the shape of a celt, and in this respect it

<sup>1</sup> Beautiful colored plates representing axes and hammers from Northern New Mexico are contained in volume vii. of *Report upon U. S. Geographical Surveys west of the 100th Meridian* (Wheeler), Plates XVII., XVIII., and XIX.

approaches the same kind of implement from Central Mexico and Central America.<sup>1</sup>

Only near Casas Grandes do we find a decided improvement in the form of the hand-mills or Metates. Those on the Mimbres and its vicinity are as rude as any farther north. The same may be said of mortars and pestles, which are sometimes decorated with attempts at the carving of animal forms. Trinkets and fetiches seem to be the same everywhere as far as latitude 29°. Of textile fabrics, cotton has not been found on the Upper Gila, as far as I know, but the yucca has played a great rôle in dress and in fictile work. Mats of yucca, plaited kilts of the same material, resembling those described as worn by the Zuñis three centuries ago, sandals and yucca thread (Pita), have been found in sheltered ruins. In a cave village on the Upper Gila I noticed a piece of rabbit fur twisted around a core of yucca threads. Of such strips the rabbit mantles of the Moquis, which Fray Marcos heard of and was of course unable to understand, were made and are made at this day.<sup>2</sup>

Turquoise beads and ear-pendants are not unfrequently met with, associated with shell beads. Further on I shall mention interesting finds of this nature at Casas Grandes. But however much I searched and inquired for metallic implements or trinkets, I was unable to hear of any, at least in the ruins around the inland drainage region. In Central Arizona copper objects have been found on the upper and lower Rio Salado, as will appear in the course of this report.

It is quite strange that no traces of copper implements

<sup>1</sup> The celt is the usual form of the axe in Central and Southern Mexico. There have been found, however, some highly ornamented axes with notches and grooves. A handsome specimen is represented on page 64 of *Mexico & Travels de los Siglos*, vol. i. In 1881 I brought a number of stone celts from Mexico.

<sup>2</sup> See my *Contributions to the History of the Southwestern Portion of the United States*, p. 140.

should be met with in the Mimbres region, for native copper occurs in the mines of Santa Rita, near Silver City, and at other localities. But it is not nearly so common as in the Lake Superior copper region, and masses of it do not crop out as they do there. The Indian would have been compelled to mine, and it was not worth his while to do this so long as he had on the surface rocks with which he had been acquainted from time immemorial. The absence of copper tools is not to be regarded so much as a mark of lack of mechanical skill, as a result of the peculiar conditions in which the raw material occurs.

I have heard of burial places, and have seen on the Mimbres localities where skeletons had been exhumed. I also saw a skull which was flattened at the occiput. Mr. Cushing has called attention to the probability of such artificial distortions being due to the mode of burial, and not always to a peculiar method of shaping the skull during the lifetime of the individual. The skeletons found on the Mimbres lay extended, and at a small depth below the surface. They were not protected by any solid encasing whatever. The pressure upon the occiput, incident upon their lying on the ground, may have been sufficient to deform the skull.

I have been thus explicit in regard to the more perishable remains of the Mimbres and Upper Gila region, because, as will soon be seen, we meet there for the first time in New Mexico a kind of architecture distinct, at least as a variety, from anything found north of the 34th degree of latitude. I have also extended my remarks to the artificial products of regions lying outside of New Mexico, both to the south and the west. In thus anticipating what geographically belongs to distant parts of the Southwest, I desired to indicate beforehand certain analogies in ethnological details.

The ground plans given on Plate I., Figures 60 to 69 in-

clusive, give an idea of the arrangement and relative size of the most prominent of the Mimbres and Upper Gila ruins which I have investigated. From information received, I conclude that whatever ruins occur in the Sierra Mimbres proper, in the Mogollones, and along the watercourses emptying into the Rio Grande, present the same type, which I have described as follows: —

“Not only are the single buildings connected with enclosures, but these enclosures themselves so meet each other that the settlement forms a checker-board of irregularly alternating houses and courts. The houses are easily discernible from the fact of little rubbish mounds having accumulated on their site, around which the foundations of rubble still appear, or in which parts of the walls are yet to be found. The courts sometimes appear not only as much larger spaces, but they are free from rubbish, and thus seem flat, or even depressed. These pueblos are thus virtually closed on all sides, either by the walls of a house or by those of yards; and they are very defensible, as there are but one or two entrances, and these either through a narrow passage between two buildings, or through a still narrower one, with re-entering angles, between two court walls. Each village contains one or more open spaces of large size; but they are irregularly located, the tendency being to cut up the whole plat into as many small squares as possible.”<sup>1</sup>

When I wrote this, I had not yet visited Southwestern New Mexico, and I was not acquainted with the character of the ruins there, and consequently not aware that, while the type above described is manifestly a combination of small houses and courts in one group, I should find on the Mimbres and Upper Gila an intermediate form, representing that combination on a more imperfect scale. The dwellings are all small,

<sup>1</sup> *Fifth Annual Report*, p. 63.

and only one story in height, but the rooms are usually larger than in northern ruins, measuring on an average 4.5 by 4 meters (14½ by 13 feet). On the Gila of Arizona, the Upper Salado, and the Lower Verde, the average for the same type of buildings was 5.1 by 4.5 meters. I will repeat here what I wrote to the Institute in 1884, concerning the ruins on the Mimbres and the Upper Gila. The reason why I prefer to transcribe these statements rather than present the same facts in a new form is, that what follows was written under fresh impressions of the remains and of their surroundings, whereas seven years have elapsed since, during which I have passed only once through the country, and hurriedly at that.

“West of the Rio Grande, and opposite the mountain chains skirting the Jornada del Muerto, the ground rises gradually, in broken mesas crossed by vales with streamlets, to the base of the Sierra Mimbres, recently called the ‘Black Range.’ These mountains run from north to south, are heavily timbered, and their slopes on both sides bear ruins of the detached family-house type, with enclosures or courts, remains of round towers, and circular tanks. On the east flank these vestiges follow the course of the numerous arroyos, like the Cañada Alamosa (which, rising in the Sierra Luera, a northeastern spur of the Mimbres, passing between the Negrita and Southern San Matéo ranges,<sup>1</sup> empties into the Rio Grande in the latitude of the Ojo del Muerto), the Cuchillo Negro, the Rio Palomas, and the Rio Frio; the last three descending directly from the east flank of the Black Range. The ruins are situated on the upper course of the arroyos, and they disappear where the latter sink, to re-

<sup>1</sup> There are two mountain ranges in New Mexico which bear this name. The one to which I refer here lies west of Fort Craig and San Marcial, and appears like a continuation of the Magdalena Mountains; its altitude is given at 10,209 feet.



appear again on a narrow strip along the river itself. This I have gathered from numerous reports, as well as from a few personal observations.

“The western slope of the Black Range is very steep. It descends abruptly into the fine valley of the Rio Mimbres. That stream, rising south of the western Sierra Blanca of New Mexico, runs thence with frequent interruptions through sand and gravel accumulations, in a deep valley, as far as twelve miles south of Brockmann's Mills, where it sinks, except in the rainy season; its dry bed continuing, past Deming and Carizalillo Springs, to the Laguna Palomas in Mexico. Its course is due north and south, and it is the only northern feeder of an inland water basin lying between the Sierra Madre and the Rio Grande. This basin, situated in the State of Chihuahua, has no outlet. Several lagunes, like the Palomas and Guzman Blanca, are scattered over its surface; the eastern flank of the Sierra Madre drains into it from the west, the Rio Casas Grandes from the south.

“Towards this centre of drainage the aboriginal villages on the Rio Mimbres have gravitated as far south nearly as the flow of water is now permanent. They are very abundant on both sides of the stream, wherever the high overhanging plateaux have left any habitable and tillable space; they do not seem to extend east as far as Cook's Range, but have penetrated into the Sierra Mimbres farther north, as far as twenty miles from the river eastward. Similar in disposition, size of rooms, and material of construction to those of the eastern declivity, and to those around Globe, Arizona, and in the Arroyo Pinal, running into the Upper Rio Salado, they are still distinguished from these Arizona ruins by the lack of connected courtyards, which there consolidate the different groups of buildings and enclosures. Consequently they seem to lack all defensive character, unless approximation into

groups of small clusters might be regarded as such. In each cluster a little mound designates the site of the building, and I have not found, among the twenty-five ruins surveyed, more than two in the same assemblage of ruined walls connected together. The total number of ruins scattered as far north as Hicks's Ranch, on a stretch of about thirty miles along the Mimbres in the valley proper, I estimate at about sixty. This includes, of course, isolated houses, and possibly also watch-houses.

“I have not seen a village whose population I should estimate at over one hundred, and the majority contained less. They were built of rubble in mud or adobe mortar, the walls usually thin, with doorways, and a fireplace in one corner, formed by a recess bulging out of the wall. Towards the lower end of the permanent watercourse, the ruins are said to be somewhat more extensive. It is very evident from the amount of material still extant, from what has been used in building modern constructions, and from the size of the foundations, that whatever houses existed were not over one story high.

“In addition to courtyards connected with the edifices proper, there are frequently enclosed spaces without any rubbish indicating houses, and these are sometimes on an inclined plane, at such a slope as would not permit the erection of buildings. The purpose of these enclosed spaces, the largest single one of which measured about 13 by 7 meters, is difficult to establish, unless they were, as the Pima tradition states of the Arizona ruins, garden beds, rudely terraced, like the ‘Andenes’ of Peru. Remains of acequias in the bottoms prove that they used the latter for cultivation, so that garden beds in the neighborhood of dwellings, and above the line of irrigation even by arroyos, could only be regarded as measures of precaution in time of danger. The

Mimbres overflows its banks about once annually, but the waters subside after two or three days; the danger could only be from enemies prowling around the bottoms, but exposed to detection if they ventured near the dwelling, as the latter are invariably on treeless, if not always on elevated expanses." <sup>1</sup>

That the enclosures above mentioned were garden plots seems certain. I refer to the account given of such enclosed areas at Ojo Caliente of Joseph, and at the Rito Colorado in Northern New Mexico, and to what I shall further have to say on the subject.

"The valley of the Mimbres is fertile, with a very pleasant climate; but it is very unhealthy in the lower sections. Malaria is telling severely on its population to-day, and there is no reason to believe that it did not act with even greater severity on the aborigines. The insalubrity of this region may have had more to do with its abandonment in former times than any hostilities on the part of other tribes. The lack of provisions for defence is rather conspicuous; still the relatively large proportion of uninjured pottery found seems to indicate a hasty abandonment, under pressure of danger from enemies." <sup>2</sup>

For illustration of the peculiar type of construction of the houses, as well as of the courtyards, for defensive purposes, the ruins two miles south of Brockmann's, near the ranch of Hermann Grünwald, are characteristic. They are represented on Plate I. Figure 62. It will be seen that they consist of five distinct groups, clustering on the brow and slope of a gravelly promontory that overlooks the narrow bottom of the Mimbres. Most of the other ruins lie either on the first tier of hills, or, as is the case at Brockmann's, in the bottom itself.

<sup>1</sup> *Fifth Annual Report*, p. 90 *et seq.*

<sup>2</sup> *Ibid.*, p. 94.

I ascended the course of the Mimbres to very near its source, and then turned to the west into the drainage system of the Gila.

"Ascending the Mimbres to about nine miles north of the mining works, the ruins drop off gradually, and a scattered forest of tall yellow pines covers the bottoms. Thence turning nearly westward, the great Continental Divide, probably here a spur of the Pinos Altos, is traversed, and the headwaters of the Rio Sapillo, a tributary of the Upper Gila, are reached. The Divide was probably uninhabited, so that there is a break of several miles between the ruins of the Mimbres and those on the Sapillo. But this break is geographical only; in every other way, the villages are alike on both streams; and the pottery, of which the cache on Gatton's Ranch has afforded complete specimens, the axes, arrow-heads, etc., are identical. But the settlements on the Sapillo are even smaller, — a fact easily accounted for by the nature of the ground, and the limited area of soil fit for cultivation.

"The Sapillo, or rather its bed, joins the Gila about twenty miles below the Ojos Calientes; but the intervening country is not merely uninhabitable, it is impassable except in a few directions. It may be said that eighteen miles of wooded and craggy waste, very picturesque, divide the two watercourses between Brannan's Ranch and the Ojos Calientes; and the name of Sierra Diablo, given it on some maps, is not at all inappropriate. On the Gila the same conditions are repeated as on the Sapillo, though on a grander scale of height and ruggedness of the mountains, and consequent depth and gloominess of the gorges. The water supply is permanently much more abundant; nevertheless, the open air settlements are identical in every respect. They are as numerous as the steep elevations of the ground and the narrowness of the bottoms permit, and along or between them natural cavities

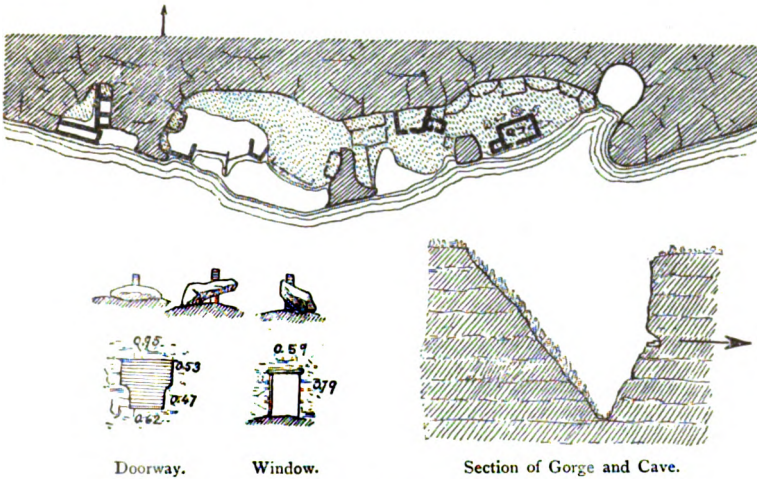
harbor dwellings of stone, well preserved, sometimes single, again in groups or small villages.

“These cave dwellings are properly but one story high, but the compulsory adaptation to the configuration of the ground has caused an accidental approach to two stories. They are instructive for the study of the development of the terraced house of the Pueblo Indian. Perfectly sheltered, and therefore quite well preserved, the cave villages are perhaps larger than the open air ruins, compactness compensating for the limitation in space. But they illustrate the fact that the foundations remaining of villages built in the open air are frequently only those of courts or enclosures, the mounds alone indicating the site of buildings. Of the twenty-six compartments contained in the caves on Diamond Creek, only nine were clearly elevated structures, as the doorways show; the rest are in many cases courts of small dimensions, encompassed by low and still perfect enclosures. The roofs are of the pueblo pattern, well defined; but in one cave the trouble of building them was spared by completely walling up the entrance, with two apertures for admission. The fire-place was a rectangular hearth, as I found it at Pecos, and placed in the centre of the room.”<sup>1</sup>

The partition walls are all of stone, and laid in adobe mud. Some of them still preserve their outer coating of yellowish clay. Their thickness is 0.30 m., and the roofs were entire on some of the rooms. Round beams, with the bark peeled off, were in a good state of preservation. The diameter of these beams varied between 0.07 and 0.24 m. (3 to 9½ inches). The roof which these beams supported was of the ordinary pueblo pattern, and 0.23 m. (9 inches) thick. The doorways were nearly square, and low. Air-holes, T-shaped and of unusual size (0.95 by 1 meter), opened upon the outside in several places. (See the plan annexed.)

<sup>1</sup> *Fifth Annual Report*, p. 94 *et seq.*

These buildings occupy four caverns, the second of which towards the east is ten meters high. The western cave communicates with the others only from the outside, while the three eastern ones are separated by huge pillars, behind which are natural passages from one cave to the other. The height of the floor above the bed of the creek is fifty-five



SKETCH OF CAVE DWELLINGS ON THE UPPER RIO GILA.

meters, and the ascent is steep, in some places barely possible. To one coming from the mouth of the cleft, the caves become visible only after he has passed them, so that they are well concealed. But while it would be difficult for an Indian foe to take the place by storm, its inhabitants could easily be cut off from water or starved. The southern slope, fronting the caves, is steep, but covered with forests, and the cleft is so narrow that a handful of men, armed with bows and arrows and posted behind the tall pines, could effectively blockade the cave dwellings. With all its natural advantages, therefore, this cave village was still extremely vulnerable.

Among the many objects taken from these ruins, I mention particularly sandals made of strips of the yucca. It may be remembered that similar foot-gear was found at the Tzé-yi. I have been informed that the Tarahumares of Southwestern Chihuahua still wear the same kind of sandals. In addition, I saw many baskets or fragments of baskets; also prayer-plumes and plume-sticks. Such remains indicate that their makers were in no manner different from the Pueblo Indians in general culture.

Higher up the several branches through whose union the Gila River is formed, cave houses and cave villages are not uncommon. Mr. Henshaw has published the description of one situated on Diamond Creek, to which description I refer.<sup>1</sup> As the gorges become wilder and the expanses of tillable land disappear, the rocks and cliffs were resorted to as retreats and refuges. Whether the cave dwellings and cliff-houses were occupied previous to the open air villages along the Mimbres, or whether they were the last refuges of tribes driven from their homes in the valley, it is of course not possible to surmise, for in regard to the sedentary aboriginal population of Southwestern New Mexico we have not even the light of tradition to illuminate us. It may be that the Apaches, who were occupants of the country in the sixteenth century and before, have preserved some dim recollections; yet it is not impossible that even the Apaches did not find any settlers when they first drifted into the country. At the present stage of our knowledge we must consider the ancient culture of the districts under consideration as one of quite early date, the extinction of which has so far left no trace in the memory of existing stocks.

Between the valley of the Mimbres and that of the Arroyo

<sup>1</sup> H. W. Henshaw, *Cliff-house and Cave on Diamond Creek, New Mexico*, in vol. vii. of Report upon U. S. Geographical Surveys (Wheeler), p. 370.

de San Vicente, on which the town of Silver City stands, the distance by air line is not much over twenty-five miles. The town lies several hundred feet above the bed of the Mimbres,<sup>1</sup> and the country intervening is partly mountainous. It is the well known mining region of the Southwest, with valuable copper deposits and abundance of silver ore, mostly of inferior grades. From the Mimbres to Georgetown the ascent is over one thousand feet in three miles,<sup>2</sup> "through a narrow gorge or winding cañada; the slopes, very rocky, are covered with low woods."<sup>3</sup> Georgetown itself lies in a deep cleft, and the steep declivities are clothed with oak and conifers; yucca appears in profusion. Beyond Georgetown an elevated plateau expands, — cold, wooded, rocky, and waterless. The yucca becomes arboriferous, and the mezcal agave appears in small clusters. I was not able to find any remains of ancient abodes. After crossing the divide, the Santa Rita valley opens to view, with its copper mines established at the foot of high picturesque crags.<sup>4</sup> There is no water, however, and whenever I inquired concerning ruins I always received a negative answer. The Mimbres Mountains, Cook's Peak, and, after reaching Whitewater, the Sierra de la Burra in the southwest, outline the horizon with bold and striking silhouettes. In the northwest the Pinos Altos range looms up. Thence on, the country is bleak, there are no permanent watercourses, and yucca is the dominant plant. I heard of considerable ruins near Fort Bayard,

<sup>1</sup> The altitude of Silver City is 5,796 feet (U. S. Signal Office); that of the Mimbres is about 5,000 feet.

<sup>2</sup> Georgetown lies 6,455 feet above the sea level.

<sup>3</sup> From my Journal of January 24, 1884.

<sup>4</sup> The elevation of Santa Rita copper mines is 6,161 feet. The discovery of this important copper deposit is due to the Mexican Lieutenant-Colonel Manuel Carrasco. About the date of the discovery I am not certain; I heard it variously stated as 1801 and 1810. See Garcia-Conde, *Ensayo estadístico sobre el Estado de Chihuahua*, fol. 62.



and at Silver City there existed in 1884 two ruins on bald hillocks in the northern outskirts of the town. Figures 68 and 69 of Plate I. are intended to give an idea of their arrangement and relative size. They were much deteriorated when I saw them, and some excavations had been made, although I could not find out by whom. The pottery and stone axes, however, had drifted into other hands, and they were all characteristic of the southwestern ruins of New Mexico in general. Silver City has no permanent water except at a short distance below the town, where the San Vicente Creek comes to the surface. The ruins were well situated for defence, and as posts of observation. As for agricultural purposes, I judge that the wide valley may have afforded some favorable spots.

The country west of Silver City presents a singularly bleak appearance. It is a high level, gradually rising to Stein's Pass, near the Arizona frontier, where the Peloncillo terminates, and the Pyramid range begins south of it. The banks of the Gila River and the mountains to the north of it contain vestiges of antiquity. Towards the southwestern corner of New Mexico the plain expands in dismal perspective, and the mountains along and across the Mexican boundary line rise in sharp profile. I have heard of ruins in these ranges, but know nothing of their character or appearance.

From Silver City the dry bed of the San Vicente Creek continues towards Deming. This important railroad station lies on a barren plain, above which towers the craggy Sierra Florida.<sup>1</sup> I was repeatedly assured that no traces of ruins had been noticed around Deming. Whether there are any in the Sierra Florida or not, I am unable to state. The barren plain that extends between Deming and the Mexican frontier is destitute of ancient vestiges, as far as I know. Not even at

<sup>1</sup> The altitude is 7,261 feet.

Carizalillo, where valuable springs come to the surface, the volume of which has considerably increased since the earthquake shock of May, 1887, was I able to find anything. The same holds good for the Sierra de la Boca Grande and the Sierra de la Hacha, which divide the United States from Mexico. They are dismal mountain clusters, with rocky slopes covered by a scrubby and thorny vegetation. Only the summits are crowned by groves of stunted oaks.

With this review of the antiquities of Western New Mexico I close my report on the work done by me in that Territory. It was very fragmentary, but circumstances, and not my own will, prevented me from doing better. The same may be said of my investigations in Arizona, to which I shall now turn.

## VIII.

### NORTHERN ARIZONA.

UNDER this heading I include that part of the Territory of Arizona lying north of the line of the Atlantic and Pacific Railroad. I have not visited it, and therefore can refer but briefly to its antiquities. Of the numerous ruins in the Tzé-yi (Cañon de Chelly) I have spoken already.

Ethnologic interest in this country centres in two places: the cluster of pueblos inhabited by the Shi-nu-mo, or Mo-qui, and in the Grand Cañon of the Colorado, where the Hava-su-pay, or Cosninos, have their home. There is historic information of an early date concerning the Moquis; and the Cosninos also were known to the Spaniards in the seventeenth century. This documentary information casts a certain light upon conditions anterior to the historical period, and for this reason I shall refer to it somewhat in detail.

The earliest information concerning the Moqui country is that transmitted to us by Fray Marcos of Nizza in 1539, and subsequently confirmed by Melchor Diaz. As far south as the heart of Sonora the Franciscan explorer heard of a cluster of towns, or "province," called "Totonteac," which he ascertained lay to the west of Cibola.<sup>1</sup> In the same year Diaz reported: —

<sup>1</sup> Not having the original version of Fray Marcos's *Descubrimiento de las Siete Ciudades* (volume iii. of *Documentos de Indias*) at my command, I quote from the French translation in *Cibola, Relacion de Frère Marcos de Nizza*, p. 270: "Il m'a rapporté que dans la direction de l'ouest on trouve le royaume nommé Totonteac."

"I have learned that Totonteac was at seven short journeys from the province of Cibola; that the appearance of the country is the same as that of Cibola, as well as the houses and the inhabitants. They told me that cotton grew there, but I doubt it, for it is a cold country. They reported to me that Totonteac was composed of twelve towns, each of which is more considerable than the largest of Cibola.

"One day's march from the latter province, there exists a town the natives of which are at war with the others. The houses, the people, and their relations towards one another, are alike. They affirmed to me that this town is the largest of all."<sup>1</sup>

The last paragraph seems to apply to Hauicu, the most westerly of the Zuñi villages.

It seems strange that in the year following Coronado heard nothing of Totonteac, although some of his men visited a group of seven pueblos situated in the same direction and at the same distance from Cibola (Zuñi), which he calls "Tusayan."<sup>2</sup> The origin of the latter name is traced back to the Zuñi word "Usaya," "Usayan" being the possessive; "Usaya," or "Usaya Kue," is an ancient name by which the Zuñis designated some of the Moqui Pueblos. This original Zuñi word for the Moquis appears more distinct yet in the reports on the explorations made by Francisco Sanchez Chamuscado in 1580, as "Osay" and "Asay."<sup>3</sup> The geographical evidence in favor of the identity of Tusayan with the Moquis is, besides, quite conclusive.

<sup>1</sup> Mendoza, *Deuxième Lettre à l'Empereur*, p. 296.

<sup>2</sup> *Cibola*, part ii., chap. iii., p. 165: "À vingt lieues vers le nord-ouest est une autre province qui contient sept villages; les habitants portent le même costume, ont les mêmes mœurs et la même religion que ceux de Cibola." In the heading to part i., chap. xi., Castañeda says, "Tusayan ou Tutaliaco." This is another name which I am unable to explain. Jaramillo (*Relation*, p. 370) has Tucayan.

<sup>3</sup> *Testimonio dado*, pp. 86 and 93.

Mr. Cushing has ascertained that Topin-teua or Topin-keua was a Zuñi name for a cluster of Moqui pueblos, some of which have been in ruins for centuries. If I have correctly understood Mr. Cushing's statements, the historical Moqui pueblos formed a part of the original Topin-keua. It seems likely that Totontec is a corruption of that name, and is a reminiscence of conditions previous to the sixteenth century. Whatever Fray Marcos and Melchior Diaz reported was from hearsay only, and from the talk of Indians who, while certainly acquainted with the country and tribes north of the Gila River, still had only imperfect information.

The pueblos of Topin-keua are said to lie south and south-east of the present Moqui cluster; there are also pueblo ruins quite near to the villages and on the same system of mesas. But the ruin which has attracted greater attention is that of the pueblo of Ahua-tuy-ba, or Aua-tu-ui, called Tallahogandi by the Navajos, situated on a branch of the Little Colorado River. Captain Bourke has given the following description of the ruins: —

“These ruins are at least a quarter of a mile square, and walls are still standing ten feet high and five feet thick. These walls are of two kinds: of adobe, mixed with hay and cut straw, laid in mud, with an intervening stratum of small fragments of pottery between every two courses of adobe; and of natural rubble, averaging five inches square by three inches thick. The Moquis tell the story that this town was destroyed by the people of Mushang-newy (one of the Moqui villages), who came over in the night, got on the top of the roofs, and tossed bundles of straw down upon the people inside and stifled them.

“They explain this attack by saying that the town was full of ‘singing men,’ whom the Moquis did not like.

“The portion of the ruin still standing will represent

perhaps as many as forty or fifty houses, with rooms of varying dimensions, twenty feet by ten being the more usual size." <sup>1</sup>

Captain Bourke rightly supposes that these ruins are those of the historical pueblo of Aguatubi. Aguato is first mentioned, in 1583, by Antonio de Espejo, who visited it with only nine men, starting from the Zuñi pueblos for that purpose.<sup>2</sup> It is not mentioned by Juan de Oñate when the Indians of Moqui, on the 15th of November, 1598, pledged themselves to allegiance to the Spanish Crown.<sup>3</sup> I am unable to give any particulars concerning the pueblo until the 10th of August, 1680, when its inhabitants, together with the other Pueblo Indians, rising in arms against the Spaniards, murdered Fray José de Figueroa, their priest, and burnt the church, which was dedicated to San Bernardino. The village was at the time credited with eight hundred inhabitants.<sup>4</sup> Twelve years later, Diego de Vargas appeared before Ahuatyba with his small force on the 19th of November, and was

<sup>1</sup> *The Snake Dance of the Moquis of Arizona*, p. 90.

<sup>2</sup> *Relacion*, p. 118. *El Viaje* (page 11) in Hakluyt has "Zaguato."

<sup>3</sup> *Obediencia y Vasallaje á su Magestad por los Indios de la Provincia de Mohoqui* (page 137) has only four pueblos: "Naybi [Orambe], Xumupani [subsequently Mishongopavi], Cuanrabi [?], and Esperiez [?]."

<sup>4</sup> Fray Francisco de Ayeta, *Carta al exmo Señor Virrey de la Nueva España*, September 11, 1680 (MS.): "En el convento de Aguatubi el P. Fr. José de Figueroa, hijo de la santa Provincia del Santo Evangelio, natural de la ciudad de México, entró de misionero el año pasado de 1674." Vetancurt, *Menologio*, p. 275. *Crónica*, p. 321: "San Bernahdino de Ahuatobi, en la provincia de Moqui, veintiseis leguas de la de Zuñi, está en un alto el pueblo que ocupan ochocientas personas; conversion que hizo el venerable Padre Fray Francisco de Porras, cuya vida está en el Menologio, á 28 de Junio. Beben agua de cisterna algo salobre. Hay piedra pomez en cantidad, y piedras que sirven de carbon: aunque el humo es nocivo por fuerte. Allí en el rebellion mataron al Padre Fray José de Figueroa, alias de la Concepcion, Mexicano de esta provincia, y el templo acabó en llamas." Captain Bourke says of the situation of the ruins (*Snake Dance*, p. 88): "A hundred yards or more beyond the Navajo 'hogans' we had the satisfaction of discerning the ruins we were seeking, on the point of a promontory, a mile and a half away."

met by a number of Indians in arms, some of whom were on horseback. Vargas prudently avoided the impending conflict, and negotiated with such dexterity that the Moquis returned to their allegiance and suffered the missionaries accompanying the troop to baptize such of the children as had been born during the past twelve years.<sup>1</sup>

Of the other Moqui pueblos Oraybi was the only village that did not receive the visit of Vargas; not because there was any opposition to his entering the place, but because the horses of the Spaniards were exhausted from the long and rapid journey. Vargas left the Moquis apparently in the most favorable disposition.<sup>2</sup>

The Pueblo outbreak of 1693 affected the Moquis also. They had no occasion to participate in it directly, as the seat of war was too remote from their homes; but fugitives from the rebellious villages, chiefly Tehuas and Jemez, quartered themselves among them, and kindled again the spirit of hatred against the whites. It is also likely that the submission to Vargas had been merely an act of temporary

<sup>1</sup> Escalante, *Relacion*, p. 134: "Como la caballada no había venido á satisfaccion de Zuñi, iba muy maltratada, y así en los mejores caballos se adelanto, aunque poco el gobernador con 30 hombres, y una legua antes de llegar al pueblo dicho, en la subida de una mesa le salieron al encuentro de 700 á 800 Moquinos bien armados de á pié y de á caballo, con demostraciones de guerra y provocando el rompimiento; iba conteniendo y con buen orden dando tiempo á que la demas gente llegase, y con persuasiones pacíficas contuvo á estos rebeldes. que por mas de una hora repugnaron recibirlo. Pero logró entrar en el pueblo mediante inclinacion que manifestaba el indio capitan de el, nombrado Miguel Por el cual el dia siguiente diéron la obediencia, y fuéron absueltos de la apostasia todos los de Aguatuvi, y fuéron bautizados 122 criaturas de ambos sexos. Concluido esto se regresaron el gobernador, los padres y demas al aguaje, en que habían determinado pasar la noche: el cual está una legua hácia al Norte del pueblo." I copy the latter part of the quotation, since it gives the location of the water near the ruins. Escalante gives in the above a *résumé* of Vargas's Journal, *Autos de Guerra*, 1692, fol. 176 to 198.

<sup>2</sup> Escalante, *Relacion*, p. 135: "No pasó el gobernador á Oraibe porque le informaron que aun distaba nueve leguas (no hay mas que dos ó dos y media desde Jongopavi) y ya estaba imposibilitada la caballada."

policy, to which they were prompted by the remarkable success of his bold movements, and that as soon as the Spaniards disappeared the Moquis considered themselves released from their pledges. The Tehua outbreak of 1696 made matters worse, in furnishing new accessions to the colony of Tehua refugees. They founded a pueblo of their own, between Ahua-tuyba and the other Moqui towns, but in closer proximity to the latter. Geographically Ahua-tuyba occupied a rather isolated position in relation to the others. Its relations towards the Zuñi tribe were more intimate and also more friendly. When, therefore, Fray Juan de Garaycoechea reopened the mission at Halona in 1699,<sup>1</sup> the Moquis (possibly at the instigation of the inhabitants of Ahua-tuyba) voluntarily offered to return to Christianity, rebuild the churches, and receive missionaries.<sup>2</sup> In consequence of this Father Garaycoechea went to Ahua-tuyba on the 28th of May, 1700, and found that the convent had been rebuilt or repaired by its Indians, who were glad to see their mission re-established. But the other Moquis, while outwardly friendly, still dissuaded the missionary from visiting their homes.<sup>3</sup> This was the first indication of a treacherous disposition, — one which was soon to display itself in a most cruel and unjustifiable action.

On the 11th of October of the same year one of the leading chiefs of Oraybe appeared at Santa Fé with twenty other delegates, and presented themselves to the Governor, Pedro Rodriguez Cubero, as a formal embassy from the Moquis, not as subjects and vassals of the Crown, but as delegates of

<sup>1</sup> Escalante (*Relacion*, p. 177) says, "El año de 1700 pasó á Zuñi el Padre Fray Juan de Garaycoechea"; but the *Libro de Entierros de la Mision de Nuestra Señora de Guadalupe de Zuñi* (MS.) begins in 1699 with entries in the handwriting of Father Garaycoechea.

<sup>2</sup> *Relacion*, p. 177.

<sup>3</sup> Fray Juan de Garaycoechea, *Carta al Gobernador* (*Relacion*, p. 178).



a foreign power sent to conclude a treaty of peace and amity. This Cubero could not entertain; still he negotiated with them for a long while, until finally the Moquis, seeing that the Governor would not recede from his position, seemingly yielded consent to everything that was asked. With these false promises they were suffered to return, and Cubero indulged the hope that he had completely gained his point.<sup>1</sup>

In the mean time Ahua-tuyba had virtually become again a Christianized pueblo. In the last days of the year 1700, or in the beginning of 1701, the Moquis of the other pueblos fell upon the unsuspecting village at night. The men were mostly killed, stifled in their estufas, it is said; the women and children were dragged into captivity, and the houses were burnt. The exact date of this butchery I have not been able to find, as nearly all the papers concerning the administration of Cubero have disappeared from the archives at Santa Fé; but enough is left to establish the fact of the occurrence, and to prove the probable accuracy of the Moqui version, which Captain Bourke has preserved.<sup>2</sup> Since that time Ahua-tuyba has belonged to the class of ruined historical pueblos.

<sup>1</sup> *Relacion*, p. 179. The proposition was such an original one that I cannot resist copying the text: "Respondió Espeleta, que él venia á nombre de todos los Moquinos, y que estos en consulta general, habían resuelto admitir que entrasen los religiosos á bautizar los párvulos de cada pueblo de la provincia; sucesivamente en seis años, entrando el primer año al primer pueblo, y regresandose concluidos los bautismos, y el siguiente año al segundo pueblo, y de este modo entrando y saliendo hasta llegar á Oraibe y completar los dichos seis años, y concluidos estos del modo dicho se rendirian todos los Moquinos y admitirian de asiento á los ministros." It must be remembered that the Moquis had given their allegiance to Spain anew, in 1692; that consequently Cubero could not regard them in any other light than as vassals and subjects, and that consequently he could not entertain such proposals on their part.

<sup>2</sup> The only document which I found, in which detailed reference is made to the slaughter of Ahuatuyba is a *Parecer* of the clergy of New Mexico, bearing date 1722. In it the destruction of Ahuatuyba is explicitly stated. There existed at Santa Fé, in 1713, a collection of testimonies taken on the occurrence, and described as follows: "*Yten un Cuaderno de autos sobre la noticia de lo susedido en*

The pottery of Ahua-tuyba is remarkably handsome in ornamentation, and good in quality. Mr. Cushing writes concerning this feature:—

“ Before discussing the origin of other forms, it may be well to consider briefly some influences, more or less local, which, in addition to the general effect of gourd-forms in suggesting basket-types and of the latter in shaping earthenware, had considerable bearing on the development of ceramic art in the Southwest, pushing it to higher degrees of perfection and diversity in some parts than in others.

“ Perhaps first in importance among these influences was the mineral character of a locality. Where clay occurred of a fine tough texture, easily mined and manipulated, the work in *terra-cotta* became proportionately more elaborate in variety and finer in quality. . . .

“ An example in point is the ruined pueblo of *A'wat u i* or *Aguatobi*, as it was known to the Spaniards at the time of the conquest, when it was the leading city of the Province of Tusayan, near Moki. Over the entire extent of this ruin, and to a considerable distance around it, fragments of the greatest variety in color, shape, size, and finish of ware occur in abundance. In the immediate neighborhood, however, are extensive, readily accessible formations producing several kinds of clay, and nearly all the color minerals used in the Pueblo potter's art.”<sup>1</sup>

I saw a flat urn from Ahua-tuyba which had the figures of two birds painted upon its surface, that from their color, and especially from the shape of their beaks, created the im-

*el puo de Agnatubi de la proa de Moqui autorizadas de Pedro de Morales en 63 fojas.*” It is mentioned in *Ymbentario de los Papeles que se hallan en el Archivo del Cabildo justisia reximiento de esta villa de Santa Fé*, 1713, MS.

The “singing men,” of whom Mr. Bourke speaks, were, as he justly supposed, priests; but there was no priest at Ahuatuyba at the time of the massacre. The reference to them applies to the visit made by Father Garaycochea in 1700.

<sup>1</sup> *Pueblo Pottery* (Report of the Bureau of Ethnology, 1882-83), p. 493.

pression that they might be intended for rude representations of the red macaw, or aras, of the American tropics. Granting that this was the design of the maker, the fact that Ahuatuyba was occupied until the beginning of the eighteenth century, and that a mission was in existence there until 1680, might readily explain how the Moqui Indians could have obtained an idea of such a bird. The vessel in question could therefore not be cited in evidence of a hypothetical ancient communication of the Pueblos with tropical America.

Of other ruins in the Moqui country I can only say that such exist, and have been described in the Reports of the Bureau of Ethnology and of Captain Bourke.<sup>1</sup>

<sup>1</sup> *Annual Report of the Bureau of Ethnology*, 1883-84, p. xxiii: "The work of this party for the field season was concluded by an examination of two distinct classes of ancient ruins in Arizona, one about ten miles northeast, the other about fifteen miles southeast of Flagstaff. The former consisted of sixty or more cave dwellings, situated on the summit of a round lava-capped hill. The dwellings are close together, and were carved out beneath the hard shelter rock of lava, under which the material was rather loose, readily yielding to the rude stone implements used in making the excavations. In these dwellings fragments of ornamented pottery were discovered resembling somewhat the ancient pottery so abundant in many portions of Arizona, and specimens of it were collected. Other objects, such as metates, stone axes, mullers, and corn-cobs, were found in the excavations, and the seeds of several species of small grain were scattered through them. Fragments of several kinds of bone were also found, representing the elk, deer, wolf, badger, rabbit, and some other animals. The ruins about fifteen miles southeast of Flagstaff are similar to those in the Cañon de Chelly. These ruins are extensive, and built on terraces in the side of Walnut Cañon. They differ, however, from the cliff dwellings of Cañon de Chelly in construction. The doors are large, and extend from the ground up to a sufficient height to admit a man without stooping. The rooms are large and the walls are two to four feet thick. The fireplaces are in one corner of the room on an elevated rock, and the smoke can only escape through the door. The masonry compares favorably with any employed in the construction of the best villages in Cañon de Chelly. Many objects of interest were found in the débris around and in these houses. Matting, sandals, spindle whorls, and stone implements of various kinds abound."

Mr. Victor Mindeleff also examined a ruin which the Navajos call Kintiel, twenty-four miles south of Pueblo Colorado, Arizona. A circular doorway was noticed "made of a single slab of sandstone pierced by a large round hole."

Of the ruins in the cañones of the great Colorado River of the West Major Powell has given descriptions. They were small houses, partly of the cliff-house type, and either isolated dwellings, or in groups of from two to six together. Pottery, arrow-heads, and metates accompanied them, and trails had been partly scraped out of the steep rocks to permit access from below.<sup>1</sup> It appears as if these buildings had been the work of sedentary Indians seeking refuge from impending danger.

It has been suggested that some of these remains date from the historical period, being due to Pueblo Indians who sought safety from the approach of the Spaniards in the frightful clefts of the Colorado River of the West. It consequently becomes of interest to investigate what the early Spanish explorers knew of the greatest river of the Southwest; how they came to know it; which were the tribes inhabiting its upper course in the sixteenth century, and what Indians dwelt or roamed between the Great Colorado and the Moqui country; and, finally, what were the relations of the Spaniards to those tribes.

Another ruin, small, and called Kinna Zinde by the Navajos, was also examined. "Its position on the edge of a long valley on an elevated belt of rock suggests its use in connection with agriculture." Several other small ruins occur in that vicinity.

Bourke, *Snake Dance*, p 86. "Fourteen miles from the Moqui Agency are the ruins of a pueblo still standing two and even three feet above the surface. It has so often been mistaken for the ruin of which we were in quest, that it has received the name of the False Tolli-hogandi, but while it does not deserve much mention in the same chapter with the true ruin, it is nevertheless an interesting monument of good area, made of rubble of all sizes of sandstone and basalt gathered in the immediate vicinity. . . . The situation of this old pueblo is peculiar in this, that close at hand is a marked depression of not less than one hundred acres in area, which there are reasons for believing was once a reservoir for storing water from melted snow and rain." Other ruins are mentioned on p. 317.

Many other quotations might be added from other sources, but I prefer to limit myself to the above.

<sup>1</sup> *Exploration of the Colorado River of the West and its Tributaries*, pp. 69, 77, 87, 90, and 125.

While it is not quite certain, there is still some indication that the Spaniards heard of the mouth of the Colorado as early as 1529.<sup>1</sup> In 1540, however, Spanish explorers not only reached the mouth and ascended the stream for some distance, but Captain Garcia Lopez de Cardenas, with twelve men, started from the Moqui villages with guides furnished by the Moquis, and reached the great cañones of the Colorado, after traversing for twenty days a completely deserted country.

"After these twenty days' march," says Castañeda, "they indeed reached that river, the banks of which are so high that the Spaniards thought them to be three or four leagues up in the air. The country is covered with small and scrubby pines; it is open to the north, and the cold is so intense that, although it was in summer, they could hardly stand it. The Spaniards marched for three days along these mountains in hopes of finding a place where they might descend to the river, which from above hardly seemed to be one fathom in width, whereas, according to the Indians, it was more than half a league wide; but it proved impossible to reach it. When, two or three days later, they arrived at a place where the descent seemed easier, Captain Melgosa, Juan Galeras, and another soldier, who were the most agile of the troop, decided to make an attempt. They climbed down so far that those who remained above lost sight of them altogether. About four o'clock in the afternoon they returned, and reported that they had met so many difficulties that they had

<sup>1</sup> *Segunda Relacion anónima de la Jorua de Nuño de Guzman* (Documentos para la Historia de México, vol. ii. p. 303): "La demanda que llevábamos cuando salimos á descubrir este rio era las Siete Cidades, porque el Gobernador Nuño de Guzman tenía noticia dellas, é de un rio que salía á la Mar del Sur, é que auía quatro ó cinco leguas en ancho, é los Indios tenían una cadena de hierro que atravesaba el rio para detener las canoas é balsas que por él viniésen, é que era gente muy belicosa. é hallamos lo que tengo dicho." The Spaniards had then already reached the Yaqui River.

been unable to reach the bottom, for what from above seemed easy became very difficult as soon as they came to it. They added that they had descended about one third of the depth, and that from there the river already looked very wide, which confirmed what the Indians had told. They asserted that some cliffs that were visible from above and appeared to be of the height of a man, were higher than the tower of the cathedral of Sevilla. The Spaniards gave up following the cliffs that lined the river because there was no water, which until then they had been compelled every night to go a league or two inland to find."

Beyond that place a distance of four days' march, the Indian guides said that it was impossible to proceed, as no water would be found for four days. So further exploration was given up, and the Spaniards returned to Cibola.<sup>1</sup>

No mention is made of any inhabitants; the country explored by Garcia Lopez de Cardenas appears to have been a desert.

The next Spaniard who penetrated to the west of the Moquis was Antonio de Espejo, in 1583. He travelled forty-five leagues towards the Colorado River, without however reaching its banks. Along his route he met Indians who wore crosses in their hair made of wood, and he heard of Indian villages; but whether these were built of solid material, or were simply gatherings of frail huts, does not appear from his report.<sup>2</sup>

Definite and detailed information concerning the tribes of a part of Northwestern Arizona was furnished for the first time by Juan de Oñate, upon his return from the remarkable expedition which, with only thirty men, he accomplished from Chamita on the Rio Grande to the mouth of the Great Colorado River and back, in the years 1604 and 1605. Oñate

<sup>1</sup> *Cibola*, p. 62 *et seq.*

<sup>2</sup> *Relacion*, p. 121.

went from Zuñi to the Moquis, and thence must have taken a southwesterly direction to the Colorado, which he struck below the deep cañones.

It is difficult to establish with accuracy the route taken by Oñate, since the itinerary at my command is not the official one, which, if it exists, is not accessible to me. Ten leagues west of the Moquis the Colorado River was reached, and the name was given to it on account of its turbid waters of a red or reddish color. This must have been the Little Colorado, and not the main stream. Thence they travelled along the Sierra de San Francisco, or perhaps crossed it. The Rio de San Antonio, which is spoken of as flowing past the southern or western slopes of that elevated chain, appears to be Cedar Creek, one of the main branches of Cataract Creek, and the next one (both of which contained very little water) may have been Partridge Creek. I suppose that at all events they passed north of Prescott, reaching the banks of the Great Colorado about Fort Mojave, or at The Needles. The Amavavas, or Mojaves, dwelt a short distance higher up the stream. On the whole journey from Moqui to the Colorado River only one Indian tribe was met with. These were nomads, lived by hunting, and dwelt in huts of straw. These Indians were called the Cruzados by the Spaniards, on account of small wooden crosses which they were wont to tie to their forelocks whenever they presented themselves to the whites. This custom was attributed to the teachings of a Franciscan missionary, who, it was understood, had visited these parts of Arizona years previously.<sup>1</sup>

<sup>1</sup> The only somewhat detailed report on the trip of Oñate to the mouth of the Colorado at my disposal is contained in Father Zárate's *Relaciones de todas las cosas*, so often quoted. It is contained in paragraphs 44 to 57 inclusive. In paragraph 46 he says: "Salieron de Moqui, y á 10 leguas hácia el Poniente llegaron al rio Colorado, llamaronlo assi porque es el agua casi colorada. Corre este rio sueste-norueste, despues da buelta al Poniente, y dicen que entra en la California." This is a very good description of the course of the Little

Espejo had no priest with him when he penetrated to Moqui and to the west of it; whether Garcia Lopez de Cardenas was accompanied by a priest in 1540, I have not been able to determine. It is possible that the Cruzados, having heard of the great veneration which the whites had for the symbol, adorned their bodies with it to secure the friendship of the strangers. Who the Cruzados were is equally indefinite, although they may possibly, from the locality in which they were found, have been the Yavipais.<sup>1</sup> Oñate had no conflict whatever with the natives, but found them without exception friendly, and gave them no cause for abandoning their homes. Of cliff dwellers or cave dwellers, or sedentary natives in general, the Spaniards heard nothing in the countries west of the Moqui villages.

Colorado. The mountain chain, "Desde este rio caminaron al Poniente atravesando una serrania de pinales que tenia ocho leguas de travesía, por cuyas faldas por la parte del Sur corre el Rio de San Antonio dista 17 leguas de Sn José que es el Colorado, corre Norte Sur por sierras acrias y peñas altisimas, é da poca agua," can only have been the San Francisco range, and the San Antonio either Cedar Creek or Cataract Creek, according as the Spaniards crossed the latter, or kept along its northern slopes; I favor the former assumption. Beyond the San Antonio "es tierra templada," which indicates that they did not proceed due west, but southwest. "Cinco leguas adelante hácia el Poniente está el rio de Sacramento, es de tanta agua como él de Sn Antonio, tiene su nacimiento onze leguas hácia el Poniente, corre Norueste Sueste por las faldas de unas mui altas sierras donde los Españoles sacaron mui buenos metales." This may have been Partridge Creek. That the "Amacavas" were the Mojaves needs, I believe, no further proof.

<sup>1</sup> The Yavipais belong to the Yuma stock; at present they live west of Prescott in Arizona. Fray Francisco Garcés, in 1776, locates the Yavipais to the northwest of the Colorado River. He mentions four branches: Yavipai Cajuala, Yavipai Cuercomache, Yavipai Jabesua, and Yavipai Muca Oraive. *Diario y Derrotero que siguió el M. R. P. Fr. Francisco Garcés en su viaje hecho desde Octubre de 1775 hasta 17 de Setiembre de 1776, al Rio Colorado para reconocer las naciones que habitan sus márgenes, y á los pueblos del Moqui del Nuevo México* (in Documentos para la Historia de México, segunda série, vol. i. p. 351). From his statements in regard to the various tribes and their relations with one another, however, I gather that the Yavipais were either much dispersed, or else that he employs the term in a sense similar to that now used for "Apaches" in Arizona, attaching it to the names of various other tribes entirely distinct from the Apaches proper, as Apache-Mojave, Apache-Yuma, Tonto-Apache, etc.



There is a mention of an expedition made in 1618 to the Colorado River by Vicente de Zaldivar with forty-seven men. The report upon it is brief, lacks detail, and comes from a suspicious source; still it may be authentic. No information is afforded about the ethnography of the country except that, after reaching the Colorado at the latitude of  $36\frac{1}{2}$  degrees and travelling upward along its banks for two days, they came to "a small settlement" where they obtained information concerning the regions farther north. This information bears chiefly upon a great lake, and nothing is stated concerning sedentary tribes.<sup>1</sup> Latitude  $36\frac{1}{2}^{\circ}$  corresponds about to latitude  $35^{\circ}$ , the average error at the time being  $1\frac{1}{2}$  degrees, or the latitude of Fort Mojave. The "settlement" in question appears therefore to be one of the Mojave Indians. If the document about this expedition is genuine, it shows that the intercourse with the natives was not such as to inspire any fear in them.

The knowledge which the Spaniards had of what lay west of the Moqui tribe does not appear to have been much in-

<sup>1</sup> The only document that pretends to give any details concerning the journey of Vicente de Zaldivar, which I have been able to consult, is published by Mr. John Gilmary Shea in his book on *Peñalosa*. Its title is *Noticia de otra Expedicion anterior por el Maestro de Campo Vicente de Saldivar*. If the authenticity of the journey rested on no other testimony than that of the document mentioned, I should, since it has been proved by Captain Don Césareo Fernandez Duro that the report of Peñalosa is, if not a complete fraud, at least a very suspicious document, be very loath to regard the expedition as anything else than a hoax. But there is additional testimony to the effect that Zaldivar really undertook the trip, and carried it out as far as the Colorado River of the West. Fray Gerónimo de Zárate-Salmeron says (*Relaciones de todas las cosas*, par. 109): "El Padre Fray Francisco de Velasco, religioso de las prendas que todos saben y arriba queda dicho, tratandole yo de estas noticias, me dijo como yendo en compañía del Maestro de Campo Dn Vicente de Saldivar á descubrir la mar del sur, quando se volvieron al cabo de quatro meses de peregrinacion, sin llegar al mar en una jornada." There is no clue to the date of this journey, which at all events must have been posterior to that of Oñate. The document published by Mr. Shea makes no mention of the presence of Father Velasco, and only mentions Fray Lázaro Ximenez; the whole subject is quite obscure.

creased during the seventeenth century; but Oñate met on his memorable journey to the Gulf of California many ruins of ancient buildings and of irrigating ditches. Such vestiges were found west of the Moqui district, and the Indians who were interrogated said it was an ancient tradition that many centuries ago people passed through those parts, moving southward, and that nobody knew what had become of them, — whether they were still alive, or whether they had disappeared.<sup>1</sup>

When the Zuñi missions were first established, the missionaries heard of a tribe living in Eastern Arizona who were called Zipias.<sup>2</sup> I requested Mr. Cushing to inquire concerning this tribe, and he obtained the information that the Tzip-ia Kue were well known to the Zuñis formerly; that they dwelt in Arizona and south of the Moquis; but that now they had lost track of them completely. Whether they were sedentary Indians or nomads I could not ascertain.

A reasonably clear *résumé* of what was known of the ethnography of Eastern Arizona is furnished in 1686 by Fray Alonzo de Posadas. In his memoir addressed to the King, I find among other tribes that of the Coninas mentioned. The Cipias are also alluded to, as living north of the boundaries of what was then Sonora, while the Coninas, or Cosninos,

<sup>1</sup> Zárate, *Relaciones de todas las cosas*, par. 104: "En aquella jornada se hallaron muchos edificios y ruinas antiguas, acequias que es como las había antiguamente, en México Azcapuzalco, y las granjas de los metales que beneficiaban. Esto se vió adelante de la provincia de Mooqui, y preguntando á los Indios qué ruinas eran aquellas, respondieron que era tradicion de los viejos, á quien oian contar que muchos siglos había que pasaron por allí gran numero de gente la cual había salida de la laguna de Copalla, aunque ellos la nombran por otro nombre porque es otra lengua que hablan, á poblar nuevos mundos, caminando hácia el Sur, y que fueron tan lejos que nunca se supo de ellos si eran vivos ó muertos."

<sup>2</sup> The Zipias must have dwelt west of the Zuñis. In 1630 or 1632 Fray Martin de Arvide intended to visit them, but was murdered five days after the Zuñis had killed Fray Francisco Letrado, their missionary. Vetancurt, *Menologio*, p. 76.

seem to have dwelt north of them, or perhaps southwest. The Ciplas disappear from Spanish annals after the seventeenth century, but the Coninas or Cosninos continue to play a part in the ethnography of Arizona.<sup>1</sup> In 1776 Fray Francisco Garcés intimated that the Cuesninas or Cuismers might be the Mojaves, since that name was given to the latter by the Cocomaricopas.<sup>2</sup> In the same year Fray Silvestre Velez de Escalante visited the Cosninos at their homes, and found them to be agricultural Indians, with flocks and in possession of peach trees.<sup>3</sup> But already in 1686 it was stated that the tribe was sorely pressed by the Navajos.<sup>4</sup> To-day they dwell on the banks of the Colorado River, "less than seven miles due south of the Grand Cañon of the Colorado, and more than three thousand feet below the level of the surrounding plains. Here were found about thirty huts, occupied by two hundred and thirty-four Indians, men, women, and children."<sup>5</sup> These

<sup>1</sup> Fray Alonzo de Posadas, *Informe al Rey sobre las Tierras de Nuevo México, Quivira y Teguayo*: "Tiene dicha nacion Apacha unas vegas y pedazos de tierra muy amenos y fertiles, en cuyo puesto hay cantidad de habitantes de esta nacion Apacha, y está la Sierra Azultan nombrada de rica por haberse ensayado sus metales muchas vezes, pero nunca poseida por nuestra omision y tibieza, y por la mesma parte sustentia la guerra y aun hace muchos daños la misma nacion Apacha en los Indios de la nacion Ciplas, que la caen á la banda del Sur, y á la del Norte de las provincias de Sonora y Sinaloa. Desde dicho puesto de Nuestra Señora de Guadalupe habrá mas de 100 leguas hasta Oso del Cuarteletejo, del cual prosigue la dicha nacion Apacha por el dicho rumbo del Oriente al Poniente á la parte del Sur por la nacion que llaman Coninas." I find the Coninas or Cosninos mentioned again (among other authorities) in Rivera, (*Diario y Derrotero*, p. 33,) as one of the tribes hostile to the Spaniards.

<sup>2</sup> Garcés, *Diario y Derrotero*, p. 352: "En los nombres de las naciones puede y suele haber muchas variaciones, V. G. los Cocomaricopas y jalchedunes llaman á los jamajabs Cuesninas ó Cuismers, y los demas jamajabs."

<sup>3</sup> Escalante, *Diario y Derrotero de los Rr. Pp. Fr. Francisco Atanasio Dominguez y Fr. Silvestre Velez de Escalante, para descubrir el camino desde el Presidio de Santa Fé del Nuevo-México, al de Monterey, en la California Septentrional*. (Same volume as the report of Father Garcés, pp. 539, 541, 543.)

<sup>4</sup> Posadas, *Informe*: "Y esta nacion de los Coninas la tiene en el todo avallada la dicha nacion Apacha."

<sup>5</sup> *Report of the Bureau of Ethnology*, 1881 and 1882, p. xviii. Shufeldt, *Some*

facts are due to Mr. Cushing, and it is greatly to be regretted that his investigations, linguistic as well as ethnological, have not as yet been made public. He informed me, however, that the dwellings were partly built of mud, consequently on a more durable plan than those of the other tribes of the Colorado River.

Mr. Gatschet classifies the Cosninos linguistically among the Yuma tribes.<sup>1</sup> Hence they cannot have been fugitives from the Moquis, who are Shoshonis according to the same authority. Furthermore, while other tribes of the Pueblos have taken refuge among the Moquis during the past three centuries, the latter have always, since 1692, successfully held their own, even to such an extent as to become aggressive against the Zuñis, who adhered to the Spanish cause. Of Spanish incursions into the country west of the Moquis, the most important in point of numbers was that by Zaldivar, and it seems that it made no impression, and was not intended for anything else than exploration; as such it proved not encouraging. The retreat of the Cosninos into the Colorado gorges was therefore due to other causes. The pressure exercised over them by the Navajos, and possibly by the Yutes, is much more likely to have occasioned it than any imagined panic created by the appearance of Spaniards in small numbers and at rare intervals.

Most, if not all, of the ruins scattered over the regions adjacent to the Colorado River, antedate the coming of the white man. Upon the causes of their abandonment it is

*Observations on the Havesu-pai Indians* (Proceedings U. S. National Museum, vol. xiv. p. 387).

<sup>1</sup> *Classification of Western Languages, etc.* (in volume vii. of the Reports of the U. S. Geographical Surveys west of the 100th Meridian, p. 415). He says: "A tribe inhabiting Cataract Creek, a southern affluent of Colorado River, and calling themselves Avesu-pai, 'people down below.' A locality called Konino Caves lies in the Tonto basin."

of course useless for me to speculate. Some of them may be those of Moqui villages, some those of Cosninos settlements. The former, with the exception of Ahua-tuyba, are prehistoric; but we may hope to obtain light upon their past in the traditions of the Moquis. As to the others there is a possibility that several of them were occupied not more than one hundred years ago. The remainder belong to the class of ruins that are not only prehistoric, but in regard to which there is a wide field of study open in the folk-lore of existing tribes.

About the archæology of the Apache reservation I can present at least some results of personal investigation.

IX.

THE UPPER COURSE OF THE LITTLE COLORADO RIVER, AND THE APACHE RESERVATION IN EASTERN ARIZONA.

THE Little Colorado River, or Colorado Chiquito, rises very near the boundary line of New Mexico and Arizona, on the eastern declivity of Green's Peak, one of the summits of the Sierra Blanca in Arizona.<sup>1</sup> It flows in a direction almost due north to the recent settlement of St. John's, and thence to the northwest in a muddy sluggish current, not wide, but sometimes with treacherous approaches. The district included in this chapter embraces the country lying between the parallels of  $33\frac{1}{2}^{\circ}$  and  $34\frac{1}{2}^{\circ}$ , and the 109th and 110th meridians, or between the junction of the Little Colorado and Zuñi streams in the north, and the southern limits of the Prieto plateau in the south. I entered this region from Zuñi, that is, from the northeast, and traversed it to the Gila River, branching off both to the right and the left as occasion required.

After we leave the Cañada del Venado, the country takes a dismal aspect. Dreary levels, interrupted by equally dreary hillocks and buttes, extend in almost every direction. Vegetation is scant and low. Nothing pleases the eye, unless it be the lofty Sierra Blanca in the distant south, and the outlines of the Sierra del Dátil and of the Escudilla in the southeast. There is no water between the Little Colorado and the cross-

<sup>1</sup> 10,093 feet above the sea level.

ing of the Zuñi stream. This is no country for Indian tillers of the soil, and no ruins may be looked for. St. John's lies on a flat, lined by gravelly slopes on one side and by volcanic humps and low cones on the other. In the bottom near the Colorado traces of ancient irrigating ditches have been detected, and on one of the hills of gravel I found very faint indications of former abodes, — so faint that I could not determine what kind of buildings had originally stood on the spot. The pottery fragments were white or gray, decorated with black lines, and plain gray ware.

I was informed at St. John's that the old accuqias, which I have mentioned, had formerly been lined with some cement-like composition, every trace of which had vanished when I saw the place in 1883; but I believe that the statement is true, and my reasons will appear later.

The ruins in the country north of the Sierra Blanca lie along the few watercourses, and are separated from each other by expanses of varying widths and of singular bleakness and aridity. Twenty miles intervene between the small clusters about the Cañada del Venado and the indistinct ruins near St. John's; seventeen miles between the latter point and the Concho stream, with its caves and pueblos; fifteen to twenty miles separate St. John's from the ruins about the Valle Redondo and Springerville to the south; and the nearest point to the east where vestiges of sedentary occupation are found, Tule, lies at least twelve miles away. Along the streams tributary to the Little Colorado River the ruins appear sometimes isolated, again in groups and clusters, and two types of architecture are plainly distinguishable.

My investigations were first carried on at the place called Tule, fourteen miles east of St. John's. Tule and Tusas lie only a short distance from each other, and in the same gorge or narrow valley, which is irrigated by a stream of consid-

erable dimensions. But here, as well as everywhere else in the Southwest, this sinks at a certain distance from its mouth. Where I examined it in April, it ran quite rapidly. Tusas is a beautiful spot; the forests are not more than two miles off; the soil is fertile, and where it is not cultivated grass grows tall and abundant. Volcanic rocks jut out along the border of the valley, and the rim is formed by steep though not high mesas, which impart a picturesque aspect to the landscape. In one of these rocks a sacrificial cave was discovered by Mr. Cushing, from which many valuable objects have passed into private collections or into the National Museum at Washington.<sup>1</sup> I examined the narrow fissure in which most of the specimens were found, and obtained from it a number of plume-sticks (prayer-sticks), fragments of baskets, and a sandal made of yucca leaves and similar to those which were found in the Tzé-yi and on the Upper Gila. Near this cave is a small-house ruin, having a courtyard attached to the building. The pottery of all the ruins at Tule and Tusas is of the ancient kind, with much corrugated ware handsomely finished.

These small-house ruins are side by side with communal pueblos, and both kinds of architectural types are accompanied by the same class of potsherds. On Plate I., Figures 36 and 37, I have given ground plans of the pueblo ruins at Las Tusas. It will be seen that they belong to the most compact class, being composed of only one house in each case. The pueblo at Las Tusas is somewhat larger, and has been partially excavated, the Mexican inhabitants having opened the rooms of the old village, repaired them in a measure, and

<sup>1</sup> In this cave Mr. Cushing found a wooden fetich or idol in the shape of a snake, with the head painted red and the body green. In Chapter VII. (page 325) I have spoken of similar finds, one on the line of the Atlantic and Pacific Railroad between Coolidge and Fort Wingate, and the other in the caves at Mangus Springs on the Gila.



roofed and plastered them anew. In this ruin I noticed the traces of at least one circular estufa. Stone hatchets and axes were very abundant in this locality. The valley is so fertile and well watered that we need not be surprised to see at least three small communal villages along the course of the stream within three miles. None of them could have sheltered over two hundred inhabitants.

I had heard of ancient irrigating ditches in this locality said to be laid in cement, like the one at St. John's of which I have spoken. To my surprise, I saw, while passing through Tule, the remains of two of these "lined" canals, which are undoubtedly ancient, and the lining of which is undoubtedly artificial. One of them is a trough sunk in the ground, 0.25 m. deep, 0.76 m. wide, and lined with solid concrete varying in thickness between 0.08 and 0.12 m. This trough was not connected with any rock, but imbedded in movable soil, and the concrete resembled ferruginous sandstone, or limestone, and was apparently crystalline in parts. I brought two specimens of this concrete to the Peabody Museum at Cambridge, begging for an analysis of it, but I have not learned whether it has been made. The other channel is a flat trough, 1.30 m. wide and 0.20 m. thick, resting on partly decayed slabs of the rock cropping out in the vicinity, and laid on the ground. At first I supposed the channels were made of stones joined together in the common way, but had to come to the conclusion that it was some kind of artificial compound, sunk into the soil where the ground was too high, and laid on top of it wherever it was too much depressed, so as to avoid both cutting and filling. I append a sketch of these singular contrivances, adding that they were noticed long before me by members of the United States Geographical Surveys.<sup>1</sup> I also

<sup>1</sup> *Annual Report of the Chief of Engineers, 1879.* Part III., Appendix O O (App. E), p. 2220. Lieut. Rogers Birnie says: "A Mexican living at Tule Spring

heard that at Ahua-tuyba pipes and channels made in a similar manner had been found. There would be nothing strange in this, since Ahua-tuyba was a pueblo inhabited until 1700, and such an advance in contrivances for irrigating might be



ARTIFICIAL CHANNELS AT TULE.

attributed to Spanish influence, but the same reasons do not obtain at Tule. The ruins there are strictly prehistoric, perhaps even pre-traditional, and they were certainly abandoned previous to the sixteenth century.

Only an analysis of the concrete could give an accurate idea of the degree of progress which these artificial channels imply. The other artificial objects found with the ruins do not differ at all from Pueblo culture in general. The corrugated pottery is of handsomer make than that of more northern and extreme eastern ruins, but it cannot compare with that of San Matéo and of the Mimbres region. Stone implements are neither better nor worse than common, and the fictile work is of the same kind as that found in caves, inhabited or sacrificial, in various parts of the Southwest.

Dreary levels, grassy and bleak, separate Tule from the head-waters of the Rio Concho, and the distance is about seventeen miles. On these expanses no antiquities can be

is now using to irrigate his land a ditch of stone. The water used is derived from the Tule Spring, and the ditch has been so long in use that it is, so to speak, fossilized. The present owner knows nothing of who made it, and, with reason, attributes it to the old inhabitants. Lying on the surface of the ground near by are the remains of another ditch, the segments of trough-shaped stones being in position for one hundred yards or more." It is to be noted that the settlement at Tule is of quite recent origin.

expected. At the Concho settlement, however, several ruins and sacrificial caves exist, which, owing to the inclemency of the weather, I could not investigate. From what I heard, I infer that the ruins belong to the communal type; small houses are also reported as existing in that vicinity.

Between the sources of the Concho and the settlement of Show-low, on the northern confines of the Apache reservation of Arizona, the country is one of monotonous mesas of lava or trap, destitute of trees as well as of permanent water, except where, in its western sections, several streams flow towards the Little Colorado River. Antelopes roamed there a few years ago undisturbed. We long for the pine groves that loom up along the base of the Sierra Blanca, and the eye rests with pleasure on the sharp profile of the San Francisco Mountains in the distant northwest.

Ruins of pueblos or of small-house villages, also remains of ancient irrigating ditches, are said to exist in the vicinity of Round Valley and Springerville. The important ruins at Carrizo lie in close proximity to those of Tule, but can be merely mentioned here. In short, the mountain group of the Sierra Blanca contains, and is surrounded by, a number of ruins of aboriginal settlements of very ancient date, concerning which the Zuñi and Moqui traditions, those of the Pimas and perhaps of the Opatas also, and possibly the folk-lore of the Apaches, may afford some light.

In the first half of the sixteenth century the whole of Eastern Arizona, from the Sonora boundary as far north as the Moqui pueblos, was devoid of permanent Indian villages. Fray Marcos of Nizza visited the Sobaypuris, a branch of the Northern Pimas, in the San Pedro valley.<sup>1</sup> In a measure those Indians were sedentary; but their dwellings were not more permanent than those of the Pimas are to-day. North of the

<sup>1</sup> *Relation*, p. 269 *et seq.*

Gila a wilderness extended to the Moquis, and the friar does not speak of the Apaches as roaming over that region, whereas in the following year they were noticed by the members of the expedition of Coronado. Castañeda, speaking of the country along the Gila and north of it, says: "The inhabitants are the most barbarous nation as yet found in those regions. These Indians dwell in isolated huts, and subsist by hunting alone: all the rest of the country is deserted and covered with pine forests."<sup>1</sup>

It is therefore safe to look upon all the ruins of Indian villages in the section embraced by this chapter as prehistoric, and no clue exists to the tribes by whom they were built, or to the cause and manner of their abandonment.

Two distinct types of construction are represented in the Apache reservation, the compact pueblo village and the small house, the latter connected with a courtyard or enclosure of stone. The former type reaches only as far as the environs of Fort Apache, or a little north of  $33\frac{1}{2}^{\circ}$ , that is, the same latitude as San Marcial in the Rio Grande valley. It seems therefore that in Arizona as well as in New Mexico the area of communal structures is bounded in the south by the same parallel of latitude.

Extensive pine woods cover the flanks of the Sierra Blanca. In the north they begin at Show-low, or north of latitude  $34^{\circ}$ ; southward they extend to Rocky Cañon, or latitude  $33\frac{1}{2}^{\circ}$ . Their eastern limits I cannot define with accuracy; to the west, it is certain that they reach longitude  $110\frac{1}{2}^{\circ}$ . The highest summits, Thomas Peak<sup>2</sup> and Ord's Peak,<sup>3</sup> are bare of trees.<sup>4</sup> All this forest region is well watered by clear mountain brooks, the most northerly of which, like the

<sup>1</sup> *Cibola*, p. 162.

<sup>2</sup> 11,496 feet high.

<sup>3</sup> 10,266 feet high

<sup>4</sup> The forest line on the Sierra Blanca is 11,100 feet. Ord's Peak lies below it; still the summit is bald.

Colorado Chiquito, Show-low Creek, and the La Plata, belong to the drainage system of the Great Colorado; while the others, which on their main course run from east to west, like the Sierra Blanca rivers and the Rio Prieto, form the great Rio Salado, a tributary of the Gila; and those south of the Prieto, Eagle Creek, the Gila Bonita, Ash Creek, Sycamore Creek, all unimportant streamlets, flow directly into the Gila. The valleys are narrow, often with precipitous sides, fertile bottoms alternating with picturesque gorges. Woods are everywhere close at hand. The yucca plant, important to the natives both for food and for industrial uses, is very abundant. On the whole, it is a region extremely suitable for a sedentary Indian population. But the winters are cold, and snow falls often and in large quantities. The average elevation above sea level being over five thousand feet may explain why the specifically pueblo architecture was still adopted by some of its ancient inhabitants. But the beauty of the region, and its abundance of game and fish, also explains why it may have been coveted both by sedentary and roaming Indians, and in such a struggle the latter always ultimately prevail.

At Show-low the forest region covers the northerly spurs, and a little creek meanders through a valley which in its narrowness still presents a bleak appearance. On the south side of this arroyo stands the ruin, shown on Plate I. Figure 38, which is that of a communal pueblo consisting of two houses with one circular estufa. The walls are 0.20 m. thick, built of sandstone, and only the foundations remain. Situated on a rise above a fertile bottom, this pueblo occupied a good position both for agriculture and defence. Among the artificial objects I noticed nothing unusual except the pottery, which resembles that at Tule. There are specimens with glossy decorative lines, but the glaze is more carefully applied, the

designs are more perfectly executed, and the corrugated and indented pieces especially are of superior workmanship. Indented and corrugated specimens, painted red, and similar to those found at San Matéo and on the Rio Grande at San Diego, are quite common, and here I saw for the first time corrugated sherds, painted outside with patterns of a symbolic origin, the painted lines being applied without attempt at harmony with the plastic appearance of the surface. A quarter of a mile south of the dwellings of Mr. Huning and of Mr. C. E. Cooley, to both of whom I am greatly indebted for their courtesies and kind assistance, are small-house ruins, the rooms of which, while not numerous, are comparatively spacious, having a courtyard attached to them. The stone used in the construction of the houses is sandstone and lava rubble. Although these ruins are of a distinct type from those first mentioned, the pottery is identical; but the sherds appeared more deteriorated, as if the ruin was of an older date. Such may be the case, but the degree of decay alone is no criterion. Small ruins crumble and turn to rubbish more rapidly than large ones, and moreover the large pueblo has been frequently disturbed by relic hunters, and potsherds have been brought to the surface from below, thus presenting a better appearance.

While at Show-low I heard of ruins on the La Plata, not far away, but could not ascertain to what type of construction they belonged.

From Show-low I reached Fort Apache, the main military post of the reservation, situated in latitude  $33\frac{1}{2}^{\circ}$ , and at an altitude of five thousand feet above the Gulf of Mexico. I copy from my diary of April 19, 1883, the following description of the road which I had to follow: —

“We rose, from an altitude of 6,100 feet at Cooley’s through stately forests of pines, — splendid, straight trees,

all *Pinus ponderosa*. The road goes over high mountain ridges, wooded on all sides, and in the distance an occasional glimpse is caught of the snow-clad tops of the Sierra Blanca. The reservation begins about seven miles from Show-low, near Clark and Kinder's Ranch, and the wild, heavily wooded mountain scenery, with an occasional rivulet, closes in upon all sides. A new species of juniper appears as we near the highest point of the Mogollones, as this spur of the Sierra Blanca is called. The divide is 7,400 feet high, and the descent is steep and tortuous. All along, the soil is very good, and the wheel-tracks are deeply worn in a dark loam. But the lava scattered all over it makes the road very rough. The highest point is about seventeen miles from Show-low; thence we reach White River. The grass becomes fresh and green; oaks appear, leafless yet, and the evergreen 'encino,' in tall specimens. To the left of the road patches covered with excellent grass skirt the cañon of the river, which runs about east-northeast to west-southwest in a rocky cleft with vertical sides, the rock of which is hard black and gray lava. But on the right side of the road the slopes are often vertical buttresses of red sandstone, rising at least a thousand feet. Dark pines sweep up past perpendicular cliffs to the shaggy crest. Eight miles from Fort Apache lay the old ranch of Mr. Cooley. The river is at the foot of the cliffs, and at least four hundred feet beneath the road, and the forests are skirted in places by fertile bottoms, in one of which his house stood. The bottom is scarcely five feet above the river, grassy, with fine soil, and acequias run through it. Pueblo ruins [Plate I. Figure 39] stand close by the old house. They are built of whitish hard lava, and appear like a shapeless rubbish mass, about ten feet high. The pottery is finely corrugated, indented, and painted black and white, and gray and white. Some pieces are unusually thick,

and on others the corrugations are very delicate. It bears much resemblance to the pottery of the pueblos of Show-low, but the corrugated ware, which largely predominates, is of finer, more intricate design. There are the usual patterns of black on red, and there is black and red plain, but no glossy specimens. The ruin is evidently very old. It is in a well sheltered situation, and the sun shines into the bottom only from the south. . . . On the plateau above, about half a mile from the brink of the cañon and beneath trees, lies another ruin. Its appearance is about the same, also the pottery. Trees have grown in it, one of which is six feet six inches in diameter. The other trees are encinos, about nineteen inches to two feet in girth.

“Soon after leaving this spot, the valley opened and presented a most beautiful appearance. The grass is green, *Verbena communis* in bloom, and junipers and oaks in groves. The mountains around, rising to one thousand feet and higher, are clad with pine forests up to their rocky tops. The red sandstone gleams through the trees in precipitous cliffs. There is verdure and life everywhere, in beautiful contrast with the bold crags and the deep cleft of the cañon of White River, a roaring mountain torrent, with waters milky to-day, but generally clear and limpid.”

Fort Apache lies at the junction of the north and east forks of the White Mountain River, in a fine situation. High mesas line the valley, which bears luxuriant grass, tall yucca, junipers, and oak. In the west, a glimpse is caught of Kelly's Butte, a dome-shaped peak; in the east rise the summits of the Sierra Blanca. On both sides of the river for several miles, either on the banks or on flats extending some distance inland, stand aboriginal ruins of both types of architecture. One of them, a compact pueblo, is shown on Plate I. Figure 40. It lies about two miles east of the post, two hundred



meters south of the stream, and an embankment, denoting an old river bed, is visible between the ruin and the river. The pueblo forms a hollow rectangle, with no perceptible ingress on the ground floor. It was not over two stories high, and the cells are small, though larger than the majority of those in more northerly ruins.

The stone axes are of the kind peculiar to the southern parts of the Southwest, that is, with the groove only on three sides; the metates are rude and show no signs of particular workmanship, and the pottery displays the handsome ornamentation already noticed at Show-low. This latter feature cannot be due to local influences only. The material and the pigments, their greater variety and superior quality, depend of course upon the presence of mineral matter; but the delicate plastic ornamentation and the habit of painting the corrugated and indented surfaces, result from an advance distributed over a vast extent of territory.

One of the largest ruins, if not the largest in the Apache reservation, lies at the upper end of the Cañada del Carrizo. Its distance from the post I estimate at about five miles in a westerly direction. It stands on both sides of a dry torrent, in the bed of which pines are growing. Still it does not appear that, as at the Pueblo Largo in the Galisteo region, this arroyo has been excavated since the village was built. As at Abó, the arroyo was there before the pueblo was constructed. While it is not improbable that the buildings were contemporaneously inhabited on both sides of the torrent, it is by no means an absolute certainty.

The condition of the ruin was such as to leave me in doubt whether the houses were more than one story high. Some of them may have been two-storied, but it seemed that one story was the rule. On the whole it reminded me much of the pueblo at Cebollita near Acoma, but the stone-work was

not so handsome. The ruins on both sides of the arroyo are nearly equal in size; I computed the western one to have accommodated one hundred and six families, the eastern ninety-one, or from three to four hundred souls each. If the occupation was simultaneous, this would indicate an aggregate population of not more than eight hundred souls.

This village appeared to be a compact small-house settlement, and there are, outside of each of the two groups, scattered smaller buildings; but they are in too close proximity to the main clusters to suggest summer ranchos only. The wide vale on which the ruins are situated is without water for irrigation, and I did not observe any provision made for storing, nor did I notice estufas.

About ten miles to the west from these ruins, I was informed, there stood a watch-tower, and I was also told of an interesting ruin on the summit of some prominent butte. As to the mesas that line the valley in which Fort Apache is constructed contradictory reports reached me; but I think there can only be isolated buildings, and perhaps towers, or enclosures for retreat and observation. A serious injury to my left foot prevented me from attempting any climbing, or I should have made the ascent and satisfied myself of the exact condition of affairs.

East of the post, and several miles higher up the east fork of White Mountain River, the country becomes so rugged that no pueblos can be expected there. I diligently inquired for cliff-houses and cave dwellings, but obtained no satisfactory information. In the west, the river, after the meeting of its two branches, enters the deep cañones through which it flows to its junction with the Rio Prieto, or Black River, to form the Rio Salado. In these cañones cliff-houses, cliff burials, and partitioned caves have been examined and reported upon, to which I shall refer further on.

Before turning to the interesting remains on the Arroyo del Carrizo, I would remark that the description of the Apache reservation furnished by the chroniclers of Coronado is so clear as to permit the identification of all the main streams that flow through it, the Gila, strange to say, excepted. Even the Gila, if we consider the changing nature of its volume of water, can be identified by the statements of Juan Jaramillo; but the Rio Prieto, White Mountain River, and the streams about Show-low are clearly indicated.<sup>1</sup> This leads to the inference that Coronado marched very nearly on the present route from the Gila to Fort Apache. He, as well as Fray Marcos of Nizza, found no permanent Indian settlements, which corroborates the testimony of the ruins, that they are of quite ancient date.

The Carrizo lies about twenty-five miles north of west from Fort Apache. Its waters are tributary to the Rio Salado, and enter that stream below its formation by the junction of the Rio Prieto and the White Mountain. Passing east of the prominent height known as Kelly's Butte, the trail first winds between high wooded slopes occasionally crowned by crags. Vegetation is comparatively vigorous; the yuccas and opuntias grow in tall specimens, and one variety of plati-opuntia especially assumes large proportions. Towards Cedar Creek the valley narrows to a rent, cedars,

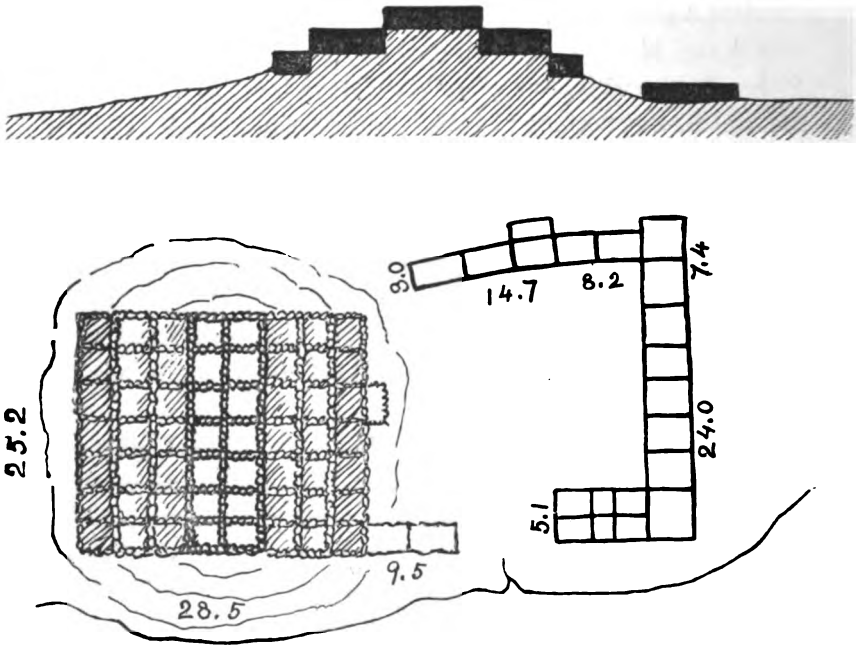
<sup>1</sup> Jaramillo, *Relation*, p. 368 *et seq.* The "Rio de las Balsas," which the Spaniards had to cross on rafts, must have been the Gila; but Jaramillo is the only chronicler of Coronado's expedition who mentions it. The "Rio de la Barranca" is clearly the Prieto; the "Rio Prieto," White Mountain River; and the "Ruisseaux Frais," or cool creeks, are the streamlets about Show-low, since he says that they were met with at the northern end of the extensive pine forests: "à l'extrémité de laquelle nous trouvâmes des ruisseaux frais." The next water-course was the "Rio Vermejo," so called on account of its reddish waters, which was two days' march from Haucu. This corresponds to the distance from the Little Colorado to that village, if we consider that the Spaniards marched very slowly owing to the exhausted condition of their animals.

oaks, and encinos clustering about the trail, with tall pines interspersed. From the crest, which lies about eight miles from Fort Apache, a wide view is enjoyed. To the west a vast undulating basin stretches, bounded by a range of high mesas. The soil is fertile, groves appear, and in the centre rises a perfectly conical peak of black lava. East of it is a huge black lump (Mogote in Spanish) of the same rock. Mesas with cliffs of red sandstone border the basin in the north, northeast, and east. Almost through the centre runs Cedar Creek, a narrow trough, containing water, and groves of noble cottonwoods. Along the western border of this basin Carrizo Creek flows in a deep cañon, the fertile bottom of which is half a mile wide in places. Gorges run into it at right angles, with small brooks in them. Cedar Creek is the only water between White Mountain River and the Carrizo; and the descent into the bottom of the last is very steep.

On the morning of the 2d of May, 1883, when I glanced at the landscape as it appeared from the cottonwood groves along the Carrizo, it presented a charming appearance. A light haze hung over the grassy vales and wooded slopes, and for the first time in my Southwestern experience I was reminded somewhat of English scenery. But the only human beings that at rare intervals enlivened the picture were Apaches, and their half-globular huts and scanty corn patches could not compensate for the absence of higher cultivation.

On a natural platform, grassy, with a steep declivity to the south and a high hill rising above it in the east, near the junction of two creeks running into the Carrizo, I examined the pueblo ruin of which I annex a sketch. The Apaches have greatly injured its appearance by using the stones of its walls for the construction of their semicircular shelters

roofed over with boughs. An ancient acequia traverses the triangular bottom at the southern end of the ruin. The interest attached to this ruin consists in its being somewhat like an illustration of the theory of Mr. Cushing about the



PLAN AND SECTION OF RUIN ON CARRIZO CREEK.

origin of many-storied architecture in the Southwest.<sup>1</sup> The main house is built on a slope, and appears to be three stories high, but upon closer examination each row is only

<sup>1</sup> *Pueblo Pottery* (Report of the Bureau of Ethnology, 1882-83, p 477). Mr. Cushing's views, however, require "the employment of rafters and the formation of the flat roof, as a means of supplying a level entrance-way and floor to rooms which, built above and to the rear of a first line of houses, yet extended partially over the latter." There is no trace of such overlapping at the Carrizo.

one-storied; since, as they are erected on both slopes, they rise successively, and thus present the appearance of three tiers superposed.

The number of persons which this ruin can have sheltered is small, not more than one hundred at most. The usual objects found are mortars of lava, and concave metates are quite common, but there is very little obsidian and flint; painted potsherds, like those found at the ruins near Fort Apache, are abundant, but corrugated and indented pottery is scarce.

About sixty meters west of the ruin stood an isolated small building measuring  $3\frac{3}{4}$  meters from east to west and 4 meters from north to south. It was open to the south, and appeared as if there had never been any roof on it. I was forcibly struck with the resemblance of this little structure to the so called "Sun-house" at the ruins of Matzaki in the Zuñi country, which is still in use for rude astronomical purposes, and the erect slab of sandstone standing in it has the circular face of the sun, with eyes and mouth carved on its surface. Stone fetiches consisting of natural concretions are arranged in front of the image. The building at the Carrizo is of course empty, but its appearance suggested to me the idea of its having possibly been a sun-house. But very probably it was merely a rectangular guard-house, although it was never over one story high. Its situation is well suited for a place of observation.

I am not informed in regard to ruins farther west, along the course of Cibicu Creek, a more westerly tributary of Upper Salt River. About the ruins reported to exist on the latter stream I have already made a short statement, and must defer further mention to another chapter of this report, and will only allude to the deposits of rock salt from which the river derives its name. They lie in a region not easily

accessible, and have been visited only by a few persons. The Spanish exploring party under Garcia Lopez de Cardenas, on their return from the journey to the Grand Cañon of the Colorado River, reported that "on their march they arrived at a cascade that fell from a rock; and the guides said that the white crystals hanging around it were of salt. A quantity of these were gathered and distributed at Cibola, where everything was told to the General."<sup>1</sup>

It is not clear whether the Spaniards returned by the way of Moqui, or whether they took a more southerly route. If the latter were the case, they may possibly have reached the rock-salt caves on the Upper Salado.

South of Fort Apache a high plateau extends as far as Rocky Cañon, beginning with the bare stretch of "Seven-mile Hill," through which runs Turkey Creek with a permanent water-flow. Beyond are the forests which line the course of the Rio Prieto, or Black River. This latter stream is evidently the "Rio de la Barranca" of Jaramillo.<sup>2</sup> It constitutes the main branch of Salt River, rushing and seething through a narrow cleft bordered by picturesque rocks, on which vegetation improves every possible foothold afforded either by slopes or by the river banks. This river has beautifully clear water, but the country is so mountainous and broken as to preclude all possibility of its occupation by agricultural aborigines except perhaps as a temporary refuge. I could not obtain any information regarding ruins between the Prieto and Rocky Cañon, and as the whole plateau is wooded I infer that there are none. Farther south, along the tributaries of the Gila, especially on Eagle Creek, ruins again appear. Cliff-houses, and, I am told, large pueblos also, have been examined on the latter. If the statement as to the pueblo ruins is correct, it would place the southern limit of

<sup>1</sup> *Cibola*, p. 64.

<sup>2</sup> *Relation*, p. 368.

the compact communal type of houses about half a degree of latitude farther south than I have allowed for this section of Arizona. But it is not impossible that these ruins belong to still another type, of which I shall speak in connection with the regions of the Gila and Salado Rivers. On the Gila Bonito, another tributary of the main Gila which runs almost parallel to Eagle Creek, cliff-houses are known to exist. I was unable to penetrate to these northern confluents of the great artery of Southern Arizona. My attention was directed to the peculiar culture, evidenced by a peculiar architecture, which the ruins along the Gila as well as those along the Salado denote. I therefore journeyed towards San Carlos as directly as possible. After I left the shade of the pine woods on the brink of Rocky Cañon, it appeared as if I were looking down upon another world, so different was the vegetation, so distinct the sky, from what the region which I was leaving had presented to me.



## X.

THE GILA, SALADO, AND LOWER VERDE RIVERS  
OF ARIZONA.

FROM the brink of Rocky Cañon the view to the south is of singular bleakness. An arid valley or basin lies below, and in it a line of scattered cottonwoods indicates the course of Ash Creek. Beyond, the ground rises to the bald crests of the Gila range. Bare peaks loom up in the west; denuded summits, dim with haze, in the east; in the south two towering mountains appear in the distance. A complete change takes place in vegetation. Cactuses and the mezcal agave dot the valley. On Ash Creek there are traces of small-house ruins, but so faint that I do not reproduce their outlines.

From Ash Creek Station to the former Apache subagency on the banks of the Gila the distance is a little over twenty miles, and the decrease in altitude amounts to more than three thousand feet. It is at least as great, if not greater, from Queen's Gap, which is only twelve miles from the Gila in an air line.<sup>1</sup> From that point on, the peculiar flora of Southern Arizona crowds the trail. Every shrub, every plant, is thorny and spiny. The thickets are composed of huge Echinocacti, monstrous Opuntia, *Fouquieria splendens*,<sup>2</sup> *Prosopis juliflora*, and zahuaros, gigantic columnar Cerei of

<sup>1</sup> The elevation of the springs near the brink of Rocky Cañon is given at 5,697 feet. The subagency lies 2,597 feet above the sea.

<sup>2</sup> Called Ocotilla in Spanish.

Arizona, which tower above the slopes and crests in the distance like telegraph poles. The change in a few hours from the pine forests of the north to this sub-tropical land is exceedingly striking. When, on the afternoon of the 9th of May, 1883, I began to descend the southern declivity of the Gila range, all this vegetation of uncouth plants was covered with the fairest blossoms. The Echinocacti were crowned with wreaths of white; the Opuntia displayed large flowers of pink, scarlet, orange, and white; the mezquite was loaded with drooping clusters of yellow; the Fouquieria blazed with tall spikes of crimson; the zahuaro was beginning to display its coronets of white blooms. It was a maze of flowering monsters, all very forbidding, not only in appearance, but on account of the dangerous spines and thorns with which they defy approach. I felt then that the animal life must be in harmony with this strange flora; that these jungles must be a fit home for the ugly mygale, the scolopendra, the scorpion, and the much dreaded though really harmless Gila monster.

No ancient remains are known to me in this region, except those along Ash Creek. In the cañones of the San Carlos stream, cliff-houses are said to exist; the slopes are too steep, too arid and rocky, for the dwellings of man.

After nightfall I camped on the Gila River under the shade of tall cottonwoods. The air was still, clear, and pleasantly warm. The front of Mount Turnbull loomed up in the moonlight like a huge phantom; camp-fires of Apaches glimmered along its base; and from the tree-tops the voice of the mocking-bird rose, clear and endlessly modulated in the stillness of the beautiful night.

The bottom of the Gila is not wide; arid mountains line it on both the north and the south. Two towering masses, Mount Turnbull and Mount Graham, rise abruptly on the

south side of the narrow valley, the latter to an elevation of 8,000 feet above the river.<sup>1</sup> Their slopes are partly perpendicular, and mesas jut out along their base. The valley is sandy, and the sunlight is reflected with a dazzling glare from the white ground. Even in May the thermometer mounts to one hundred degrees and above. When the wind sweeps through this trough, it raises formidable clouds of dust, which clothe the spiny vegetation and the cottonwoods with a grayish hue. Thus the Gila valley presents no prepossessing appearance; the mountains are arid and forbidding, the valley itself hot and dreary; yet it is fertile where irrigated, and the Gila stream has a sufficient volume of water. For an agricultural Indian population, it was a region worth living in, and worth holding on to as long as possible. But many portions of it are malarial, especially the vicinity of Fort Thomas, and it may be remembered that Fort Goodwin, which stood near the latter post, was at least partially abandoned on account of its unhealthy location.

Winters are very mild; snow falls occasionally, but never lasts. The general climatic conditions are such as to compel the native to afford more space and air for his abodes. The communal or honeycomb clusters of buildings would have been almost uninhabitable, at least in summer, and summers last long on the Gila. A new variety of buildings had to be devised to make the sedentary Indian comfortable.

I have already spoken of the ruins on Eagle Creek and other northern tributaries of the Gila, like the San Francisco River. I have not been able to visit San José del Pueblo Viejo and Solomonsville, but from descriptions I conclude that the architectural remains there are like those at San Carlos, and that at the former point there existed a comparatively extensive ancient settlement. Vestiges of acequias are

<sup>1</sup> The altitude of Mount Graham is 10,516 feet; Mount Turnbull is lower.

still visible, and the pottery resembles that from the vicinity of Fort Apache.

I regret my inability to explore these sites, but much more so that of the ruins at Fort Grant on the southern foot of Mount Graham. All I know about them is that they exist, and that the soil there is of a reddish color, and that pine forests begin in the vicinity. These are points of historical interest. When Coronado marched into Arizona from Sonora, he passed a place which he (or Fray Marcos of Nizza) called "Chichiltic-Calli," a word which in the Nahuatl language of Central Mexico signified "the red house." That ruined building has heretofore been identified with the well known aboriginal ruins of Casa Grande on the Gila, one degree of longitude farther west.

I have carefully studied all the original authorities upon Coronado's march, which have fallen within my reach, and I have also investigated those portions of Arizona through which Coronado may have passed, with the special object of solving if possible the question of his exact route.

In the preceding chapter I have stated that the Spaniards traversed the Apache reservation, at least from the Rio Prieto to Show-low, and thence reached the Little Colorado and Zuñi streams. To get to the Rio Prieto without crossing the Gila is impossible for any one coming from the south; to reach the former from Casa Grande is possible, but only by excessively long detours, and through a country whose appearance by no means agrees with that described by the chroniclers of Coronado. Neither does the picture of Chichiltic-Calli and of its environs in the least conform to Casa Grande or its surroundings. Castañeda, who is the most explicit of all, speaks of Chichiltic-Calli in the following terms:—

"When the general had traversed all the inhabited country as far as Chichilticale, where the desert begins, and had seen

that there was nothing good in it, he could not resist a feeling of sadness, although many marvels were promised to him further on. Nobody had seen them except the Indians who had accompanied the negro, and it had already been found several times that they lied. He was particularly disappointed in seeing that Chichilticale, of which so much had been told, was nothing but a ruined house without roof, which, however, appeared to have been fortified. It could be seen that this house, built of red earth, was the work of people who were civilized and had come from afar."

Further on he writes: "The name of Chichilticale was formerly given to this place, because the priests found in the vicinity a house that had been inhabited for a long time by a people that came from Cibola. The soil of that region is red. The house was large, and appeared to have served as a fortress. It seems it was anciently destroyed by the inhabitants."

Again in another place: "At Chichilticale the country is no longer covered with thorny trees, and its aspect changes."<sup>1</sup>

The soil around Casa Grande is of a glaring white, vegetation is particularly thorny, and remains so for a long distance towards the north. The few mountains where Conifers grow are distant, and their aspect no different from that of ranges farther south. The description of Castañeda cannot, therefore, apply to Casa Grande.

Jaramillo is less detailed and more confused. Still it is clear, especially from his statements regarding the water-courses, that the Red House could not have been Casa Grande.<sup>2</sup> That ruin is perfectly white at present; it may have been once covered with a reddish paint, but I failed to

<sup>1</sup> *Cibola*, pp. 160-162.

<sup>2</sup> *Relation*, p. 368. He does not mention the ruin, but speaks of a mountain chain called "Chichiltic-Calli."

notice any trace of it on the outside. Part of the roof must have still been in existence in 1540, for I was informed that the Apaches burnt the last remnants of it.

It is certain that Coronado marched up the Sonora River very nearly to its source, and thence either across to the San Pedro valley, or else to the Santa Cruz. In case he chose the latter route, he would have had to contend with much greater difficulties in regard to water, and would besides have left the Indian settlements, which are what Castañeda means by "inhabited country," much sooner. The Sobaypuris had their villages within a short distance of Arivaypa Creek, and the latter flows not far from Fort Grant. Everything, in my opinion, points towards the latter place, or to some spot in its neighborhood, as the locality where Coronado passed, and where Chichiltic-Calli, the Red House, stood in 1540. As three centuries and a half have elapsed since, in a climate much more humid than that of the Gila, it is not improbable that the ruin may have become reduced, at the present day, to mere rubbish mounds.

At Fort Thomas I examined the ruins shown on Plate I. Figure 42. They are distinctly of the small-house type, and rows of stones indicating low enclosures connect the mounds that denote former buildings. There I received the first impression of the peculiar checker-board arrangement of which I have already spoken in Chapter VII. in connection with the ruins on the Mimbres and the Upper Gila of New Mexico. The remains about Fort Thomas are much decayed, so that it is almost impossible without excavation to re-establish the connecting lines. It struck me that the amount of stone rubbish lying about was quite inconsiderable, and that the mounds, though low, seemed to consist of compact earth. This suggested the thought that the houses, except their foundations, might have been of adobe. I was confirmed

in this supposition by descriptions which an old resident gave me of the ruins at Pueblo Viejo. The largest mound at Fort Thomas measured 14.7 by 13.2 meters (48 by 43 feet), and one of the sides of an enclosure was 22.5 meters (74 feet) long.

With these ruins there was an elliptical depression with a raised rim or border about six meters in width. The dimensions of the basin or hollow were  $34\frac{1}{2}$  by  $14\frac{3}{4}$  meters (190 by 48 feet); its depth was inconsiderable. This structure I can only suppose to have been a tank. The artificial objects bore the usual character, and the pottery was the same as at Fort Apache.

About eight miles to the east of Fort Thomas I investigated another ruin of the same type, and of nearly the same size. The enclosures have left but faint traces, but I found distinct remains of an old irrigating ditch running past the village, with branches entering its site. I followed this ditch for a length of 350 meters (1,150 feet), and found it to be on an average two meters wide, the extremes being  $1\frac{1}{4}$  and 3 meters. The sides were raised from 0.15 to 0.20 m. (6 to 8 inches) above the surface. The soil of the bottom through which this acequia runs, where the ruin is situated, is whitish, sandy, and movable, but appears to be very fertile.

The acequia runs almost at right angles with the course of the Gila River, and towards, not from it. It descends from the base of the foot-hills of Mount Graham, from which living streams issue, but sink at a distance of five or six miles from the river's edge. The ditch in question cannot have been made for the purpose of carrying the waters of the Gila up hill, and there is no visible source inland from which it could have been fed, nor is there any sign that formerly the arroyos flowed farther down than to-day. It was only long afterwards, in the neighborhood of Casa Grande, that I learned

the real object of these acequias, which descend from the mountain slopes to the low lands.

In the vicinity of Maricopa, the Maricopas Indians especially use such acequias to-day. They build them from the bare mountain slopes into the valleys where their fields are located, with the object of catching the mountain torrents which descend for a short time during and after every shower, and of leading them to their crops, which otherwise would not receive a drop of the moisture that falls almost daily on the high crest during the rainy season. The Gila River is very irregular in its volume of water, much more so than the Rio Grande, and it is lowest during those months when irrigation is most needed. Hence arose the device of using the mountain torrents for purposes of irrigation, of which the acequia east of Fort Thomas is probably an example.

All these remains are found on the south side of the Gila River, and on the opposite bank I have heard of at least three more. I also heard of one south of the last described ruin, and of vestiges near the site of old Fort Goodwin. But the settlements are all of small extent, hardly capable of sheltering a hundred people each, and generally are several miles apart. Their condition is very ruinous, and suggests, from the growth of mezquite trees in the rooms, and of very large mammillary cactuses, considerable age. Abrasion by floods from the mountains, as well as the climate, should also be taken into account as obliterating agencies.

The metates which I saw at the ruin last investigated were quite large, and made of black lava. Obsidian and arrowheads of flint appeared frequently, and I saw a convolute shell, perforated at the apex, which had been taken from one of the houses. A block of stone about 0.75 m. (30 inches) long, and roughly worked in a manner suggestive of an idol or fetich with human shape, was also shown to me.



Groves of cottowood line the banks of the Gila between Fort Thomas and San Carlos. The soil is of the usual dazzling whiteness; thorny plants are scattered over it, and bunches of grass. Where the road from Fort Apache crosses the river I found several small-house ruins, with connected enclosures. In these the difference between the building with its three rooms, and the enclosures or courts, was especially plain. Pottery and other objects show much decay. The walls of the house have a thickness of 0.61 m. (2 feet), and are made of two parallel rows of stones or rubble set on edge, with traces of a filling between them. Such foundations suggest that adobe was superposed to them.

The present Indian Agency of San Carlos is not on a prepossessing site; it is very hot in summer, and the shade of the trees on the river banks does not extend to the promontory on which large and commodious buildings are erected. But the site was a good one for an Indian village, inasmuch as there are fertile bottoms close by, and a clear view in every direction. The modern constructions stand on the ruins of a village of which I was only able to measure a part. The foundations are double in some places, in others single. The village, which must have covered much more ground than what I could survey, was therefore an aggregation of dwellings and enclosures. A mound 0.80 m. (32 inches) high, and 37 meters long by 16 broad (121 by 52½ feet), is connected with the other remains. Its surface is traversed by a double line of stone walls, showing that the rubbish mass once formed a house. This feature was new to me, and it suggested the existence of a larger central building, perhaps artificially elevated by means of an underlying platform, and connected with the rest of the settlement by walls of courts or squares. What few other buildings were visible were small houses rest-

ing on the level. The rooms of these are large in comparison with those farther north.

Soon after passing San Carlos the Gila enters a deep cañon, which extends with various interruptions nearly to the settlement of Riverside. The San Pedro stream joins the Gila in this narrow gorge, the walls of which are often perpendicular. I have heard that cliff dwellings only are found there, as the bottom is not wide enough for cultivation, or even for the construction of buildings. This information, which the appearance of the country corroborated, induced me to turn to the northwest, and to proceed towards Upper Salt River by way of Gilson's Flats and the mining district of Globe, with its vast deposits of copper ore.

I refer to Plate I. Figure 41, for the plat of the ruin five miles from San Carlos, in a bottom of similar appearance to all the flats or depressions along the Gila River. A tank measuring 23.4 meters (76 feet) across, and encased by a rim of stones, stands among the ruins. This feature seems to be common in that section of Arizona. The pottery is in all points similar to that of the other ruins.

After traversing quite dense forests for miles, Gilson's Ranch is reached,—a waterless valley bordered by dreary gravelly heights. In the west the Sierra Pinal rises aloft, covered with a fine growth of dark pines. All the rest of the mountain scenery is of forbidding ruggedness. Bare peaks stretch into the sky, and arid clefts and rents descend from their slopes. The only vegetation is that monstrous flora of cactus, mezquite, and ocotilla peculiar to the Southwest. To it must be added the "Palo verde," a leafless tree with green bark.<sup>1</sup> The smaller shrubs do not look so strange as the taller species, but they are equally well protected by thorns and spines.

<sup>1</sup> *Parkinsonia Torreyana*.

On the arid heights around Gilson's Ranch several small ruins are met with, forming in all probability a variety of the class represented about Fort Wingate. One of them contained as many as seventeen compartments, but I could not detect any traces of enclosures. The walls were all double and about two feet thick, and it seemed that the superstructure had been of adobe. In the same vicinity I found distinct traces of an acequia with its branches, lying at the foot of the gravelly bluffs on which stood the ruins, and apparently made for the same purpose as the one on the south side of the Gila, east of Fort Thomas. The branches of this ditch were slightly raised above the surface, but the main acequia was slightly depressed. Pottery and other objects need no description, owing to their similarity to those found elsewhere in the district.

Twelve miles of country of the same type as around Gilson's, though with more trees, separates that place from Globe and its extensive workings of copper ore. The total ascent from San Carlos to Globe is fifteen hundred feet in twenty-one miles. Globe lies in a cleft between the Pinal range in the south and lower but rugged ranges in the north which separate it from the basin in which stands the town of McMillenville, and agricultural soil is not plentiful around it. A little creek, the Aliso, runs at the bottom of the rent on both slopes of which the town is reared. It is a tributary of the Gila, and assumes upon approaching that stream the more pretentious name of San Carlos River. A short distance from Globe to the north lies the water-shed between the Gila and the Upper Salado, and from it the Arroyo Pinal trickles down towards the latter.

I examined three sites of ruins in the vicinity of Globe. The one shown on Plate I., Figure 43, is the largest, and at the same time one of the best specimens of the checker-

board type that came under my observation. It will be seen that the central mound or ruin is wanting, but that the small buildings and connecting enclosures are numerous and well preserved. The walls were of stone, and none of the buildings seemed to have been higher than one story. No traces of estufas were visible, and I will remark that, after leaving the Little Colorado River, I nowhere saw the circular depression of comparatively small size which indicates that structure in more northern ruins. The village of which I am now speaking stands south of Globe, on a denuded promontory with rather abrupt slopes, in a good defensible position; but unless the courtyards were for the purpose of holding tillable soil, I found no space for fields. It may be, however, that at the foot of the hill on which the ruins stand some plantations existed.

The ruin next in size which I investigated is much smaller, and lies north of Globe, on a very steep, rocky projection of at least two hundred feet in height. Here the proportion between buildings and enclosures was converse to that at Globe, the enclosures being few. One central room had the walls entire to a certain height, composed of broken blocks of stone of the thickness of 0.86 m. (34 inches). A fallen beam of cedar stands in the ruin like a post. The pottery needs no special notice, except that the corrugated ware is very coarse. At the ruin first alluded to, I found the metates to be, instead of lava, of a material resembling syenite.

The region is strictly a mining country, and the narrow clefts which the valleys represent, although some of them harbor groves of cottonwood, afford no room for extensive cultivation. Scattered Indian villages with a small population, such as the ruins indicate, may have subsisted by means of small patches of corn, and of such nutritive plants as grow without irrigation; but it seems to have been the defensible

sites rather than the opportunities for subsistence, that induced the native to establish himself in these localities. In the Pinal range I was informed that there are no ruins, at least none of any consequence, and the steepness of its slopes as well as the forests lend probability to these statements. The immense deposits of copper and other ores were no inducement to the sedentary Indian of the Southwest. I diligently inquired about copper implements, but while some of my acquaintances had heard of such finds, no one had ever seen any. Native copper is not as common around Globe as are its different ores, which none but the people of Peru had attempted to reduce previous to the coming of Columbus.

While at Globe I was informed of ruins, with vestiges of large houses, said to exist along the course of the Arroyo Pinal, the little tributary of Salt River which takes its rise a few miles north of Globe. I therefore selected the northern route, with the view of examining the course of Upper Salt River and reaching the Rio Verde, and thence, after making a detour around a mountain region in which only a few places of refuge, like cliff-houses and cave dwellings, or cliff burials, might be expected, coming to the Lower Salado, and finally the Gila, below the deep cañones west of San Carlos. This determination caused me to follow the course of the Pinal a short distance beyond Wheatfields. Farther down I did not proceed, since a narrow gorge extends from there to its mouth in the rugged cañones of the Salado, in which I have stated that cliff-houses, and especially rock or cliff burials, had been discovered. The course of the Upper Salt River is almost without interruption through such clefts, and the impression was conveyed to me that it was generally uninhabitable for sedentary natives. A little west of the mouth of the Pinal, however, begins the beautiful valley of Upper

Salt River, and extends as far as the mouth of the Tonto, which stream the rugged Sierra Mas-a-sar divides from the Lower Rio Verde. South of Upper Salt River valley a mountain labyrinth stretches as far as the delta between the Salado and the Gila. North of Upper Salt River, the Sierra Ancha, a mountain cluster of no great elevation, but with very steep slopes and arid gorges, separates the valley from the Tonto basin. The latter contains many ruins, none of which, however, was I able to investigate.

"Wheatfields" (Los Trigos) is a pleasant flat in the gorge which the Arroyo Pinal traverses. The soil is fertile, and cottonwoods shade the banks of the stream; but it is only about a quarter of a mile wide. Gravelly embankments line it, and steep declivities descend from both the west and the east. On the west side of the Pinal I found the two ruins shown on Plate I. Figures 44 and 45. The distinctive feature of the larger ruin is a mound showing that it was a house with at least two, perhaps three, rows of rooms or cells. The height of this mound is 2.5 m. (8 feet), and the remainder of the ruins lie below it, like a trapezoid cut up into irregular quadrangles forming enclosures, with a few mounds that indicate smaller buildings. I had before me a complete specimen of the type noticed already at San Carlos, namely, the checker-board village, with a larger edifice. It was not possible to determine without excavations whether the mound rested on an artificial basis, or whether its height was due to the rubbish accumulated from the decay of a second story; neither was it possible to ascertain the thickness of the walls. All I could discern was that they were constructed of boulders or rubble, some of which had been roughly broken, while others were entire, and that adobe mud constituted the binding material. The pottery and household implements need no special description.

The smaller ruin is of the same type as the largest one at Globe, that is, a fair specimen of the plain checker-board village. But the artificial objects are of the same character, and there seems to be no difference in their age. It looked as if the two had been coeval, and their population small.

I was informed that seven miles from Globe and about four miles above Wheatfields a ruin existed which showed one hundred and thirty-eight divisions (houses and enclosures) on the surface of the ground. Two miles below Wheatfields the narrow gorge begins of which I have spoken, and the road to Salt River turns sharply to the south. On two steep promontories at this place stand ruins which I could not examine; but I noticed from below that one of them at least had a wall of circumvallation, or what seemed to be one, built along the brow of the hill. From the area which the top of each hill covered, the villages must have been small. Lower down the Pinal I did not travel, neither did I hear of any ruins in that direction except of caves and cliff dwellings along the Salado.

There were consequently at and near Wheatfields, within an extent of not over two miles, four aboriginal settlements. The question of their contemporaneousness cannot be decided, but, even under the assumption that all four were occupied simultaneously, they were so small that the population of the valley cannot have exceeded four or five hundred. The number was adapted to the nature of the spot, which seems to indicate a voluntary rather than a forced establishment. All the settlements stood on ground elevated above the level of the creek, which may have been necessary not only for defence against foes, but for protection against sudden risings of the stream which summer rains are liable to produce. The extent of arable soil is limited, but sufficient for the modest wants of a primitive people of

small numbers, and wood was furnished by the cottonwoods and by scrubby conifers higher up. Water is permanent, so that Wheatfields is a spot where sedentary aborigines would not fail to settle, provided there was no impediment arising from surrounding enemies or from the dictates of superstition.

After leaving the two ruins last mentioned, a sandy slope gradually leads up to the heights that overlook the gorge of the Pinal in the west. A thorny vegetation covers it, and craggy summits and crests loom up all around. This slope rises steadily for about six miles, then the view opens to the north, and Upper Salt River valley lies at our feet, green with cottonwoods and cultivated patches. Beyond it rises the Sierra Ancha, between whose sharp ridges yawn formidable cañones, bare and arid. The descent into the valley resembles very much that to the banks of the Gila from Green's Gap; but vegetation is more vigorous, though still more monstrous. Salt River is "a broad, blue, rushing stream, wider than the Gila, with clear and very alkaline waters." It is the finest large river in the Southwest. I noticed ruins near Kenton's Ranch, but they were so disturbed and also partly built over that I could only trace fragments of walls and enclosures. The foundations of what may have been houses consist of large boulders. Enough was left to satisfy me that the type was similar to that at Wheatfields, namely, the checker-board combination of houses and enclosures.

On the south side of the river I investigated successively five ruins of the same class within a stretch of about eight miles, but there are several more. I refer to Plate I., Figures 46, 47, and 48, for their general character, and for their relative size. On the same side I noticed no ruins with a central mound, unless perhaps the one at Kenton's Ranch belongs



to that type. All resembled the larger ruin at Globe and the smaller one at Wheatfields, and all could shelter but a small population. Thus the south side of Salt River valley was at one time dotted with a number of Indian settlements, erected at intervals of from a quarter to half a mile. Whether, in case they were all simultaneously occupied, their aggregate population amounted to over one thousand souls, appears to me doubtful.

In addition to those ruins that were plainly villages, there are some which were enclosures only. Instead of boulders or rubble, the lines indicating these enclosures consisted of stones set on edge, in single rows, and therefore incapable of supporting any superstructure. I was at a loss at first to account for these contrivances, as it seemed that the rows of stones had never been elevated more than a few inches above the ground. Afterwards, when I was informed that they had been garden beds, I recollected the similar devices of which I have given an account in the northern part of New Mexico.

In Sonora the Oyata Indians told me that whenever a space of ground was enclosed with a rim of stones, and its surface cleared of the gravel and boulders with which it is usually covered, such space retained moisture much longer than any free expanse. The ruins in the Upper Salt River valley are always situated on the first or second tier of plateaux rising above the bottom, which is subject to overflow, the river rising sometimes suddenly and as much as ten feet above its usual level. That the homes of the aborigines should have been constructed on elevations is very natural; but at first sight it appears improbable that, with the fertile river bottom at their disposal, they should have resorted to the creation of artificial garden beds on the less fertile terraces above. Still, we must consider that, in the first place,

the settlements were small, and a little ground sufficed for their subsistence; that the temperature on Upper Salt River is high, and the summers long; and that more rain falls in proportion than on the Gila. Consequently they were not so dependent upon irrigation as those on the latter stream. Ancient irrigating ditches exist on the north side of Salt River in the same valley, but, with the limited number of people which each settlement could accommodate, it was scarcely worth while to undertake the work of digging canals. In consequence, therefore, of the positive testimony of existing Indian tribes, I prefer to adopt the view that such clusters of enclosures were really garden beds, the more willingly that in most cases there are one or two small buildings in close proximity to them. These buildings are mostly large enough to have accommodated a family; in other instances they are so small as to suggest that they were only guard-houses.

On the north side of Salt River, not far from the ranch and home of Mr. Armour, stands an important ruin, the peculiarity of which consists of the long mound that forms a part of the open polygon which the ruin represents. This mound has been partially excavated, and found to contain rooms at least 1.25 meters (4 feet) high, and probably more. One beam was still visible; the walls were of stone, laid lengthwise in the front and transversely in the partitions. The height of this mound is 3.3 meters (11 feet), and there are indications that the buildings rested on an artificial terrace. I doubt whether this village, which is one of the most important in Upper Salt River valley, could accommodate more than one hundred and fifty inhabitants.

Interesting finds were made here. I saw a piece of hammered copper that had been taken from the mound, and a copper rattle. There may be some doubt concerning the origin of the latter, although, in view of a similar find made

by Mr. Cushing in the Tempe valley, I am inclined to accept it as genuine, as native copper in laminæ occurs in the mining district of Globe. One of the most valuable objects extracted from these ruins is a sash with tassels, both made of yucca thread, which recalled forcibly the sashes of buckskin worn to-day by the members of the Order of Warriors among the Pueblo Indians in the scalp-dance. Of other objects I need not speak, as there is no difference between them and those of Globe, the Gila, and Fort Apache. The same degree of culture and the same taste in art appear to have prevailed, and the existence of copper implements in one or two localities does not justify the conclusion that any great advance had been achieved. That the Indians may have accidentally found out the malleability of a metal which occurs in their vicinity is not extraordinary. But the small number of such specimens indicates that the discovery had not had time to propagate itself, or that it was kept the property of a few, or exercised only as a matter of personal ingenuity or taste. It would therefore be inappropriate to designate the ancient inhabitants of Salt River valley as a people acquainted with the art of working copper in general.

Furthermore, we do not know whether the copper objects found near Armour's originated there as a product of home industry, or whether they had been imported. Curious objects sometimes travel immense distances among Indians. The instance of the copper rattle given in Central Texas to Alvar Nuñez Cabeza de Vaca and his companions should not be overlooked. That certainly was not made by the roving hordes among which it was found, neither did the Spaniards ascertain positively whence it had come.<sup>1</sup> Traffic

<sup>1</sup> Cabeza de Vaca, *Naufragios* (in Vedia, "Historiadores Primitivos de Indias," chap. xxix. p. 540): "Y entre otras cosas que nos dieron, houbo

or pillage in war causes such rare pieces to wander sometimes across a whole continent in the course of time. This may be the case also with figurines representing animal types from exotic regions. We need not, to explain their presence in other zones, resort to hypotheses of a geological character. So it is with metallic objects. On the coast of California a copper bead was found which has been pronounced by excellent authorities to be of undoubted aboriginal and primitive origin.<sup>1</sup> When Coronado visited the tribe that he calls Quiviras, in Northeastern Kansas, he found a piece of native copper suspended to the neck of one of the chiefs, and some copper rattles, and upon inquiry whence these objects had come no satisfactory answer could be obtained.<sup>2</sup> Where the general culture is so markedly indicative of a degree of industry limited in its materials to stone, clay, bone, and wood, the presence of a few objects of metal is not sufficient to warrant us in placing a higher estimate on the advance achieved by the people.

There is an ancient irrigating ditch running not far from

Andres Dorantes un cascabel gordo grande de cobre, y en él figurado un rostro, y esto mostraban ellos, que lo tenían en mucho; y les dijeron que lo habían habido de otros sus vecinos; y preguntandoles que donde habían habido aquello, dijeron que lo habían traído de hacia el norte; y que allí había mucho, y era tenido en grande estima; y entendimos que do quiera que aquello había venido había fundición y se labraba de vacío." Oviedo, *Historia General*, vol. iii p. 606: "Aquestos dieron á los christianos un cascabel de laton é çiertas mantas de algodón, é deçian que aquello venía de hacia el norte, atravesando la tierra hacia la Mar del Sur." This indicates that it came from the northeast.

<sup>1</sup> *Report on U. S. Geographical Survey* (Wheeler), vol. vii. pp. 264, 272.

<sup>2</sup> Coronado, *Troisième Lettre à l'Empereur Charles V.* (in Appendix to *Cibola*, p. 359): "Les naturels m'ont donné un morceau de cuivre qu'un de leurs chefs portait pendu au cou. C'est le seul métal que j'aie vu dans ce pays; je l'ai envoyé au Vice-roi de la Nouvelle Espagne. Ils me firent voir aussi quelques grelots de cuivre que je lui ai envoyés, et une très-petite quantité d'un métal qui ressemble à de l'or. Je n'ai pu savoir d'où il venait, mais je crois que les Indiens qui me l'ont donné l'avaient reçu de ceux que j'emmenais avec moi pour mon service. Je ne pus trouver une autre origine."

the ruin at Armour's. On both sides of the Salt River the ruins stand on the first and second tiers, and not on the bottom close to the banks. The ruins are all small, and clusters of enclosures abound, but in estimating the ancient population they should always be excluded from computation.

It is not unlikely that the checker-board type of hamlets, and the same class with a central mound representing a larger building, were coeval, and the work of the same people. If not contemporaneous, the question arises whether the latter type was not perhaps the result of a change in conditions of security. Open settlements like the former imply peaceable intercourse between the inhabitants of the various villages, and the absence of danger from neighbors or nomads of a different stock; but we have not even traditional information about these people. Castañeda, as already stated, attributes the buildings of the "red house" near Fort Grant to "a people that had come from Cibola." Father Garcés was informed that the ruins on the Gila were those of pueblos built by some people that had come from Moqui. The reason which the Sobaypuris gave to the missionary for attributing those edifices to the Moquis was, that only the Moquis knew how to construct them, and to make pottery like that scattered about the ruins.<sup>1</sup> This shows that either they would not reveal to the priest any positive tradition in their possession, and consequently resorted to a myth of observation, or else that they knew of the northern origin of the settlements. If the latter should be true, then it is clear that the change in architecture south of the latitude of Fort Apache is due, not to some culture imported

<sup>1</sup> Garcés, *Diario y Derrotero*, p. 328: "Pregunté años pasados á unos viejos Sobaypuris de mi mision, que quien había hecho aquellas cabas que estaban caídas y la loza quebrada que hay en varios sitios del Río Gila, pues los Pimas ni Apaches no saben hacerlo. Respondiéronme que los Moquis, pues solo ellos sabían hacer aquellas cosas."





PLATE V --- CAVE DWELLINGS ON THE UPPER RIO SALADO, ARIZONA

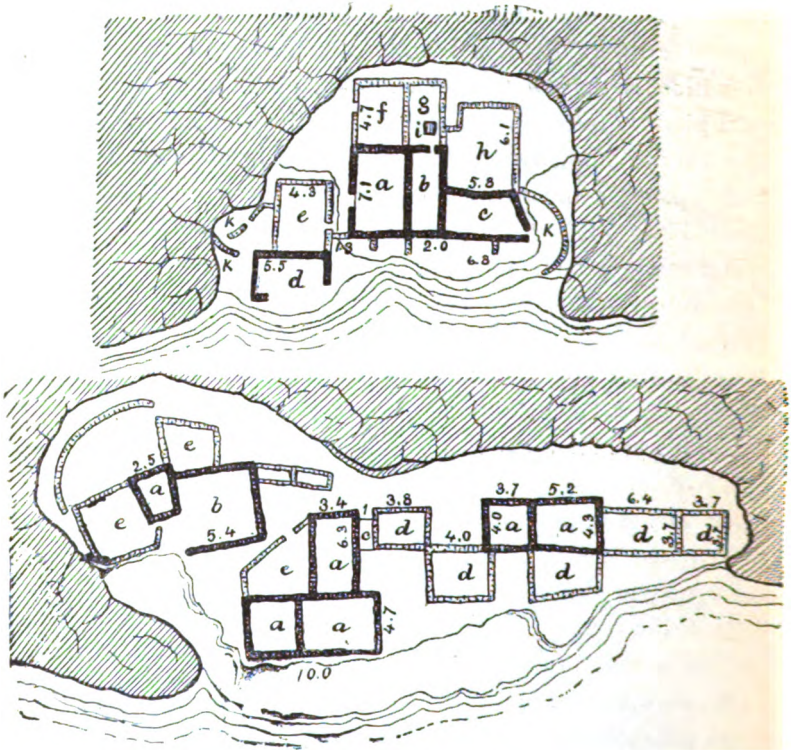
by tribes coming from southern regions, but to an adaptation of house architecture and of house life to exigencies arising from changes in climate and environment.

This becomes the more probable, because about five miles south of the banks of the Upper Salado, and not far from the ranch of the well known scout, Archie McIntosh, there are two cave dwellings of moderate dimensions, the architecture of which is that of typical compact pueblos. Each cave is occupied by one house, and each of these houses is at least two stories high, the stories retreating from the bottom to the top, after the manner of New Mexican pueblo houses. (See Plate V.) Roofs, ceilings, doorways, hatchways, are still mostly intact, and although many of the beams have been burnt by the Apaches, enough are left to give an idea of that feature also. The rooms are somewhat larger than those in most one-house pueblo ruins farther north, as might be expected, since the caves are very warm in summer; but the walls are identical in composition and structure, and the floors also. Each cave dwelling would be just as much in place at the Chaca Cañon, or on the Rio de las Animas, as in the rocky recesses of the valley of Salt River. The terraced form was in this case imposed by the arched rear wall and roof of the caves, and was the result of accommodation to the shelter sought in the cavities. The presence of hatchways in the upper stories indicates that ladders, not stairways, were used for communicating between the upper and the lower floors.

The caves lie on a very steep slope, in some parts even perpendicular. Their elevation above the bottom of the narrow gulch from which the slope arises is about four hundred feet, and the acclivity, besides the number of boulders and rocky fragments with which it is covered, is rendered still more difficult of ascent by a profuse growth of *Cylindropuntia*



called Choyas, a dangerously thorny species of cactus. The bottom contains a spring, and is shaded by cottonwoods and dense thickets. The caves face to the east, and are visible at quite a distance from the river bottom. Approach to them



CAVE PUEBLOS ON THE UPPER SALT RIVER.

was quite difficult for an enemy, and the buildings so completely fill the cavities, that only narrow passages lead to the rear of the houses, where they could be entered. But here, as well as at the Upper Gila, it was easy to cut off the water supply, and thus to reduce the inhabitants. There are no

tillable spots nearer than the river, so that it may be that they had to go several miles in order to raise their crops. It is well known that such a distance is not an insurmountable obstacle for the sedentary native.

Owing to the sheltered situation of these cave dwellings many specimens of their industry, manufactured out of the most perishable material, have remained intact. Sandals like those from the Tzé-yi, yucca fibre and thread, and, above all, specimens of cotton cloth, were found here. Of the latter I have seen much, and some of it shows traces of "drawn work." The ancient inhabitants of Upper Salt River valley had cotton, but it does not follow with absolute certainty that they cultivated it themselves; still this is quite probable, for the climate is such as to permit the growth of the plant there much better than among the Moquis, and we know that the Moquis raised cotton in the sixteenth and seventeenth centuries. The pottery found in the caves is in no manner different from that accompanying other ruins on Salt River, and all the other artificial objects are also similar. The general culture was therefore the same, and nothing tends to show that the difference in architecture implied also a different people. This does not prove that the same tribe built the checker-board ruins near the river, and the cave dwellings on the mountain slopes. They may have been distinct tribes, or may have even belonged to distinct linguistic stocks. They may have lived contemporaneously, or the cave dwellers may have descended into the valley and reared their abodes there, or the valley people may have withdrawn to the caves as their last refuge. But both belonged to the same culture group, and the difference in mode of dwelling was not one imported, but one created locally by necessity, or by natural opportunities. The fact that certain very perishable articles were found in the caves, and not in

the partially ransacked ruin near Armour's, does not militate against this, for cloth and pottery of all sorts deteriorate much more rapidly in the ground or in rubbish than they do inside rock shelters; and this is especially the case where, as in this instance, the buildings under these shelters are still in an almost perfect state of preservation. The nutritive plants collected at both places were the same, corn and beans.

On the north side of Salt River graves have been found in connection with the enclosures of which I have spoken; but it seems probable, however, that they are those of Apaches. Near Armour's Ranch I saw the remains of an interment, from which loose bones and a few arrow-heads had been taken. The hollow left showed distinctly an oblong form, as if the body had lain extended, and been covered by stones, among which were several natural concretions of a singular shape. It is known that such mineral forms are used by the Southwestern Indians as fetiches. The mode of burial of the Apaches is said to be very simple; the body is interred and stones thrown over the place. In the present instance the corpse must have lain at only a slight depth, and I am therefore inclined to believe that it was an Apache burial; in this opinion I was confirmed by statements of the English-speaking settlers of Salt River valley.

From Armour's Ranch to the mouth of Tonto Creek the river continues to be lined with cottonwoods and groves of mezquite, no longer a shrub but a fair-sized tree. They have grown to quite a height on the mounds at Armour's; as the plant is said to be of slow growth, this would indicate considerable age. The shelves above the bottom land grow narrow as the mouth of the Tonto is approached, and the spaces for cultivation as well as the sites for habitation become smaller. Tonto Creek hugs the western slope of the

Sierra Masasar closely; the foot-hills are rugged and precipitous, and thorny plants cover their slopes. It is a wild spot, and wilder yet appear the mountains and the deep cañon in the west into which Salt River plunges.

The ruins in the immediate vicinity of the mouth of the Tonto hardly deserve any detailed mention, so much do they resemble those already described; but higher up, near Cline's Ranch, nine miles north of Salt River, I examined some interesting ruins. The bottom of the Tonto is sandy and overgrown with thorny shrubs, and cottonwoods line the rivulet. There are no ruins in this bottom, but on the bare shelves above it small ones are quite numerous. The checker-board village type is quite plain to be seen in places. One mile north of Cline's, however, I found a fine specimen of the kind already noticed at San Carlos, and more perfectly represented at Wheatfields and at Armour's. In this ruin the central mound is very plain, and the smaller houses have diminished in number and become reduced almost to out-houses. A quadrangular wall surrounds the mound, and the space thus enclosed is connected with the main edifice by walls of stone, thus dividing it into squares and rectangles. The wall has a thickness of 2.5 meters ( $8\frac{1}{2}$  feet); but I am in doubt whether it was solid, or whether there were two lines of stone with a narrow passage between. It is still the checker-board type, but the dwellings have been mostly consolidated in one central mass, from which enclosures diverge towards the circumvallation. The height of the large mound is 2.25 meters ( $7\frac{1}{2}$  feet), and from the débris I infer that it was either two stories in height, or was raised on an artificial platform. The pottery is absolutely the same as that of the plain checker-board ruins, which are quite abundant, but not distinctly connected with one another or with the ruins of the other class. The population of these mound ruins cannot

have been much larger than that of the others. In the one near Cline's, I do not think that more than a hundred, if so many, could have found accommodation. The cells which the mound reveals are not larger than those of the usual small house type, and there is but one, on the northeastern corner, which shows unusual dimensions. I am not sure whether this was not partitioned off originally.

The type of village which includes a larger and more substantial structure, indicated by a mound-like ruin, grows more conspicuous as we ascend the course of Tonto Creek. It may be said to prevail in Tonto Basin, which lies on the northern course of the stream, and extends along the northern base of the Sierra Ancha. On the west side of the stream, at Old Fort Reno, I measured two good specimens, the largest of which is given on Plate I. Figure 53. It is especially interesting on account of the manner in which the artificial platform is clearly shown. The platform supports two clusters of small houses very distinctly traceable. Tall mezquites have grown on the ruins, and the southeastern corner of the enclosure that surrounds the whole is formed by houses, two of which also stand on elevations, or at least form elevations rising above the surrounding level.

I will sum up the characteristics of aboriginal architecture of Upper Salt River with what I wrote to the Institute in 1883. After mentioning the checker-board villages, I said:—

“ Besides small and low mounds, every village contained, if of any reasonable size, a larger and higher eminence, sometimes in the centre, sometimes towards one of the sides. This feature develops itself very prominently as soon as Upper Salt River is reached, and the lesser mounds decrease correspondingly.

“ On Tonto Creek there is a very striking kind of ruin, consisting of a high mound in the centre, enclosed by a

broad quadrangular wall, while transverse walls connect this enclosure with the central hill. A few small buildings still cling to the inside of the circumvallations and of the inner courts, and the large enclosure seems to have absorbed all the others. From this point on, this is the typical ruin, isolated houses of course excepted, with only a difference in the number of small buildings and in the position of the mound, which sometimes stands on the side, or in a corner of the whole cluster. . . .

“But this central building, into which in some cases all the dwellings have merged, cannot compare in size with the communal house. The largest mounds which I have measured show, along the well defined lines of foundations, perimeters of 131.2 meters in an L-shaped polygon with re-entering angles, and 99.1 meters in a narrow horseshoe; the former is subdivided into twenty-nine, the latter into not more than twenty apartments. . . . There are indications that in some cases the house was erected on an artificial platform, as at Fort Reno; and the amount of rubbish indicates that in several instances the structures were two stories high. These facts have a double bearing. In the first place, they show that the population of one village sought to live together in one building with comparatively large rooms; and secondly, they prove beyond a doubt that even the largest village communities were small in population, — for the most extensive, counting one room to each family and adding a corresponding number for the few outlying structures, could not have sheltered three hundred people each. . . .

“From concurrent testimony, I conclude that this is the character of the ruins of the Tonto Basin and of the Upper Verde River. It certainly prevails south of the Lower Gila as far as the Southern Pacific Railroad, with some not unimportant modifications.”<sup>1</sup>

<sup>1</sup> *Fifth Annual Report*, p. 64.

The Masasar range is not very high; the highest of its four peaks only rises to 8,666 feet.<sup>1</sup> But as the distance from Tonto Creek bottom is only about ten miles, and the latter lies nearly six thousand feet lower, the ascent is quite steep. In the upper slopes of the chain there are sacrificial caves, and I have also heard of enclosures; but the first ruins which I saw, after crossing the crest from Old Fort Reno, were in the Sunflower Valley on a hill of lava and trap densely overgrown with thorny plants. They consist of a central mound with quadrangular circumvallation, the usual enclosures, and smaller mounds denoting outlying dwellings, with pottery, etc., of the general type. At Otero's, farther west, another ruin stands on a bald hill. It is much obliterated, still I noticed a mound measuring 36.5 meters (120 feet) by about 7 meters (23 feet). Very faint traces of stone enclosures appeared in various places. What I saw of potsherds belonged to the plainest and crudest kind, but, even these were very few in number, and most of the lighter objects scattered over the surface had been washed away.

Beyond Otero's Ranch the descent to the banks of the Rio Verde begins. "Sugar-loaf," a towering rock, rises on the south side of the road, with its northern front almost vertical, and certainly inaccessible; the only ascent possible is from the south, where a steep acclivity, overgrown with dangerous "Choyas," affords means of reaching the top. There is permanent water at the foot of this cliff, and I was informed that ruins exist on its summit; but I failed to find them, unless they consist of rudely piled up circumvallations. It may be that Sugar-loaf was used as a temporary place of refuge.

Thence on to the banks of the Rio Verde sandy terraces extend, covered with every imaginable species of monstrous cactuses, tall mezquites, Mimosaceæ, and *Parkinsonia Tor-*

<sup>1</sup> According to the United States Geographical Survey.

*reyana* (the leafless *Palo verde*); the distinctive forms of the Southern Arizonian flora dot the white ground, and the temperature is frightfully hot even in May. The Rio Verde at Fort McDowell is a beautiful stream, emerald-green, enclosed by dense thickets and shaded by cottonwoods. The post stands west of the river on the first terrace above the bottom. The soil is sandy, and the vegetation bears the same character as on the east side. The temperature at the post in the afternoons from the 2d to the 13th of June varied between 102° and 108° in the shade. Low mountain ranges covered with scrubby vegetation skirt the western horizon.

The ruins around Fort McDowell lie on the terraces above the river, and those on the west bank are of the circumvallated mound type; but in some the walls of the central house are of a coarse adobe. In the ruin near the post, however, and in another one two miles south of it, the walls are of stone. (See Plate I. Figures 56 and 57.) There are also mounds of white marly rubbish, quite low and flat, but still showing that they once were houses. These mounds, from their material, belong to the class of ruins that prevail on the Lower Gila and Salado Rivers. I saw some lava implements, many broken metates, and a little pottery. The latter resembles the earthenware made by the Maricopa, Pima, and Pápago Indians of to-day, that is, it is coarse and poorly decorated with reddish lines. Still I also found some of the ancient kind, white and red, with black decorations of the Pueblo pattern. On the west sides of the Rio Verde, near its junction with the Salado, I measured two ruins of the plain checker-board pattern, without the central mound. The ground there is different from that higher up and on the opposite side; the mountains approach the river banks, and the surface is gravelly. Hence the material used in building was rubble instead of adobe.

Remains of ancient irrigating ditches are quite common



about Fort McDowell. I examined, among others, one of them north of the post, and found that, while it was quite long, its length was due in a great measure to the fact that its builders had simply followed the natural trend of the surface in order to avoid both cutting and filling. It makes great detours, clinging to the tortuous slopes as much as possible, so as to preserve the inclination without raising embankments. It is a piece of workmanship that, while certainly ingenious, places the skill of its makers on quite a modest level. I have heard of acequias as long as twenty miles, and have no reason to doubt the truth of the statement. In the manner indicated, it was easy to construct shallow ditches of great length. The width of the acequia is still 3.1 meters (10 feet) and the depth a little over two feet.

In addition to these canals, artificial tanks begin to appear in the neighborhood of Fort McDowell, differing from those on the Upper Gila; they are elliptical, and the rim is formed of stones, or by an embankment of earth of considerable thickness. But all these features are more nearly obliterated here than farther south, on the Salado and the Gila, near Tempe, and at Casa Grande. As the material is the same on the Rio Verde and on the Gila, greater age of the ruins on the former would seem to be the safest explanation.

I was informed by Mr. Walker, at Casa Grande, that the Pimas claim all the ruins north of the Gila to the Ka got, or "Superstition range," as those of their own people. They say that a son of "Civ-an-o," the chief to whom they attribute the construction of the Casa Grande, settled on the banks of Salt River, but that on the Rio Verde there lived a different tribe, with whom their ancestors were at war. The Pimas also state that the ruins with walls of stone are not those of their ancient settlements, and they call them "O-ot-kom Vat-ki," gravelly ruins. As their own

pueblos formerly extended to the junction of the Rio Verde with the Salado, it would seem that the buildings near Fort McDowell stood near the limits of two tribal ranges, and were therefore more exposed to assault, when the two groups were at war with each other. There certainly is some historical truth in these fragments of folk-lore.

Higher up the Rio Verde, ruins of the mound type are said to occur in places, and it is known that near Fort Verde interesting aboriginal remains exist, but not having penetrated to that region, I cannot give any details about them. Cliff and cave dwellings have been discovered in the picturesque volcanic basin, with precipitous walls, called Montezuma's Well. West of the Rio Verde, I am informed, the ruins gradually grow fewer, and finally disappear near the 113th meridian. It may not be amiss, therefore, to designate that degree of longitude as the approximate western limit of aboriginal ruins in Arizona. More thorough investigations may subsequently modify this assumption.

I now come to the important region which is known as the delta between the Lower Salado and the Gila, often called the valley of Tempe, and one of the most remarkable sections of the Southwest. This delta lies twenty miles south of Fort McDowell, and is bounded by the Salado in the north, the Gila in the south, and in the east or northeast by the arid mountains called Superstition range. A level plain, about fifty miles from east to west and twenty-five from north to south, in the shape of a triangle, sandy and unprepossessing in appearance, forms the surface of this delta. In its virgin condition it was covered by the usual thorny vegetation, and colossal zahuaros dot it in every direction. Along the banks of the Salado barren ridges extend in places. Beyond Tempe these ridges close in upon the stream, leaving but a comparatively narrow strip, but after a few miles they recede again

on the north side, and the fertile valley of Phœnix appears like a western addition to the plain.

The altitude of Phœnix is 1,068 feet, that of Florence (or the southeastern corner of the delta) 1,553, so that the fall in a distance of fifty miles is nearly five hundred feet. The Salado flows at a higher level than the Gila, and it also carries a larger volume of water. The settlers of to-day have improved these conditions, not only by constructing canals parallel to the course of both streams, but across the delta from one river to the other, so as gradually to bring every foot of the surface under irrigation. The soil is extremely productive whenever moistened, and as the rainfall is uncertain, and on an average slight, artificial irrigation is indispensable. There are sections on the south bank of the Gila where two years may elapse without rain, except what falls on the mountain crests. There is no evidence that these conditions have changed within the period of sedentary habitation. Everything, on the contrary, points to the fact that the ancient dwellers in this country had recourse to the same methods as those of to-day, but on a scale and with mechanical means proportionate to a lower degree of civilization. Ancient irrigating ditches are frequent, and of considerable size. They run mostly parallel to the streams, but transverse acequias have also been discovered. I refer to the Preliminary Report of Mr. F. H. Cushing on the work done by him for the Hemenway Expedition for more complete details on the ancient irrigation system in the vicinity of Tempe.<sup>1</sup> I investigated one of the artificial channels a few miles west of Tempe. The width of the channel of this irri-

<sup>1</sup> *Preliminary Notes*, p. 168: "These canals in the Salado and Gila valleys were found to vary in length from ten to eighty miles, and in width from ten to eighty feet, with a depth from three to twelve feet. Each canal, whether large or small, was found on excavation to have been terraced, i. e. the banks of dirt thrown out in its excavation had formed, as it were, a greater canal containing a

gating ditch is 4.5 meters (15 feet); its length, as far as I could ascertain, about twenty miles. The borders where I saw it are slightly raised, and the whole shows nothing very marvelous. The soil is so movable that it was comparatively easy for a tribe that does such work by communal labor to open it with the aid of shovels of hard wood, such as the Pimas claim were used by their ancestors in tilling enclosed garden plots, to remove the soil with baskets, and afterwards keep the acequia in repair. Among the Pueblo Indians of to-day such works are communal enterprises, carried on by all the men, and sometimes also by the women, of the village, and performed at stated times. The same system was practised by them before the advent of Europeans, and before they had any knowledge of metal tools. In the region of Tempe and Phœnix the conditions were, to a certain extent, more favorable than on the Rio Grande, on account of the lightness of the soil. There is said to be a long and wide ditch near Tempe, part of which is reported to be cut through solid rock, but I have not seen it, and I have so often been told of similar marvels, which upon inspection dwindled down to quite modest proportions, that until it is proved by careful investigation that the cut is really artificial, and not merely a natural one artificially widened in places, I must take such statements with a great deal of reserve.

In addition to ditches, tanks, mostly elliptical and encompassed by solid embankments of earth, are of frequent occurrence. I always found them in the vicinity of ruins of settlements, and more or less distinctly connected with ancient canals.

What I am about to say may expose me to the criticism **lesser, which in turn contained yet another. . . . I have said that these canals, reservoirs, and other ancient water-works, so levelled and filled had they become in the course of centuries, were scarcely traceable above the surface of the ground."**

of attempting to depreciate the importance of aboriginal remains in the region under consideration. Whatever may have been stated as to the extent of the ancient settlements between the Salado and the Gila, and on both banks of these streams, I am satisfied that, while there are a great number of clusters of substantial buildings, there is nowhere any important aggregation representing a population locally large. Two classes of dwellings have been noticed, one of which is a many-storied or one-storied edifice, sometimes artificially raised, but nowhere equal in size to the communal pueblos of the north. The other is thus described in the words of Mr. Cushing: —

“The foundations of thin-walled, usually somewhat rounded huts, outside of the walls surrounding communal dwellings, scattered indefinitely and apparently without system, particularly around the outer borders of each city, and designed for occupancy by a distinctive ultra-mural — one might almost say ultra-urban — population; as shown by the fact that they were not, as are the scattered farm huts of Zuñi-land, occupied in summer merely, but in winter as well; as signified by the occurrence in each of a central hearth or fire-bowl, like those of the regular houses within the city.”<sup>1</sup>

These round structures, of which only the foundations were found, are those of more modern Pima huts. It is well known that the latter are round, and that their covering is semi-globular, like the well known roof of beams, poles, brush, and earth found in all the pueblos and ancient ruins, with the difference that, instead of being horizontal, the modern Pima hut is bent in the form of a cupola so as to be used as a wall as well as a roof. This cupola rests on a ring made of earth, and this ring remains like a foundation when the superstructure decays and gradually disappears. It is also known that

<sup>1</sup> *Preliminary Notes*, p. 175.

at the close of the seventeenth and in the beginning of the eighteenth century, when the country of which I speak was first visited by the Jesuits, quite a number of Pima settlements were found, which have since been abandoned, their inhabitants removing to other sites.<sup>1</sup> What may, therefore, be

<sup>1</sup> I refer to the report of Father Franciscus Eusebius Kuehne, appended to the *Luz de Tierra Incognita*, and entitled *Relacion Diaria de la Entrada al Noroeste que fué de hida y buelta de 309 leguas desde 22 de Setiembre hasta 18 de Octubre. Descubrimiento del Desemboque del Rio Grande á la Mar de la California y del Puerto de Sta Clara, 1698*. Previous to that date Captain Matéo Mange had already written a description of his trip with Father Kuehne to the Gila and Casa Grande in 1697. It is published in the third series of *Documentos para la Historia de Méjico*, under the somewhat misleading title of *Relacion del Estado de la Pimeria, que remite el Padre Visitador Horacio Polici, por el año de 1697*, vol. iv. p. 804. More definite are the reports of 1740 (*Noticias de la Pimeria del año de 1740*, *Ibid.*, p. 838): "En el Rio Gila hay tanta multitud de gente Pima, que hay quien asegure que en sus riberas seve tanta y mas que la que hay en el Rio Hiaqui, y esta gente está poblada Rio Abajo, sin duda hasta el mar, porque rio arriba á distancia no hay muy larga." The most explicit, however, of all the explorers is Father Jacob Sedelmair in 1745, in *Relacion que hizo el Padre Jacobo Sedelmair de la Compania de Jesus, Misionero en Tubutama, con la Ocaasion de haber venido á México por el mês de Febrero del año de 1746, á solicitar operarios para fundar Misiones en los Rios Gila y Colorado, que habla Descubierto en dos entradas que hizo á la Gentilidad al norte de su Mision* (*Ibid.* p. 849). It follows from all these authorities that in the past century the Pimas were scattered about the Gila on both banks in numerous small settlements, and also in all probability north of the Gila towards the Salado. In 1775, Father Garcés mentions at least four "rancherías" of Pimas near Casa Grande: "Salieron á recibirnos los Pimas Gileños de resulta del recado de ayer, esto es, su gobernador de las rancherías llamadas Aquituni y Cuitoa. El de Utitluc con su alcalde acompañados tambien del gobernador de Sutaquison y otros muchos Indios á caballo . . . En este pueblo de Sutaquison se acaba la nacion Pima del Rio Gila, la que en el distrito de cuatro leguas tiene cinco pueblos, es á saber: San Juan Capistrano de Utitluc, San Andrés de Tubuscabors Atison, San Serafino del Napcub y la Encarnacion de Sutaquison, compondrán como 2,500 almas. Todos estos pueblos hacen grandes siembras de trigo, algunas de maiz, algodón, calabazas y otras semillas, para cuyo riego tienen formadas buenas acequias, cercadas las milpas con cerco comun, y divididas las de distintos dueños con cercos particulares." *Diario*, pp. 232, 235. These statements of Father Garcés may even tend to explain the great number of irrigating ditches on the Delta and the Gila; many which now appear ancient may yet prove to be only two or three centuries old. At all events, it tends to show that the Pimas, even in the past century and before, had not abandoned certain ideas of culture which distinguished them from the

regarded as absolutely ancient are the groups of larger build ings, and these groups are always at some distance apart, — enough to establish that each group formed a separate vil- lage. It follows, therefore, that the conception of extensive cities is not applicable here, and it is very doubtful whether the ruins were contemporaneously inhabited. Lastly, it is by no means certain that a common tribal bond united the groups that were contemporary and contiguous. We know, on the contrary, that most of the pueblos inhabited at the time of Columbus formed autonomous communities, and that a con- federacy for mutual assistance in peace and in war repre- sented the most advanced conceptions of the natives beyond the tribal cluster. This applies to villages situated on the same irrigating ditch; Tenochtitlan and Tlatelolco used the same acequia and were contiguous, yet they were indepen- dent of each other for a long time.<sup>1</sup> Where irrigation works of such great length as those on the Gila and Salado were possible, their opening may have been the work of two or more independent pueblos, just as to-day San Idefonso and Santa Clara have one of their ditches in common. Such community of public works results from linguistic ties and from the nature of Indian social organization. It does not exclude autonomy, and it is and has always been a fruitful source of dissensions, even of warfare.

I repeat here that nowhere was I able to discover distinct

wilder tribes around them. Arricivita, *Crónica Seráfica y Apostólica*, lib. iv. cap. iii. p. 463. "Hay en solo este corto distrito cinco pueblos, que tienen como dos mil y quinientas almas: hacen grandes sementeras de trigo, maiz, algodón, calabazas y otras frutas, para cuyo cultivo tienen con buenas acequias, cercadas sus milpas; y andan vestidos con mantas que hacen ellos de algodón ó de la lana de sus ovejas"

<sup>1</sup> Tezozomoc, *Crónica Mexicana*, cap. xli.; Tobar, *Relacion del Origen de los Indios que habitan esta Nueva España segun sus Historias*, p. 69; Duran, *Historia de las Indias de Nueva España*, cap. xxxii. p. 257; and many other authorities.

traces of the estufa. Mr. Cushing declares that he found it.<sup>1</sup> We must therefore await the publication of his final report before asserting or denying anything on this point.

The artificial objects associated with the ruins agree with those of Pueblo culture in general, as is abundantly corroborated by the magnificent collections made by the Hemenway Expedition under Mr. Cushing's direction. The pottery is not at all different from that of the Salado, Upper Gila, and Fort Apache, local differences always excepted.

Part of Tempe stands on an ancient village, but the destruction is such as to render it difficult to trace the merest outlines. I saw some excellent stone axes which came from this site, of the type peculiar to the Southwest. On the plain southeast and south of Tempe stand several lofty mounds, but the ground is in private hands. These mounds showed houses several stories high, with thick walls. I transcribe here the description given by Mr. Cushing of the manner in which these walls were constructed: —

“The walls of all of these builings were found to have been constructed after an ingenious and heretofore undescribed fashion. Besides stone and hand- as well as basket-made

<sup>1</sup> *Preliminary Notes*, p. 165: “Usually contiguous, or, if far removed, at least adjunctive to these great central temples, were what I found occasion to name the ‘sun temples’ of the ancient inhabitants, where, as evidenced by the central hearth, by the floors elevated at the edges for the accommodation of spectators, and by other signs, the mythic sun drama and other sacred ceremonials must have been performed during winter; as well as wherein the esoteric societies gave their rare public exhibitions of mysterious feats or occult medicine powers.

“The smallest of these which we measured was fifty feet in width by nearly a hundred in length, another was not less than one hundred feet in width by more than two hundred in length. All were elliptical in shape, the sole traces of which looked like gigantic oval mounds from which the centres had been dug out.

“In this appearance they were almost identical with enormous oval reservoirs which occurred throughout the district, with the difference, however, that while the latter were usually lower, and open at one or both ends, the sun temples were almost always unbroken.”



adobe work used in the making of them (especially of the communal dwellings to be mentioned later), careful examination revealed along the outer and inner edges of the main walls numerous holes, containing the dust of decayed wood. This gave evidence that corresponding to the thickness of a proposed wall rows of upright posts had been firmly planted, as further careful cutting into plastering on these walls determined these had been fastened together, both laterally and horizontally, and transversely by means of poles and sticks lashed to them. This wall-like form or framework had then been wattled on both the outer and inner sides with canes, adobe mud, or in some instances a kind of concrete, had then been impacted within these great wall-frames, and heavy coats of plastering added to their outer and inner surfaces. Thus, when dried, a structure almost unparalleled in adobe-work for solidity and enduring qualities was formed.

“The inner walls of these buildings differed from the outer only in being less massive, that is, in having the two rows of border posts nearer together. The lesser partitions had, on the other hand, still less thickness, having been built up along a ‘core,’ as it were, composed of a single row of posts.”<sup>1</sup>

The walls of the houses in this region represent, therefore, something akin to “gabion” work, with the difference that, while gabions are round, here they are square or rectangular, tied to one another, and a number of rows superposed to give to the walls the requisite height.

It is difficult to determine how many stories the loftier buildings originally had. As many as seven have been attributed to them, but I hold this to be an exaggeration. The greatest number attributed to the Casa Grande by its earliest explorers is four,<sup>2</sup> and at present there are only three

<sup>1</sup> *Preliminary Notes*, p. 164.

<sup>2</sup> Mange, in 1697, says (*Relacion del Estado de la Pimeria*, p. 804): “Y aunque

visible above the surface of the ground. Whether some of the stories were built so as to be retreating or not, I am unable to decide. From the appearance of the third story in the Casa Grande, we might be led to infer that, while the two lower stories have an unbroken wall on all sides, the uppermost tier may only have occupied the central part of the edifice, and not extended over the whole. The rooms are higher and much more spacious than in the northern ruins; the doorways are higher and wider, and the apertures for light and air, while not deserving the designation of windows, are larger than those in northern communal houses, although not much larger than in some of the well preserved cliff dwellings. But the largest buildings cannot, as will be seen further on, compare in extent with the typical pueblo house. On the whole, the architecture of the Tempe delta and Lower Gila is only a higher development of that noticed on the Upper Gila and Upper Salado, and the change appears to be the result of natural causes. The country is much more favorable for the subsistence of an agricultural population, and the inducements for permanent settlement were greater, so that greater solidity of construction was the natu-

estos jentiles lo han quemado distintas veces, se ven los cuatro altos con buenas salas, aposentos y ventanas curiosamente embarradas por dentro y fuera de manera que están las paredes encaladas y lisas con un barro algo colorado." Sedelmair, *Relacion*, p. 847: "La una de las Casas Grandes es un edificio grande, el principal cuarto del medio cuatro altos, y sus contornos de los cuatro lados de tres." *Description Geográfica natural y curiosa de la Provincia de Senora*, 1764, (the same as the "Rudo Ensayo," in third series, p. 503,) says: "Tiene dicha casa cuatro altos que están en pié aun." Father Pedro Font, who visited and measured the Casa Grande in 1775 in company with Father Garcés, says (*Notice de la Grande Maison dite de Moctezuma*, in *Cibola*, Appendix, p. 386): "Enfin on reconnoit que l'édifice avoit trois étages; si ce que disent les Indiens est vrai, et à en juger par des indices, il y en avoit quatre, en comptant un étage souterrain." Arricivita, *Crónica Seráfica*, p. 462: "Se conoce que la casa tenia tres altos, y acabo serían de madera. y se destruirian en la quemazon que de ella hizieron los Apaches." Mr. John Russell Bartlett (*Personal Narrative of Incidents*, vol. ii. p. 272, 1851) saw only three stories.

ral result. The material at hand most convenient and most practical was adobe, which does not admit of being raised with frail walls. The climate, moreover, is such as to render the assembling of a number of families in buildings with small cells uncomfortable and detrimental to health. Hence we have smaller edifices, but larger rooms and better ventilation.

In my letter to the Institute published in the Committee's Report of 1884, I referred to artificial mounds, resting on artificial terraces, which I found both at Tempe and at Casa Grande.<sup>1</sup> It has since been stated that these mounds were houses, and not solid masses of earth, as I supposed. With due respect to the source from which such statements have come, I would still adhere to my original opinion, until excavations made in the same localities of which I speak, and on the same ruins, reveal the existence of chambers. At the great mound, about three miles west of Tempe, clefts cut into the mass to a considerable depth, as they do into the so called Pyramid of Cholula, and I noticed that the mound was one solid mass, while the lines of foundations on the surface, and smaller mounds rising from them, indicated that the artificial eminence had originally supported buildings on its summit.

After these preliminary observations I turn to those ruins which I have personally investigated. My attention was first directed to the great mound situated a few miles west of Tempe, on the north side of Salt River.

That mound (see Plate I. Figure 58) forms the southwestern corner of a quite extensive group of ruins situated north of the road from Tempe to Phœnix. Clusters of the checker-board pattern, with foundations made of rocks, and little hillocks indicating houses, are scattered about it,

<sup>1</sup> *Fifth Annual Report*, p. 66.

chiefly to the east. I could not determine whether the large mound was directly connected with these clusters, or whether the latter formed one complex or not. Still they are in such close proximity that an original connection appears likely. The pottery is alike on the mound and on the smaller clusters. It is mostly coarse, with a sprinkling of painted fragments resembling the oldest types. About a hundred meters south of the mound are the vestiges of an ancient acequia, which is at present not over 4 meters wide and barely 0.75 m. (34 inches) deep. The mound presents a triple elevation. First there is a platform about 1.6 meters ( $5\frac{1}{4}$  feet) high, along the rim of which ran a wall with an edifice, now reduced to rubbish. In its northwestern corner, at distances varying from  $16\frac{1}{2}$  to 3 meters (55 to 10 feet) from the edge of the platform, rises the mound itself to a height of 3.2 meters ( $10\frac{1}{2}$  feet). Its sides are steep, and it is easy to see, where the interior is exposed, that it is a solid mass of earth, and not a building with rooms. Furthermore, the level on which the lower platform rests lies very little, if any, above that of the ancient irrigating ditch near by. I do not hesitate, therefore, to regard it as a solid mass raised on an artificial platform. The top of the mound bore a cluster of mounds and enclosures, a checker-board village on a small scale.

It will be remembered that the artificial platform already appears on Tonto Creek, and perhaps on the Upper Gila also; at Tempe it assumes a greater degree of perfection, as does the mound. The latter resembles the rectangular truncated pyramids of Mexico, with the difference that it is wholly of earth, and that its height is inconsiderable. Why the natives should have resorted to this kind of structure here and on the Upper Salado, and why only in certain cases, is a matter which I must leave for discussion to a later portion of this chapter.

There are ruins farther west, but I have not visited them. The plain between the Salado and Gila south of Tempe also contains numerous ruins. Here the Hemenway Expedition made its first researches, and the forthcoming report on its work relieves me from the need of detailed allusion to the remains disseminated over that section. I traversed it rapidly, catching a glimpse of the huge mounds at Mesa City, and crossed to the south side of the Gila at Agua Dulce.

Nature is the same there as on the north bank. As far as the eye reaches, it meets only whitish expanses dotted by a strange vegetation, except along the horizon, where rugged mountains obstruct the view. On the north side of the Gila rise the formidable cliffs of the Superstition range. Above it tower the four craggy peaks of the Masasar range. In the south, the mountains appear even more desolate; their profile is sharp, and they form well individualized clusters. It is frightfully hot on the banks of the river, but cottonwoods and other leafy plants shade its course. The volume of water is usually inferior to that of the Salado. In this section sometimes more than a year elapses before a shower reaches the bottom lands, but on the mountain crests and slopes thunder-storms occur daily during the rainy season. The gulches and rills descending from the heights forthwith carry the rain-water down to their foot, and sometimes as far as the first tier of terraces above the Gila. The Maricopa Indians take advantage of this to irrigate their fields by means of these mountain torrents, and, as already observed, the ancient inhabitants on the Upper Gila, and at other places, did the same. This accounts for the old irrigating ditches running at right angles to the course of the rivers.

Along the Lower Gila the ruins are easily noticed at a distance. They loom up as white mounds, which upon approach show traces of pottery, and sometimes protruding walls of

adobe. One of these mounds is situated about one mile west of Agua Dulce, with several smaller ones around it. Such clusters are numerous, and sometimes close together; still they were distinct settlements. They indicate a number of villages, most of which were of small size, stretched along the river and also scattered at greater intervals to the south of the Gila valley. Occasionally a ruin is met with of greater extent than the rest.

Six miles west of Agua Dulce stands the "Casa Blanca." What I surveyed of this prominent cluster is a mound, with surrounding wall. Upon examination I came to the conclusion that it was a ruined house several stories high, the walls of the upper story of which can be traced on the surface. Their thickness is 0.50 m. (20 inches) and they are of the usual white adobe. The circumvallation is of the same material. The building stood on an eminence, and a good view is enjoyed from it. A short distance below begins the Gila bottom, with its thickets and cottonwood groves. The Pima Indians have a village near by, so that I could not investigate further; but it appeared to me that the ruin was not the only one on this site, but that the ancient settlement had been composed of at least several buildings, of which the one measured was probably the most considerable.<sup>1</sup>

The circumvallations have as a rule one or more smaller structures along their inside, which peculiarity is also found on Tonto Creek and on the Rio Verde, and is most strongly

<sup>1</sup> The distance from Casa Blanca to Casa Grande is about thirty miles; it is not unlikely therefore that the two edifices which Father Sedelmair mentions as still in existence, twelve leagues west of Casa Grande, were those of Casa Blanca. He wrote in 1746, having visited the Lower Gila two years previously (*Relacion*, p. 847): "Como doce leguas mas abajo hay otros dos edificios con otros menores á su contorno y acequia." The statement that, in 1744, there were still two houses standing with several smaller ones around them, is significant of the rate of decay of these ruins built of friable adobe.

marked at Casa Grande. Casa Grande is, as I have elsewhere stated, an important monument. "Its situation has nothing to distinguish it from other ruins; but some of its buildings are intact, and others enable us in their ruined state to explain the present condition of other places. In short, the Casa Grande shows every degree of decay, every kind of structure, which the ancient villages of that region exhibit."<sup>1</sup>

The distance between Casa Grande and Casa Blanca is about thirty miles. Opposite Zacaton, where the Pima agency is located, there is a ruin on the north bank of the river, the foundations of which are of stone, and not of adobe, like those on the south bank. The reason for this becomes apparent when we consider the location. Steep and rugged heights approach the banks of the stream from the north, and the expanse between them and the Gila has only a thin crust of soil. Hence the material for making adobe walls was lacking, and stone was resorted to for construction. Eight miles northeast stands another ruin, but on a level of greater area, the soil of which is similar to that on the south bank. Accordingly this ruin is a shapeless mound, showing that the building was originally of adobe. Adobe walls, when they begin to crumble, turn almost to dust, and the ruin appears like a natural hill, in the interior of which partitions remain intact and are revealed by the most superficial excavations. The rubbish fills the rooms, so that in many cases artificial objects remain well preserved within. From the ruin last mentioned I saw a handsome clay urn painted yellow, with red decorative designs. Similar potsherds were scattered over the mounds at Casa Blanca. The jar was found to be sealed with a composition of mezquite gum and clay, and after this cover had been removed the interior was

<sup>1</sup> *Fifth Annual Report*, p. 67.

found to be filled with minutely broken human bones, every part of the skeleton being represented. Of the burials on the Tempe delta Mr. Cushing speaks as follows:—

“It was, as I have said, in the course of investigating one of these latter mounds, that I ascertained they were what I found it expedient to term ‘pyral mounds,’ since on their sites, for generations evidently, had been burned a certain class of the dead of these cities, together with their numerous funeral sacrifices. Usually at the southern and western bases of these mounds were found great cemeteries containing from twenty to two, three, and even four hundred incinerary urns.

“The same excavation which revealed these features of a pyral mound also revealed the contiguous enclosing wall of what proved to be a typical, very extensive, many-roomed dwelling. Not only from the discovery of totemic devices and forms of pottery, of which each one of these great blocks of dwellings contained always a distinguishing few, but also from the fact that each had outside of its enclosing wall its own pyral mound, its great underground communal oven, and its still greater reservoir fed by a special branch of the larger city viaducts or canals, it was inferable that each was the abiding place of a particular clan or gens.”<sup>1</sup>

Elsewhere he says:—

“First in the temples, in what remained of the second and third stories, afterwards in the enclosed communal buildings, we found sepulchres. Those in the temples were built of adobe, shaped like sarcophagi. These had in turn been carefully walled in and plastered over, in order that the living-rooms that contained them might still be occupied. Amongst other evidences of this were two instances in which these adobe burial cases or sarcophagi had been let into

<sup>1</sup> *Preliminary Notes*, p. 167.



the main central wall, by cutting nearly half-way through the latter, then plastering, in order that space in the living-room might be thereby economized; in yet another instance, the remains of a child were found wholly enclosed in a niche which had been excavated in the same central wall, near the floor.

“The interments in the surrounding walled communal dwellings differed from these latter only in that they were usually placed beneath the ground floors, sometimes in simple excavations sealed over with plaster, sometimes in carefully made rectangular cuttings, the bottoms and sides of which had been more or less thickly and carefully plastered and impacted. There were here also occasional instances of economizing in the space of the living-rooms, whenever in fact the dead had been buried above or on a level with the floors. In such cases cuttings large and high enough for the reception of the bended legs elevated at right angles to the reclining bodies had been made in the walls, and sarcophagi built out therefrom corresponding in length to the length of the body from the hips headward.

“In both the temples and the communal dwellings nearly all little children, the remains of whom were found, occurred in graves or sepulchres disposed about the hearths of the kitchen, or cooking-rooms.

“Frequently double, and in three instances treble, burials were encountered. The latter will help to explain the former. In one case, as admirably observed and reported by Dr. Wortman, the lowermost or first interment was that of a young woman; the next, superimposed, that of a youngish or middle-aged man; the last, and nearest the surface, that of an old woman. Both the young woman (first burial) and the old (last burial) had suffered from a peculiar disease which affected the bones; and which, as shown by my observations of certain families in Zuña, was often transmis-

sible by heredity. Apparently then the two women were related, if not indeed sisters to each other. The skeleton of the man, however, showed no sign of disease; hence it was inferable that he was unrelated to the women buried with him by any other than marital ties. Judging of this case by Zuni marital institutions, the young woman was the first wife of the man. She dying, he married, according to well known primitive custom, her sister, who, surviving him by many years and remaining unmarried, had been buried with him, as he had been buried with his first wife. . . .

“All of the skeletons, especially of adults, were, as a rule with few exceptions, disposed with the heads to the east, and slightly elevated as though resting on pillows, so as to face the west; and the hands were usually placed at the sides, or crossed over the breast.

“With nearly all were paraphernalia, household utensils, articles of adornment, etc. . . .

“On the other hand, it was found that outside of the communal dwellings, usually at the western or southern bases of the pyral mounds, occurred extensive cemeteries. Each burial consisted of a vessel, (large or small, according to the age of the person whose thoroughly cremated remains it was destined to receive,) together, ordinarily, with traces of the more valued and sacred articles of personal property sacrificed at the time of cremation. Over each such vessel was placed either an inverted bowl or a cover, roughly rounded by chipping, of potsherds, which latter in most cases showed traces of having been firmly cemented by means of mud-plaster to the vessels they covered. Again, round each such burial were found always from two to three or ten or a dozen broken vessels, often indeed a complete set; namely, eating and drinking bowls, water jar and bottle, pitcher, spheroidal food receptacle, ladles large and small, and cooking pot.

Sometimes, however, one or another of these vessels, actually designed for sacrifice with the dead, was itself used as the receptacle of his or her remains. In every such case, however, the vessel had been either punctured at the bottom or on one side, or else violently cracked, in what I may call, from my knowledge of Zufi customs, was the process of killing it. In and around all such vessels thus broken for sacrifice with the dead, were the remains of other articles, — the nature of which depended always upon whether the person interred was man or woman, girl or boy, — showing traces of having been burned in the same fires as that which burned these dead.

“As was the case in the temple and house burials, so here were occasionally, though much more rarely, encountered double burials, that is, the remains of two adults were found placed in a single incinerary urn, and likewise, so far as could be judged from their much calcined and broken remains, these double burials included the bones of both male and female persons.”<sup>1</sup>

Leaving aside the other details and explanations furnished by Mr. Cushing, however interesting and valuable, I shall only add that the urn found northeast of Zacaton may perhaps in this case indicate a third kind of burial. This isolated instance, however, proves nothing about the possible extent of such a custom. As far as the burial methods in houses, mentioned by Mr. Cushing, are concerned, it is well to note here that in the excavations which he afterwards made at the old pueblo of Halona near Zufi, many skeletons were found buried in the rooms. The house burials at Tempe are therefore no exceptional feature.

I have copied thus extensively the remarks of Mr. Cushing for the reason that his explorations were conducted on a larger scale and with larger means than any other in the

<sup>1</sup> *Preliminary Notes*, p. 169.

Southwest, and that the volume from which I transcribe them has not been extensively circulated in this country. We must, however, wait for his final and detailed report, before we can judge of the decisive importance of the above statements. As he himself says, the paper in which the above extracts are embodied had to be prepared with great haste, to which I can bear testimony, as well as to the great difficulties resulting from ill health on his part.<sup>1</sup>

Between Zacaton and Casa Grande the signs of ancient habitations, I am told, are quite numerous. At Casa Grande I could proceed to some explorations, although excavations were of course impossible.

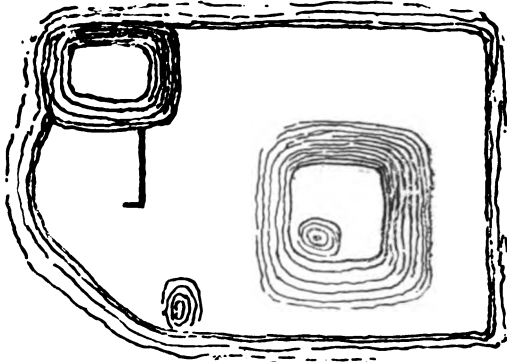
I refer to Plate I. Figure 59, for the general disposition and relative extent of the ruins. The whole area over which the ruins clustering around the "Great House" are disseminated is about nineteen acres; but they are divided, as will be seen, into two groups, separated by about one hundred meters, and the "Great House" stands near the southwestern corner of the southern group. As stated in my report of 1883, the northern group includes an artificial mound resting on an artificial platform, very similar to the mound at Tempe, and bearing on its summit the vestiges of buildings. As at Tempe, the platform has along its rim traces of a wall of circumvallation, and in its southwestern corner rise two lesser mounds, both of which were manifestly buildings.<sup>2</sup>

Of the Casa Grande, as well as of the mound in question, I subjoin ground plans on the same scale. My object is to show the similarity in disposition of both edifices. The Casa Grande itself does not rest on an artificially raised basis, but is built on a piece of ground naturally higher than the level

<sup>1</sup> *Ibid.*, p. 163. "By reason of the great haste with which this paper must be prepared, by reason also, alas, of the illness with which to the extreme of endurance I am oppressed while dictating it; brevity, system, logical sequence, and finish must be, to a large extent, sacrificed."

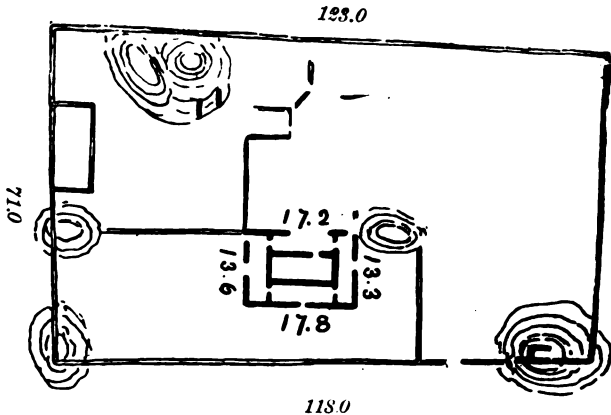
<sup>2</sup> *Fifth Annual Report*, p. 67.

of the northern group, and especially higher than the mound on the latter. But, allowing for these differences, the resem-



MOUND AND PLATFORM. — Scale, 1 inch = 40 meters.

blance is otherwise striking, and we may well ask, Why in one case was the building placed on the surface of the



PLAN OF CASA GRANDE, AND ENCLOSURE. — Scale, 1 inch = 40 meters.

ground, and why in the other did it require a double sub-structure? I have attempted to suggest an explanation in my letter to the Institute.

“Along the Lower Gila and Salado the copious showers which pour down on the higher mountains are conducted to the plain by ‘arroyos,’ which frequently flood the surrounding country for hours. The adobe of to-day suffers less from these sudden overflows; but the so called concrete of the ancient buildings cannot stand the gnawing effects of water at their base. The Pimas surround their permanent winter houses by semicircular ditches for the purpose of deflecting the currents. I have noticed that artificial mounds occur almost exclusively on the lowest side of each settlement. Even at Old Fort Reno the drainage is such that a sudden cloud-burst might have endangered the houses unless they were placed on a level raised above the ground. The mounds, therefore, seem to have been the product of local causes, and not a distinctive feature applied to a certain class of buildings like the Teo-calli of Mexico. In one and the same region there are ruins like the Casa Grande and Tempe, containing buildings on mounds and others on the level ground; other ruins where there are no mounds at all; and still others where the settlement is confined to a mound.

“I am therefore of the opinion that the mound building of this part of Arizona was a protective device, called forth by the peculiar conditions of drainage, which threatened structures resting on the natural level. I will add here that the artificial eminences are found at Pueblo Viejo, on the Upper Gila, along the whole route which I travelled; but that out of forty-seven ruins or groups surveyed by me I have met with only five where the mounds were very distinct. Four of these are on the Lower Gila and Salado, and one in the Sierra Masāsar. But at Pueblo Viejo and at San Carlos there are indications that some of the buildings also rested on elevated platforms.”<sup>1</sup>

<sup>1</sup> *Fifth Annual Report*, p. 72.

From this opinion I have still no reason to dissent, although the existence of artificial mounds on the Lower Gila and Salado has been denied. While heartily glad to be corrected in my views in case they should prove incorrect and based upon incomplete observations, I repeat them here, hoping that they may conduce to future exhaustive investigation.

The walls of the Casa Grande are unusually thick, measuring 1.22 m. (4 feet), and even the partitions 0.92 m. (3 feet). At the Casa Blanca their thickness is only 0.50 m. (22 inches), as already said, and in other ruins between Casa Grande and Florence, 0.92 and 0.60 m. (3 and 2 feet) were measured by me. In the houses which Mr. Cushing examined about Tempe varying thickness of the walls was, as he told me, also observed, and some of them were as wide as at Casa Grande. The considerable width of the walls of Casa Grande is therefore not an unusual feature.

The doorways are higher and wider than in northern ruins, so are the light and air holes. The roof and ceilings, as far as traceable, belong to the usual pueblo pattern, that is, they consist of round beams supporting smaller poles, on which rested a layer of earth. All the woodwork is destroyed except the ends of the beams, but I was informed that a few posts of cedar wood were still visible some years ago. Cedar only grows at some distance from Casa Grande, but this was no obstacle to the patient and obstinate Indian. I could not find any trace of stairways or ladders. It was remarked in the last century, that the Apaches were the destroyers of the woodwork in the building,<sup>1</sup> and something similar was told me; but to what extent this is true, I am unable to determine.

<sup>1</sup> *Notice de la Grande Maison dite de Moctezuma* (in *Cibola*, Appendix, p. 386): "Nous ne trouvâmes aucune trace d'escaliers; nous pensâmes qu'ils étaient de bois, et qu'ils furent brûlés lorsque les Apachés incendièrent l'édifice." This was written by Father Pedro Font, a Franciscan who accompanied Father Garcés in 1775.

Of the other shapeless mounds surrounding the Great House, or composing the northern cluster of the ruins, I am not in a position to say anything except that they indicate two-story edifices, long and comparatively narrow. Their size without exception falls short of the dimensions of northern communal pueblós, and, notwithstanding the extensive area occupied by the ruins, the population cannot have been large. I doubt whether it exceeded a thousand souls. Almost every inch of the ground is covered with bits of pottery, painted as well as plain, and I noticed some corrugated pieces. They all resemble the specimens excavated by Mr. Cushing from the vicinity of Tempe, and what I saw of those specimens convinces me that they belong to the class common to the ruins of Eastern and Central Arizona in general. There was among the potsherds which I picked up myself a sprinkling of pottery that closely resembled the modern ware of the Pimas and Pápagos; but as I had already noticed the same kind on the Rio Verde, and had been forced to the conclusion that they were ancient, I am loath to consider them as modern at Casa Grande. Of other artificial objects, I saw broken metates, and heard of the usual stone implements. The culture, as indicated by such remains, offers nothing at all particular.

The profusion of pottery scattered far beyond the area covered by the buildings has caused the impression that the settlement was much larger than I have represented it to be; I have, however, no reason to modify my opinion. I have already stated that clusters of ruins are numerous about the Gila, and at no great distance apart. Intercourse between these settlements, if they were contemporaneously inhabited — of which there is as yet no proof — must have been frequent, and the winds and other agencies have contributed towards scattering potsherds over much larger expanses than



those which they originally occupied. The acequias which run parallel to the Gila in this vicinity, and of which there are distinct traces, are usually lined with pieces of pottery which leads the untrained observer to draw erroneous impressions.

On the southwestern corner of the northern group of the Casa Grande cluster stands the elliptical tank which is indicated on Plate I. Figure 59. Its greatest depth is now  $2\frac{1}{2}$  meters ( $8\frac{1}{2}$  feet), and the width of the embankment surrounding it varies between eight and ten feet. A large mezquite tree has grown in the centre of this artificial depression. As the tank stands on the southwestern extremity of the northern, and not one hundred meters (three hundred feet) from the southern group, it was probably common to both.

Between Casa Grande and Florence the distance eastward is nine long miles, and the country shows no change. Several ancient irrigating ditches are seen on the road, some of which are quite deep. Nowhere did I notice any trace of a lining or casing, as at Tule; the raised banks or rims seemed to be only of the soil. Ruins in scattered clusters are numerous, all of the same character. In one place I found an elliptical tank almost as large as the one at Casa Grande, and presenting a similar appearance. Wherever walls protruded, the material was the same, only thinner. This may be due to the fact that they were merely partitions, and that I nowhere could measure the outer ones, which have crumbled. In short, from Casa Blanca in the west — and probably some distance beyond — a line of ruins extends to east of Florence, and probably as far as Riverside, or a stretch of more than sixty miles. These ruins, however, do not reach very far inland, although some are scattered throughout the Papaguera.

At this day Casa Grande shows two stories with vertical walls on all four sides, and from the centre rises a third story like a low tower. Whether the latter originally extended over

the whole building or not, I am unable to determine. As this question is related to the early historical notices concerning the edifice, I shall briefly refer to them here.

The discovery of Casa Grande seems to be due to the celebrated Jesuit, Eusebius Franciscus Kuehne (better known as Father Kino), who heard of the Casa Grande in 1694 and visited it in the same year.<sup>1</sup> But the earliest description is due to Father Kino's companion, Captain Matéo Mange, and dates from three years later, when the latter accompanied the missionary on his second visit. The building is described as being four stories high.<sup>2</sup> The Franciscan Father Font, who visited it in company with Father Garcés in 1775, declares that the Casa had three stories, but that, if what the Indians stated was true, there must have been four, one of which he judged may have been subterranean.<sup>3</sup> This agrees perfectly with the present condition of the Great House. Father Jacob Sedelmair, who saw the house in 1744, speaks of four stories, and also of twelve other structures around it still partly intact, but lower than the main one.<sup>4</sup> Thus it seems that

<sup>1</sup> Father Francisco Xavier Alegre, *Historia de la Compañía de Jesús en la Nueva España*, vol. iii. p. 83: "En este viaje tuvo noticia del Rio Gila, y de los grandes edificios que se ven en sus cercanias." *Apostólicos Afanes de la Compañía de Jesús*, p. 253. Sedelmair, *Relacion*, p. 845.

<sup>2</sup> *Relacion del Estado de la Pimeria*, p. 804: "Y vimos toda la vivienda del edificio que es muy grande de cuatro altos, quadradas las paredes y muy gruesas como de dos varas de ancho del dicho barro blanco. Y aunque estos Jentiles lo han quemado distintas veces, se ven los cuatro altos con buenas salas, aposentos y ventanas curiosamente embarradas por dentro y fuera de manera que estan las paredes encaladas y lisas con un barro algo colorado, las puertas muy parejas."

<sup>3</sup> *Notice de la Grande Maison*, p. 386: "Enfin, on reconnoit que l'édifice avait trois étages: si ce que disent les Indiens est vrai, et á en juger de ce qui reste, il y en avait quatre, en comptant un étage souterrain." Arricivita, *Crónica Seráfica*, p. 462: "Aunque se conoce que la casa tenia tres altos."

<sup>4</sup> *Relacion*, p. 847: "La una de las Casas Grandes es un edificio grande, el principal cuarto del medio de cuatro altos. . . . Á tiro de arcabuz se ven otras doce casas medio caidas de paredes gruesas tambien y todos los techos quemados, menos un cuarto bajo con unas vigas redondas lisas y no gruesas, que parecen de cedro ó sabino y sobre ellas otates muy parejas, y sobre estos una torta de

the greatest decay occurred between the years 1744 and 1775, and that it did not have originally more than four stories. This is corroborated by Mr. James Russell Bartlett in 1852.<sup>1</sup> Three of the four stories at least had vertical walls on all four sides, but the fourth had the shape of a central tower or lookout.

It remains now to glance at the purpose of these "great houses," which every cluster of ruins on the Gila and Salado includes, whenever it is of any importance or extent. Mr. Cushing, who also noticed this feature, calls the buildings temples. I have no doubt they may have been used incidentally for worship; still it was probably not their exclusive object. It should be remembered that we have in the first half of the seventeenth century descriptions of analogous buildings then actually used among some of the natives of Central Sonora. Those natives were the Southern Pimas, or "Nébomes," kindred to the Northern Pimas, who occupy the banks of the Gila near Casa Grande, Casa Blanca, and at intermediate points. Father Ribas, the historiographer of Sonora, says that the villages of the Nébomes consisted of solid houses made of large adobes, and that each village had besides a larger edifice, stronger, and provided with loopholes, which served, in case of attack, as a place of refuge or citadel.<sup>2</sup> The purpose of this building was not merely sur-

argamasa, y barro duro." This is a good description of a roof of the well known pueblo type.

<sup>1</sup> *Personal Narrative*, vol. ii. p. 272: "Three stories now stand and can plainly be made out by the ends of the beams remaining in the walls, or by the cavities which they occupied; but I think there must have been another story above, in order to account for the crumbling walls and rubbish within. The central portion or tower, rising from the foundation, is some eight or ten feet higher than the outer walls, and may have been several feet, probably one story, higher when the building was complete." Compare also, for other descriptions by modern writers, H. H. Bancroft, *Native Races of the Pacific States*, vol. iv. pp. 625 to 633.

<sup>2</sup> *Historia de los Triunfos de Nuestra Santa Fé*, p. 360: "Poblados estaban los Nebomes á orillas de arroyos de buenas aguas y corrientes: sus casas eran

mised by Father Ribas, who had means of acquiring personal knowledge, having been one of the early missionaries in Sonora.<sup>1</sup> The Spaniards had an opportunity of experiencing its use to their own detriment, and the edifice was so strong that its inmates had to be driven from it by fire.<sup>2</sup> Such a place of retreat, in case of attack, the Casa Grande and analogous constructions in Arizona seem to have been. The strength of the walls, the openings in them, their commanding position and height, favor the suggestion.<sup>3</sup> That they may also have been inhabited is not impossible; Mr. Cushing's investigations seem to prove it.

mejores y mas de asiento que las de otras naciones : porque eran de paredes de grandes adobes, que hazian de barro, y cubiertas de açoteas, y terrados. Algunas dellas edificauã mucho mayores, y con troneras á modo de fuertes, y proposito para si acometiessen enemigos, recogerse á ellas la gente del pueblo y valerse de su flechería."

<sup>1</sup> Father Ribas was born at Cordova in Spain, and was in Sonora between 1604 and 1640. José Mariano Beristain de Souza, *Biblioteca Hispano-Americana Setentrional*, ed. 1883, vol. iii. p. 25.

<sup>2</sup> Ribas, *Historia de los Triunfos*, p. 372 : " Pero nuestras espías dieron auiso, que el mayor numero de gente estaua fortificado en su pueblo y casas de paredes de adobes, y vna dellas grande, con sus troneras que les seruía de fortaleza. Dóde en tiempo de guerra se recogía la gente menuda, y por las troneras jugaban á su saluo de su flechería. Acometió el Capitã cõ sus soldados á esta casa fuerte. . . . Acometió á entrarla el Capitan con sus soldados, poniẽdo á las troneras las adargas pequeñas, como broqueles de q̄ usan. Defendianse valientemente los enemigos, y auían ya herido á dos soldados Españoles y otros Indios amigos. En esta ocasion mandó el Capitan, que se arrojasse fuego por las troneras dentro de la casa, donde no murieron no pocos de los encmigos, con el humo y fuego."

<sup>3</sup> To this should be added the wall of circumvallation, and possibly the buildings, some of which were more than one story high, attached to it inside of the enclosure. The thought that the latter might have also had a defensive object is expressed by Father Font (*Notice de la Grande Maison*, p. 385) : " Tout autour sont des murs qui indiquent une enceinte ou muraille qui renfermait cette maison et d'autres édifices, surtout sur le derrière, où il paraît qu'il y avait une construction comme un château intérieur ou réduit." Arricivita, who has only given another version of Font's description, is still clearer (*Crónica Seráfica*, p. 462) : " Y á su rededor hay ruinas que parecen de muralla que cubría la casa y otros edificios, en cuyas esquinas parece había castillos ó atalayas ; pués en una se conserva un pedazo con divisiones, y un alto."

In connection with all these questions it becomes interesting now to examine whether the Indians dwelling on the banks of the Gila at present, and who inhabited them when first visited by Europeans, have or had any traditions or folklore concerning the origin and fate of the ancient settlements there.

As early as 1697 Father Kino, when he visited the Casa Grande for the second time, interrogated the Pimas and gathered from their talks that the Great House had been built by a mighty chief called Siba, or Sibuni, who lived in it. He also inferred that the said chief had come thither from the north.<sup>1</sup> Father Sedelmair, in 1744, heard a similar tale.<sup>2</sup> Father Font, thirty-one years later was told: "The halls were lighted, from what remains to be seen, through the doorways only, and through round holes made in the walls looking to the rising and setting sun. The Indians told us that it was through these apertures, which are tolerably large, that the sovereign, whom they call the Unpleasant [literally "bitter"] Man, looked at the sun when it rose and set, in order to salute it."<sup>3</sup>

Mr. J. D. Walker, an old resident in the vicinity of Casa

<sup>1</sup> Matéo Mange, in *Documentos para la Historia de Méjico* (series iv. vol. i. p. 384) calls him Sibuni. On page 282 he writes: "Y que las fabricaron unas gentes que vinieron de la region del Norte, llamado el Siba que según su definición en su idioma es el hombre amargo ó cruel y que por las sangrientas guerras que los daban á los Apaches y 20 naciones con ellos confederados, muriendo muchos de una y otra parte despoblaron y parte de ellos por disgusto se dividieron y volvieron para el Norte, de donde años antes habían salido, y lo mas hácia el Oriente y Sur."

<sup>2</sup> *Relacion*, p. 347: "Que dicen las fabricaron unas gentes que vinieron de la region del Norte, llamado el principal el Siba, que en el idioma de los Pimas es el hombre amargo y cruel, y que por las sangrientas guerras que les daban los Apaches y veinte naciones con ellos confederados, muriendo muchos de una y otra parte, se despoblaron y parte de ellos por disgustados se dividieron y volvieron para el Norte, de donde años antes habían salido, y los otros hácia el Oriente y Sur." This is manifestly copied from Mange.

<sup>3</sup> *Notice de la Grande Maison*, p. 386.

Grande, who has been to me personally an excellent friend and valuable informant, told me this tale.

The Gila Pimas claim to have been created on the banks of the river. After residing there for some time a great flood came that destroyed the tribe, with the exception of one man, called Ci-ho. He was of small stature, and became the ancestor of the present Pimas. The tribe, beginning to grow in numbers, built the villages now in ruins and also spread to the north bank of the river. But there appeared a monstrous eagle, which, occasionally assuming the shape of an old woman, visited the pueblos and stole women and children, carrying them to his abode in an inaccessible cliff. On one occasion the eagle seized a girl with the intention of making of her his wife. Ci-ho thereupon went to the cliff, but found it impossible to climb. The girl, who was still alive, shouted down to him the way of making the ascent. When the eagle came back, Ci-ho slew him with a sword, and thus liberated his people from the scourge.<sup>1</sup>

After this, quite a long period elapsed during which the Pimas remained in undisturbed possession of their adobe settlements. Whether Casa Grande was one of the oldest of them I did not ascertain, but it is stated that at one time a powerful chief called Ci-va-no lived there, after whom the Pimas call the place Ci-va-no Ki, or "House of Civano." He is said to have had twenty wives, each of whom wore on her head, like a head-dress, the peculiar half-hood, half-basket contrivance called Ki-jo. Civano's son is said to have settled on Lower Salt River, but the villages on the Rio Verde were, as already stated, inhabited by a tribe distinct from and hostile to these ancient Pimas. Casa Blanca and the ruins near Zacaton remained inhabited after Casa Grande had been abandoned. The latter is reported to have been destroyed

<sup>1</sup> For another version of this tale, see Bancroft, *Native Races*, vol. iii. p. 79.

by a foreign tribe that came from the east in three bands or hordes. The villages further west still held their own for some time, and it is even said that the people of Zacaton made war upon their kindred at Casa Blanca and blockaded that settlement by constructing a thorny hedge around it. Through the artifices of the medicine-men, the hedge turned into a circle of snakes.

It was while most of the Pima pueblos were still in existence that a part of the stock seceded and moved southward into Sonora, and became the Southern Pimas, or Nébomes. The Gila Pimas continued to live on their old range, but with the pressure from enemies, consequent famine, and epidemics, they grew weaker and weaker; one village after another was abandoned, and the remnants of the tribe, despondent of ever recovering their ascendancy, scattered, some over the Papagueria in Southwestern Arizona, while some remained huddled together in the frailer dwellings of easier construction in which they reside at this day.

The gist of these traditions is that the Pimas claim to be the lineal descendants of the Indians who built and inhabited the large houses and mounds on the Gila and Lower Salado Rivers, as well as on the delta between the two streams; that they recognize the Sonoran Pimas as their kindred, who separated from them many centuries ago; that they attribute the destruction and abandonment of the Casa Grande and other clusters now in ruins to various causes; and, lastly, that they claim that the villages were not all contemporaneously inhabited. Further than that, I do not at present venture to draw conclusions from the traditions above reported; but enough is contained in them to justify the wish that those traditions may be collected and recorded at the earliest possible day, and in the most complete manner, in order that they may be critically sifted and made useful.

The western limit of ancient architecture on the Gila seems to be about Gila Bend; at least I have been unable to learn of any ruins farther west. Along the Colorado River it is stated by Mr. H. H. Bancroft that no ruins exist.<sup>1</sup> Between that river and Gila Bend the country is flat and sandy, and what does not lie immediately on the stream is mostly destitute of water. It is therefore presumable that no ruins will be discovered there, except rock paintings and carvings, which, while they may in part be due to former sedentary tribes, are just as likely also to be the work of nomads. The extreme western limit of pueblo architecture, in the general sense of vestiges of houses built of more durable material than wood or reeds, appears therefore to be the 113th meridian in the latitude of 33°.

South of the Gila I have made no investigations of any consequence, but I have heard that throughout the so called "Papageria," or that dismal stretch occupying the greatest portion of Southwestern Arizona, ruins similar to those on the Gila, of the same building material, and having a similar arrangement, are occasionally met with. I also heard of cliff-houses in the Sierra de los Ajos, near the frontier of Sonora. To what extent the information may be reliable, I cannot tell. Near the Picacho, an isolated rock with precipitous sides rising near the Southern Pacific Railroad line fifty miles west of Tucson, I saw low mounds and an elliptical tank. As the country is desolate and dry, it is not to be wondered at if vestiges of sedentary aborigines should prove gradually to grow less, and finally disappear in the direction of the south. Of the environs of Tucson and the country to the east of it, the valley of San Pedro, and the boundary lines of Sonora, as far as I was able to examine, I shall treat in the following chapter of this report.

<sup>1</sup> *Native Races*, vol. iv. p. 619.



If now we cast a retrospective glance at the fragmentary material above presented, it strikes us first that, as soon as we leave the colder pine regions of the Apache reservation, a new variety of Indian architecture appears. I purposely say a new variety, and not a new type; for the nucleus of it remains the small house already known to us in the northern Southwest. Just as, however, in the north, the small house has become, through aggregations brought about by force of circumstances, climate, and necessities of defence, the great communal structure called the "Pueblo," so in the south, where conditions of subsistence have been more favorable and there has been increase of population, it has reverted to larger clusters also, with the difference that the terraced plan was mostly abandoned, thicker walls were built, and the means of ventilation especially were suited to the exigencies of a hot climate. The artificial objects show a decided uniformity over the whole area, and the culture was fundamentally the same as farther north, where distinct varieties of buildings prevail. The change which that culture has undergone is one in degree only, and not one in kind, as Mr. Cushing's explorations at Tempe have amply proved.

But the archæological remains give us no clue to the people to whom they are due, except that they were sedentary Indians. Ethnological investigations alone can in time solve the riddle of the who and whence. The older Spanish authorities contain very slight information on these points. Castañeda says that the "Red House," which I believe to have been located near Fort Grant, was constructed by a tribe that came from Cibola, that is, from the north. The Sobaypuris informed Father Garcés that the ruins on the Gila were those of edifices constructed by people who had come from Moqui or from the north. A similar tale is connected with Casa Grande.

The Tontos, or Kohunes, a Yuma tribe, which inhabited the regions of Upper Salt River and the basin north of it, have disappeared as an independent cluster. There are some indications that these Indians were not formerly as wild as they appear to us now that they have become incorporated with the Apaches, and their folk-lore also should be studied. The Apaches appear as a later intrusive stock, yet they may have preserved important recollections of the time when they first drifted into Arizona, which was certainly earlier than the sixteenth century. The Navajos also may know something concerning movements of tribes from the northern sections of Arizona towards southern latitudes.

The only traditions so far studied, in a superficial manner, are those of the Pimas. I have stated that they claim to have originated on the Gila, or, so to speak, *in situ*; yet their language is a Shoshonee dialect. But they are also positive about their ancestors having been the builders and inhabitants of the most ancient important edifices of Arizona.

It need not surprise us to find associated with the principal ruins on the Gila the myth of their having been "stations" of Central Mexican tribes on their supposed wanderings from northern regions towards the tropics, which has been connected with them from the time they were first discovered by Europeans. Nor need it surprise us to find the Montezuma story attached to the past of Casa Grande. Neither of these tales possesses any safe historical basis. That northern tribes have drifted southward in the course of time seems very likely, but whether they preserved their original composition and their language to a degree sufficient to warrant the conclusion that they were still the same people in Central Mexico which they had been in more northern latitudes, is unknown. The Montezuma tale is certainly not a part of original Southwestern folk lore. The Spaniards and their Indian followers from

the south brought it to the north, where it has hovered since around the principal ruins, like floating mist clinging to the slopes of higher mountains, easily dispelled by either the bright light and warmth of ethnological study, or the fresh breezes of historical criticism.

XI.

TUCSON, THE UPPER RIO SAN PEDRO, THE SIERRA HUACHUCA, AND THE SIERRA CANANÉA.

THE word "Tucson" is said to be derived from "Styucson," which signifies Black Creek in the Pima language according to the Hon. J. D. Walker. The same authority informed me that "Arizona" probably was a corruption of "Örli-son," or little creeks.<sup>1</sup>

The course of the Rio de Santa Cruz, near the banks of which Tucson is situated, terminates as a perennial stream only a short distance from the city. The Santa Cruz River rises in Northern Sonora and flows northward, and is therefore, nominally at least, a tributary of the Gila, but never do its waters directly reach it. While the San Pedro flows constantly as far as its mouth, the Santa Cruz sinks and disappears at a distance of at least fifty miles from the nearest point on the Gila. An almost completely waterless area divides that river from Tucson. We have in this another proof that it was not the Santa Cruz River which Fray Marcos of Nizza, and after him Coronado, followed on their journeys in quest of the pueblos of Cibola (Zuñi), but the San Pedro, which gives an uninterrupted line of water supply from the head-waters of the Sonora River to the Gila.

<sup>1</sup> The name "Arizona" first appears about the middle of the last century; it was applied to the country south of Tucson, where there appears to have existed a mine of that name.

Although the level on which Tucson stands is fertile if irrigated, the mountains surrounding it in every direction appear mostly of frightful aridity. In the southwest they loom up in detached masses of inconsiderable altitude and insignificant profile, the peak of Babo-quivari excepted, which rises on the horizon, at a distance of sixty miles, in a bold and precipitous mass. In the northwest, towards Casa Grande, stretches a bleak plain dotted with monstrous cactuses and other singular forms peculiar to the flora of Arizona. The jagged outline of the Picacho appears like a blue phantom far away. The low ranges of the Tortilla skirt the north, connecting with a towering chain that overlooks Tucson by nearly seven thousand feet, although in a direct line its base is only fifteen miles distant. This chain is the Sierra Santa Catalina, a rugged mass, thinly overgrown with scrubby arboriferous plants. It skirts the San Pedro River on the east, thus separating it from Tucson. In the south looms up the Sierra de Santa Rita, the highest chain of Southern Arizona.<sup>1</sup> Its picturesque crests are covered with loftier trees.

The Papagueria contains, as I have already stated in the preceding chapter, vestiges of ruins similar to those on the Lower Gila and Salado Rivers; but they are not numerous. Around Tucson I have heard ruins spoken of, although I did not see any myself except at the Estanque Verde, sixteen miles east of the city, where, beneath dense and thorny thickets, I noticed the remains of a few scattered houses of the detached dwelling type. They were too much ruined to allow measurement, and I could not detect whether any enclosures had originally connected them or not. The few potsherds belonged to the general type of Southern Arizonian ruins, and my friend, Dr. J. B. Girard, U. S. A., possesses

<sup>1</sup> The elevation of the Santa Rita chain is supposed to be about 10,500 feet.

a handsome earthen canteen in the shape of a duck, corrugated and painted red, which was obtained at the Estanque Verde.

Along the course of the Santa Cruz stream, south of Tucson, ruins are said to exist, but no description of them could be obtained. The Sobaypuri branch of the Pima village Indians held that country in the seventeenth century, and for a long time previous. It is therefore advisable to bear in mind, that such vestiges of ancient habitations may be those of Sobaypuri settlements. When the latter were first met with, they were composed of frail structures; but still it is presumable that, as the villages were of a somewhat permanent character, the buildings had at least substantial foundations, which must have left traces similar to those still seen of older Pima settlements on the Gila. It is difficult to establish which places were inhabited in the seventeenth century and which not. The names are Pima, like Bac (Vatki), Tubac, and Tumacacori. At the place first named, where now stands the remarkable Jesuit church of San Javier del Bac, there was a considerable settlement of Pimas in 1697;<sup>1</sup> and it is likely that at the other two, or at least in their immediate vicinity, either Pimas or Sobaypuris were settled. The first attempt at building a church at San Javier appears to have been made in 1699;<sup>2</sup> but the present church dates properly from the middle of the past century.<sup>3</sup> At Tucson, the Sobaypuris established themselves about 1763, under the pressure of their hereditary foes, the Apaches.<sup>4</sup> In 1764, Tubac, Tu-

<sup>1</sup> *Relacion del Estado de la Pimeria*, p. 798.

<sup>2</sup> According to Alegre, *Historia de la Compañia de Jesus*, vol. iii.

<sup>3</sup> The oldest church books of the mission of San Javier in existence, when the present apostolic vicariate of Arizona was established, begin in 1720. *Libro de Partidas*, MS. Father Alexander Rapicani was the first priest who made entries. In 1751 the mission was abandoned owing to the uprising of the Pimas, and only reoccupied three years afterwards.

<sup>4</sup> *Descripcion Geográfica de Sonora*, cap. vi. P. Manuel de Aguirre, *Carta al*

macacori, Calabazas, and Bonostao were the principal Pima villages administered along the upper course of the Santa Cruz River.<sup>1</sup> Arivaca, which lies to the west, had been abandoned and destroyed by the Pimas themselves in 1751.<sup>2</sup>

Instead of penetrating to the west of Tucson into the desolate Papaguera, with small prospect of determining anything that had not been abundantly established, — namely, the gradual disappearance of aboriginal ruins in that direction, — I selected the upper course of the San Pedro River for a field of operations. I was prompted to this in part by my desire to follow, on my way to Sonora, the probable route of Fray Marcos of Nizza and of Coronado. I had noticed, while at Casa Grande and at Tucson, that the former could not have been the "Red House" spoken of by Castañeda, and that it was quite improbable that the Spaniards should have descended the Santa Cruz stream. The San Pedro remained the only likely route for them to have taken, and in investigating it I secured the advantage of combining antiquarian interest with historical. At the same time I should approach closer the eastern border of the territory of ruins in Arizona. I will quote here what I wrote to the Institute in the spring of 1884: —

"The dismal barrenness of the country west of the Rio Grande, as far as the Paso del Dragon in Arizona, on a line running due west of Fort Selden, and south to the Mexican boundary, precludes the possibility of important traces of aboriginal occupation being found there."<sup>3</sup>

Dragoon Pass lies due east of the San Pedro valley, and it

*Teniente Coronel D. Juan de Pineda* (in "Doc. para la Historia de Mexico," 4th series, vol. i. p. 125).

<sup>1</sup> *Descripcion Geográfica*, p. 532.

<sup>2</sup> *Ibid.*

<sup>3</sup> *Fifth Annual Report*, p. 89.

is not superfluous on this occasion to cast a glance at the orography of Southeastern Arizona.

I have already spoken of the Santa Catalina chain as bordering the Rio San Pedro on the west. The southern termination of that chain is called Sierra del Rincon and its eastern slope descends into the San Pedro valley near Tres Alamos. South of that range lies a pass through which the Southern Pacific Railroad runs from Tucson to Benson, beyond which extends the Sierra Mesteña, also called Whetstone Mountain. This is followed by the Sierra Huachuca, which reaches the Mexican boundary line by its southern extension, the Mariquita. There is consequently, east of Tucson, a cordillera skirting the San Pedro valley on the west, and running approximately in the direction of north-northwest to south-southeast. The Santa Rita Mountain lies west of this cordillera and east of south of Tucson.

East of the San Pedro valley a parallel series of ranges arises. Beginning south of the Gila, with the isolated peak of Mount Turnbull and the transverse chain of the Santa Teresa Mountains, it takes a southeasterly direction with the Sierra Salitre, — a name recently corrupted into Galiuro.<sup>1</sup> This terminates north of Dragoon Pass, south of which the Dragoon Mountains begin along the eastern side of the San Pedro valley and merge into the Sierra Peñascosa, which abuts against the Sierra de la Mula, which extends as far as the Sonora frontier. A third cordillera looms up still farther east. It takes its origin south of the Gila, in Mount Graham and the Sierra Bonita, then follows the Pinaleno chain as far as the line of the Southern Pacific. South of the railroad rises the formidable Sierra Chiricahui (properly Chihui-cahui, or Turkey Mountains), which in turn is followed

<sup>1</sup> This is one of the most interesting changes of the kind; it can be traced on the maps, through Salitre, Calitre, Calitro, to Galiuro, as it appears to-day.



by the Sierra Guadalupe, part of the latter extending into Mexican territory. A fourth cordillera stretches from the Gila to the New Mexican frontier at Stein's Pass, and is constituted by the southern Gila range and by the Peloncillo.

Between these four cordilleras lie, counting from the boundary line of New Mexico towards Tucson, three longitudinal valleys, only one of which contains considerable vestiges of ancient dwellings, — the most western one, or that of San Pedro. It is also the only one having perennial water. The others are arid, and only scantily provided with springs. The mountains themselves present a forbidding appearance, which is deceptive, for the interior of the Chiricahui, for instance, has pleasant spots, good forests, and several permanent water sites and springs. I have heard of small ruins having been noticed in the interior of several of these chains, but cannot vouch for the correctness of this information. If there are any, they cannot be numerous. The course of the Rio San Pedro, however, shows abundant traces of former habitation.

I reached that stream at Tres Alamos, coming from Fort Lowell near Tucson by way of the Posta Quemada and the ranch of Miguel Torres. Near the Posta, where a beautiful spring issues on the property of Mr. Lick, there are traces of ancient foundations of stone; and Mr. Lick obtained, from a cave one mile higher up than his house, a great many deer-prongs, skinning-knives of wood, and broken pottery. South of the Posta, on the level extending along the base of the Sierra del Rincon, lies the hamlet of Pántanos, near the railroad, and there ruins exist, from which, among other objects, stone axes have been taken.

From the Posta Quemada the ground rises along the slope of the Rincon chain to the divide. It is arid, and the only vegetation is *Yucca*, *Dasylirium*, and the colossal *Zahuaros*,

with tall grass covering the ground. At the ranch of Torres, near the divide, I found ruins, nearly obliterated however, and covered by mezquite thickets. They form low mounds, measuring about 15 meters (48 feet) on each side, with hardly perceptible vestiges of stone or rubble on their surface, and covered with chips of flint and basalt. The pottery fragments were mostly plain black and red, brown, gray with indistinct reddish decorations, and yellow with traces of red lines. No corrugated or indented ware appeared, and the potsherds were, on the whole, much dilapidated and worn. Where the house of Torres stands, there had been a similar mound, from which was taken a metate, but no stone axes or other implements. The ruins have the appearance of either great age, or else much wearing away by summer rains, which are abundant enough to justify the selection of the site for the raising of primitive crops. But I was at a loss to discover whence the inhabitants had obtained their drinking water. If from some spring, it had not been discovered seven years ago, at the time of my visit; nor could I find any trace of a reservoir. At all events, the settlement was small, and seems to have been the only one in that vicinity. Beyond the divide begins a long descent towards the San Pedro River, over dreary slopes, bare and worn; after nine miles of a monotonous ride the valley is reached.

The river, now rendered muddy by the washings of the mines worked on its upper course near Contention and Charleston, runs in a cut which is from eight to twelve feet deep. On both sides of this cut, but sometimes, however, only on one, extends a bottom land which appears to be very fertile. Then comes a higher terrace, gravelly, and partially covered with low and thorny vegetation. The whole would present a desolate appearance were it not for occasional fields and cottonwood groves. At Tres Alamos there

are ruins, and thence on to the north they were said to be numerous, as far as the mouth of the San Pedro. Where it approaches the Gila, it is enclosed by rocky gorges, and it is not surprising to hear of caves in the walls of the cañon in which many "relics" are said to have been found, although I could ascertain nothing about their character. The climate at Tres Alamos is mild, snow seldom falling; and the summer heat, although the thermometer frequently rises to 100° in the shade, is said not to be oppressive.

The majority of ruins on the San Pedro seem to extend along its lower course, north of Tres Alamos. In a direct line the distance from the latter point to the junction of the stream with the Gila is about sixty miles, and it strikes me that this was the stretch on which Fray Marcos found the last villages of Indians before he entered the uninhabited region between the Gila and Zuñi.<sup>1</sup> Whether he, and Coronado afterwards, followed the San Pedro to its mouth, or whether he turned to the right so as to reach the Arivaypa and the site of Fort Grant, is not quite clear from the documents. I strongly incline to the latter conclusion, since the lower course of the San Pedro is almost impassable on account of the narrowness of the defile.

The Sobaypuris on the San Pedro were in commercial intercourse with some of the northern pueblos. Fray Marcos mentions among other objects which he saw in use turquoises brought from Zuñi. If the report concerning the existence of caves along the Lower San Pedro is true, as I believe, explorers should not be startled at finding in such places objects peculiar to the religious and house life of the natives of New Mexico and Northern Arizona. Such finds should not be taken as evidence of anything but aboriginal commerce in ancient times.

<sup>1</sup> *Relacion*, p. 339.

At Tres Alamos, about one mile north of the house of Mr. Thomas Dunbar, I examined quite a good-sized ruin, standing on the terrace above the river bottom, and partly overgrown by mezquite and other shrubs. A gulch divides the ruin into two groups. Besides low mounds and traces of rubble foundations there are polygonal enclosures, containing very little pottery, the purpose of which I am at a loss to divine. Some of the mounds show traces of partitions of rubble, indicating rooms of medium size. An abundance of flakes of flint, basalt, and trap are scattered over the mounds. Prismatic corn-crushers (*manos*) occur, and potsherds resembling in every way those noticed at the ranch of Miguel Torres. The ruins are considerably dilapidated, and, so far as I could learn, they were the only ones in that vicinity.

Nor could I ascertain anything about ruins between Tres Alamos and Benson, the northern terminus of the Sonora Railroad. It lies in the valley, which there presents a most unprepossessing appearance. South of it, and as far as the Mormon settlement of St. David, I noticed no trace of aboriginal remains. I copy from my Journal: —

“The valley presents throughout the same appearance as far as St. David, the Mormon settlement. The bottom is from  $1\frac{1}{2}$  to  $2\frac{1}{2}$  miles wide, and the gravelly bluffs encroach upon it from time to time, or here and there rises an isolated hill, or group of hills, or a little mesa. For six miles I followed the banks, and satisfied myself that there are no ruins, as the bluffs are too steep and too sharply crested. There may be some on the east side, where the flat appears to be wider; but the people all agree in asserting that there are none. There is much more mezquite growing here than farther south; and while it is scrubby, seldom over six feet high, the trunks are very stout at the surface of the ground, but divide into branches a few inches above it. . . . About

six miles from Benson the hills close in upon the river on the west side, and on the east lies a flat, bleak-looking, though in reality fertile expanse, forming a terrace. Below it the river runs in a cut with abrupt sides. This cut is 10 to 15 feet deep, and about 25 wide. This terrace is nearly three miles wide, and here stands the Mormon settlement before mentioned, distant from Benson by rail eight miles, and nine by the road which I travelled. North of St. David I saw ill-defined traces of ruins with potsherds like those on the divide and at Tres Alamos. On the west side there are a few semi-circular basins between the advancing gravel hills, and on the edge of some of these are springs, which suggest the possibility of the existence of ruins. On the east side springs are scarce. Five miles south of St. David the hills close in upon the river on both sides, leaving only a bottom scarcely a mile wide. Before reaching this point, I saw a group of ten low mounds of white adobe, resembling those on the Gila and Rio Verde, only smaller. Potsherds like those at Tres Alamos were strewn over their surface, and flakes of flint and trap, but no obsidian."

Contention lies seventeen miles south of Benson by the road. Bleak levels spread out west of it to the foot of the wooded Sierra Huachuca. The aspect of the landscape is monotonous, though the plain is grassy. Half a mile south of the place, on a steep bluff east of the river, I found a ruin which has been much disturbed, and what of it is still distinguishable indicates small houses with rubble foundations, and enclosures also of rubble. I found very little pottery on the site, and not a single piece that was not plain, — nothing corrugated or indented.

During my stay at Contention I saw persons who had dug in those ruins, as well as in others situated higher up the San Pedro, one of whom showed me drawings of objects

which the excavations had yielded. Among them was a frog carved out of some green stone called "jade" by the finder, a stone axe of the same material, and painted and corrugated potsherds. I have no reason to doubt the genuineness of these finds, although I did not see the originals. I was also informed that Charleston was in all likelihood the most southerly point to which ruins extended along the San Pedro in Arizona, and that there were traces of antiquities near Tombstone. My objective point being, however, the Huachuca mountain chain, I did not investigate personally the places indicated to me as bearing ancient remains.

From Contention to Fort Huachuca the ground slowly rises, and the Arroyo de Babocomari must be crossed about nine miles from the former place. Thence the direction is southwest to the foot of the chain, the upper slopes of which are pine-clad, while the cañones bear two varieties of oak. I could not find any trace of antiquities in the narrow gorges that cleave the sierra, but on its northern base, around Fort Wallen, and on the Babocomari, traces of ruins are visible. While mounds almost obliterated, foundations of small houses, and large enclosures formed by stones set on edge, may be distinguished, no clear conception can be obtained of the general plan and purpose of the structures. The artificial objects differ from those found along the San Pedro only in respect of the pottery, among which I found the ancient white and black, and red and black varieties, so abundant in more northern ruins. Since leaving Upper Salt River, I had not seen any specimens of these. The metates, instead of being made of lava, are of granite and quartzite, and the crushing pins are of greenstone. The metates show no particular skill in their manufacture, but are merely boulders worn out into a dish-like basin with a rim on three sides. Judging from the amount of pottery strewn about, one of the

ancient villages, at least, must have been quite extensive; still the houses were not more than one story high. I infer that the valley of the Babocomari Creek was inhabited in places by sedentary tribes about whom we have no documentary information. The interior of the Huachuca chain was uninhabited, and the same seems to have been the case with the Sierra Mariquita, if I am correctly informed.

Along the upper course of the San Pedro stream as far as the Mexican frontier, beyond Palominas, or Ochoaville, I heard only of a few inconsiderable ruins, provided the reports are reliable. Crossing into Mexico at the Custom-house Station, I found myself on the grassy plateau through which the branches of the San Pedro meander towards their junction near that group of buildings. One of these branches descends from between the Huachuca and Cananéa chains, and the other takes its rise in the Cananéa proper.

The plain along the foot of the Cananéa is regarded as the highest plateau of Sonora. Judging from the altitude of Fort Huachuca, I estimate its elevation above sea level at five thousand feet. The Cananéa Mountains bound it on the west, the Sierra de San José (an isolated pyramid of striking appearance) in the southwest, the Sierra de los Ajos in the east, and in the south rise the first spurs of the Manzanal, a range skirting the upper course of the Sonora River. Along the southern edge of the plateau I found faint traces of ruins on the brink of a dry arroyo, now reduced to low mounds; and in another place I noticed still fainter vestiges, but I looked in vain for potsherds. In the heart of the Cananéa I saw no traces, nor could I learn of any. That chain is pine-clad, and its gorges are extremely narrow. Beyond it lies Terrenate, where more important remains are said to exist. I was told that in that vicinity there were fortified hills (Cerros de Trincheras), those places of refuge peculiar

to Sonora and to the Sierra Madre of Chihuahua, of which I shall have occasion to speak hereafter. The pottery from that locality was described to me as being of the painted kind, but I saw none of it.

On the whole, the upper course of the San Pedro River and the region of its sources corresponds well to the "first desert," or uninhabited expanse, which, after leaving the Sonora River valley, Fray Marcos of Nizza had to traverse in order to reach the line of villages which the Sobaypuris occupied.<sup>1</sup> It is poorly adapted to the wants of land-tilling aborigines. The stream itself flows through a narrow channel, out of which it is difficult to draw its waters by means of acequias. Woods are distant, and the traces of occupation anterior to the sixteenth century are few and far between. They become more abundant farther south, along the course of the Rio Sonora. Rugged mountains enclose that river on both sides, west of which, in the direction of the arid and waterless coast, as well as in the east, about Fronteras, there are said to be remains.

I turned my steps to the south, in order to follow the spread of the Opata tribe, which within historical times has been the most prominent stock in Northeastern and Central Sonora. In so doing, I felt sure of meeting with abundant remains, although I also felt that the separation of the historic from the prehistoric might present almost insuperable difficulties.

<sup>1</sup> *Relacion*, p. 338. Compare besides on these points my monograph on "Fray Marcos of Nizza," in *Contributions to the History of the Southwestern Portion of the United States*, 1890.



## XII.

THE VALLEY OF THE SONORA RIVER TO BABI-  
ÁCORÁ AND THE VALLEY OF OPOSURA.

THE Sonora River flows in the main from north to south, and divides the northern half of the State of the same name into two sections, nearly equal in size. Beyond the rugged mountain chains which line the river on both sides, other ranges, equally rugged and quite as arid, run parallel with them. The average direction of the chains east of the Rio Sonora is from north-northwest to south-southeast, and they appear to be but ramifications of the Sierra Madre, towards which they ultimately converge. The chains west of the Sonora valley are less elevated and more irregularly distributed. There is a gradual flattening of the country towards the coast of the Gulf of California. The coast is mostly a sandy stretch of varying width, poorly provided with water, and therefore scarcely inhabitable. Before the coming of the Spaniards, and up to the present time, only the nomadic Seris claimed the northern part of this coast as their range, not living upon it, but traversing it on their fishing, hunting, trading, and marauding expeditions. Between the "Playas," as the coast is usually called, and the valley of the Rio Sonora a single stream of any consequence, the Rio del Altar, reaches the waters of the gulf. There exist ruins between that river and the Sonora, but I could not visit them. I only mention here the fortified hill near Magdalena, con-

cerning which exaggerated reports have been circulated. It is one of the many "hills with bulwarks" (cerros de trincheras), two typical specimens of which I shall describe in this chapter.

East of the Sonora valley ruins are known to exist near Fronteras. The majority of the narrow defiles in North-eastern Sonora are destitute of perennial water as far as the vicinity of the Yaqui River. The Sonora valley, while by far the best portion of the northern half of the State, is by no means a continuously fertile region, as narrow gorges of considerable length separate the cultivable portions. Thus between Los Fresnos and Bacuachi nearly twenty miles of a rugged defile have to be traversed before the country opens out again at Mututicachi. There is also a very narrow gorge between Báuachi and Chinapa, and the road from the latter place to Arispe traverses more than one pass, where there is scarcely room for it by the side of the river. The long and picturesque cajon between Arispe and Sinoquipe is uninhabitable except in a few places. Thus the Sonora valley is a succession of smaller vales, separated by passes and cañons. To give an idea of the narrowness of the defiles it suffices to state that from the Ojo de Agua del Valle, where the Sonora rises, to Babiácora, in a distance of about one hundred and twenty miles,<sup>1</sup> the traveller has to cross and recross the stream more than a hundred times.

The Ojo de Agua del Valle lies in latitude 31° and Babiácora, where I left the valley of the Sonora to turn towards the east, in latitude 29°.40. Vegetation, therefore, is more vigorous than in Southern Arizona, and the more so since the altitude decreases to about two thousand feet. Nevertheless, the general aspect is similar, for the same leading forms predominate; only the thickets are denser, and the

<sup>1</sup> The distance in a straight line is only about eighty-five miles.

zahuaro is supplanted by the pitahaya. Beside the palo verde, the palo blanco grows on gravelly hills; wild fig trees appear occasionally, and at Arispe a solitary palm tree indicates the proximity of the tropics. On the level of Báuachi, on the lonely and difficult trail from Babiácora to Oposura, fan palms rise beside knotty and stunted oaks. The orange is cultivated at Las Delicias, and cotton grows nearly everywhere. It seldom, if ever, snows in the Sonora valley, and several crops may be raised annually. The mountains, where not too rugged and steep, are overgrown on their upper slopes with oaks and pines. The following points may be considered characteristic of the type of landscape: the Ojo de Agua del Valle, the view of Báuachi from the north, the gorges between Arispe and Sinoquipe, and the valley of Banamichi.

From the grassy level between the Cananéa chain and the head-waters of the Sonora, an abrupt descent into a bleak basin leads to the Ojo de Agua. Barren heights enclose the denuded spot, vegetation is scant, and even the cactuses are stunted. Thence the river enters a narrow valley with side branches. The latter are treeless, but the principal valley is overgrown with willows, cottonwoods, elders, and canebrakes. So dense are the thickets that they sometimes impede travel. This extends for several miles, then the valley becomes a cajon with few tillable spots, where tall cottonwoods rise along the banks of the stream.

The aspect of the village of Báuachi is not striking. Standing on a high bluff, its adobe buildings offer nothing attractive. The terraces above the river are quite bleak, the soil is reddish, and jungles spread over it. But the eye is fascinated by the aspect of the Sierra de Báuachi in the east; a profile with bold indentations, though not craggy, and pine-clad slopes, contrast singularly with the monotony of the val-

ley. Few mountain chains of moderate height dominate their surroundings in such an imposing manner.<sup>1</sup>

The basin of Arispe looks dreary, with the leaden hue and dismal ruggedness that often characterize mining localities. The town shows a dreary decay, due in part to the ravages of the Apaches, in part to the removal of the capital of Sonora from Arispe to Ures.<sup>2</sup> The Sierra de Arispe is well represented in Mr. Bartlett's excellent "Personal Narrative."<sup>3</sup> In the southern extremity of

<sup>1</sup> I have been unable to learn their height, but I think that the Sierra de Báuachi rises to about eight or nine thousand feet.

<sup>2</sup> Charles P. Stone (*Notes on the State of Sonora*, 1861, p. 9) says that Ures became the capital in 1838. According to the same authority, Arispe in 1822 had 2,000 souls, in 1861 only 600. José Francisco Velasco (*Noticias estadísticas del Estado de Sonora*, p. 286) gives to Arispe 2,079 inhabitants in 1822, thirty-nine years later only a thousand. J. R. Bartlett (*Personal Narrative*, vol. i. p. 282) says that the removal of the capital from Arispe to Ures took place in 1832. When he visited Arispe in 1851, the town, although sadly dilapidated, still showed to greater advantage than in 1884. Of the church he says: "The only building of particular interest is the church, which was once a fine edifice, but is now fast falling to decay. Its interior is of unpleasing proportions, its length, as in most churches of the frontier where large timber cannot be procured, being too great for its breadth. It contains some fine pictures among the hundred or more that are suspended from its walls. They are all in beautifully carved frames, richly gilt, but both pictures and frames are suffering from neglect. The altar is covered with massive plates of embossed silver, and there is a profusion of this metal displayed in the shape of massive flower vases, chandeliers, censers, etc." Since that time the church has been completely rifled of its treasures, and it presents a desolate appearance, with its altars stripped of every ornament, and with its naked walls.

According to the *Catálogo de los Partidos contenidos en los Rectorados de las Misiones de Sonora por el año de 1658* [should be 1685], (in *Documentos*, 3d series, p. 793) the church books of Arispe began in 1648. In 1678, according to the *Relacion de las Misiones que la Compañía de Jesús tiene en el reino y provincia de la Nueva Vizcaya en la Nueva España*, by Father Juan Ortiz Zapata, S. J., (p. 379.) Arispe contained then 416 Indian inhabitants. It was an Opatá pueblo.

In the document entitled *Estado de la Provincia de Sonora*, 1730, (*Documentos*, 3d series, p. 617), we read: "Mision de Arispe se compone de tres pueblos: el principal y cabecera es Nuestra Señora de la Asuncion de Arispe. Tiene ciento ocho familias y mas de cien muchachos y muchachas de doctrina."

<sup>3</sup> Volume I. page 281.

the town stands the solitary palm tree before spoken of. Thence to the south the valley changes to a magnificent gorge, so narrow in many places that for several hundred yards it is necessary to travel in the river bed. Towering rocks, displaying strata of brilliant hues, rise on both sides. The crests assume strongly indented outlines. Along the perpendicular walls we notice with astonishment the columnar pitahaya, rooted in tiny crevices, with its stalks rising many feet. Alongside of them the wild fig tree expands its foliage like a trellis over the smoothest cliffs. A few recesses, enclosing arable ground, break the wildness of the scenery, of which Tetuachi is the most considerable. At Sinoquipe the country begins to open, and afterwards, though narrower in places, it presents a milder aspect.

The valley at Banamichi and south of it is made up of strange contrasts. On the east side of the river gravelly bluffs approach the banks covered with dense thickets of thorny plants. The dangerous choyas (*Cylindropuntia*) grow in profusion, and the palo blanco forms groves intermingled with mezquite, pitahaya, and palo verde. In front of the eastern chain of mountains the Cerro de Santa Elena rises boldly, together with other abrupt eminences, like outposts of a grander background. On the west side expands a lovely valley teeming with signs of cultivation, beyond which the Sierra de Opodepe terminates the view. In that valley fig and orange trees ripen their fruit; the winters are mild, snow falls only on the mountain tops, and rains are fairly abundant during the proper seasons. But while the Banamichi valley is the broadest and finest of all along the Sonora River, it is in reality of limited extent. Although there is abundant room for a number of small Indian villages, the tillable areas are not extensive. It need not surprise us, therefore, that, although aboriginal ruins are numerous along

the Sonora River, the settlements were of limited extent. The river bottom is not fit for permanent habitation, and even the present villages stand upon terraces so cut up by gulches that only room for small pueblos is found on their surface.

The character of the ruins along the Sonora River as far as Babiácora may be summed up in a general picture. From ten to fifty small houses, with a substructure of rubble, irregularly scattered, and enclosures, also of rubble but not connected together, formed a village. Of what material the superstructure, the walls, and the roof were made, can only be surmised. From descriptions I judge that the walls were usually made of poles and yucca leaves daubed over with mud, and the gable roofs of yucca or fan-palm leaves supported by rafters.

Another class of ruins shows low mounds. Such a cluster exists in the immediate vicinity of Banamichi, and is figured on Plate I. Figure 77. It is difficult to determine whether the mounds were houses or not. They are composed mostly of gravel, and seem unfit for walls of any height. Similar structures I met at Vaynorpa, on the east side of the Sonora River, below Las Delicias.

I refer to Plate I., Figures 70 to 77 inclusive, for sketches of ruins in the Sonora valley. The most characteristic of the eleven groups which I surveyed lies north of Banamichi, on a denuded plateau or terrace called Mesita de la Cruz, east of the river and above a declivity covered by dense vegetation. The buildings are distinguished from the enclosures by double foundation walls as well as by a slightly larger accumulation of rubbish.

Comparing ancient architecture in the Sonora valley with that of more northern ruins, it presents at first glance much more modest proportions, and much greater fragility. None

of the villages seen by me could have sheltered more than a few hundred people. I was at a loss to find traces of solid adobe buildings. Still the durable foundations indicate that the apparent insufficiency of the superstructure had nothing to do with permanence of abode. The soil offered little inducement for the manufacture of sun-dried brick, in comparison with the facility with which impermeable shelters could be constructed by means of vegetable substances. Palm leaves form an excellent roof, and ocotilla poles plastered with mud make a very solid wall. Owing to the heat of the climate, distribution of the respective households into separate dwellings was natural.

What appears striking is the lack of defensive structures around these hamlets, although their situation is generally such as to afford a free lookout, and is difficult of access in many instances. Moreover, we must remember that the nomadic Indians began their incursions into Sonora on a larger scale only at the close of the seventeenth century. The Seris, it is true, occasionally troubled the Opatas, but it is doubtful if they ever penetrated as far as the Rio Sonora. Only war between sedentary tribes could permanently disturb the peace of these settlements. Of such wars there are some evidences previous to the coming of the Spaniards.<sup>1</sup> But the Opatas provided against such a danger in another way, which I shall describe hereafter.

<sup>1</sup> Ribas, who calls the Seris "Heris," does not mention any incursions by the latter into the interior of Sonora. *Historia de los Triunfos*, p. 358: "Sustentanse de caça; aunque al tiempo de cosecha de maiz, con cueros de venados y sal que recogen de la mar van á rescatarlo á otras naciones. Los mas Cercanos destos á la mar tambien se sustentan de pescado." Fray Marcos de Nizza (*Descubrimiento de las Siete Ciudades*, p. 331) speaks of the Seris who came to visit him at Matape without any fear of the Eudeves who lived in that village. In the course of the past century the Seris became more dangerous. *Informe del Padre Lizasoïn, sobre las Provincias de Sonora y Nueva Vizcaya* (Documentes, 3d series, p. 693). In regard to wars between sedentary tribes, see Ribas, *Historia*.

The pottery found at the ruins consists mostly of a kind rather coarse and thick, yellowish or reddish. There are also gray potsherds and a few painted and indented ones; but the latter are scarce. In some localities I noticed none but the coarser varieties, which had the peculiarity of being striated by irregular incisions on the outer surface. These incisions are clearly artificial, and made without any pretence to symmetry, so that their object must have been practical, and not decorative. Inquiring of various Opata Indians living in localities distant from one another, and between whom, therefore, collusion was hardly possible, I learned that the incisions were made for the purpose of facilitating evaporation, so that the fragments thus incised would be those of jars in which drinking water was not merely preserved, but also cooled, by making them artificially porous. I give this explanation with the usual reserve, although it strikes me as quite plausible.

The metates and stone axes exhibit no advance over those of Southern Arizona, and are of the same type. Flint arrowheads I nowhere found, and this is explained by the fact that the Opata Indians used, instead of tips of stone or flint, wooden points hardened by fire. Of other implements, mortars excepted, I saw nothing.

I was everywhere emphatically assured that all the remains along the Sonora stream were those of Opata villages. In regard to some of them, as, for instance, Mututicachi,<sup>1</sup> Jitisorichi,<sup>2</sup>

<sup>1</sup> *Descripcion Geográfica de Sonora*, p. 588: "Otro pueblo desamparado está entre Bacoatzi y Terrenate, que se llama Motuticachi, que fué de pimas altos, y se despobló cuando se erigió la Mision de Santa Maria Soanca el año de 1730, adonde y Cocospera se agregaron dichos naturales por la mucha guerra que en dicho paraje les daban los Apaches."

<sup>2</sup> When Don Pedro de Rivera made his journey of inspection of the frontier garrisons of New Spain, he passed from Bácuachi to Arispe in October, 1726, and found no village between the two places, although he must certainly have passed at the foot of the Mesa of Jitisorichi. *Diario y Derrotero*, p. 37. This



Motepori,<sup>1</sup> and Huépaca,<sup>2</sup> there is not merely tradition connected, but also documentary information. Castañeda gives several names of pueblos met with on his passage with Coronado's troop in 1540 and 1542. He says: "Sonora is the name of a river and of a valley, of which the inhabitants are numerous and intelligent. The women wear under skirts of tanned deer-hide, and small 'san benitos' down to the waist. Every morning the caciques of the village go to the top of little eminences of earth built for the purpose, and for more than half an hour call out like public criers, notifying every one what he is to do. Their temples are little houses around which they plant a quantity of arrows when they look for war. Behind this province, towards the mountains, are built a large number of villages, comprising a number of tribes united in nations of seven or eight, ten or twelve villages. They are Upatrico, Mochila, Guagarispa, El Vallecillo, and others near the mountains which we have not seen."<sup>3</sup>

Previously he states that all the houses of the aborigines, from Sinaloa to the entrance of the "desert of Cibola," were built of mats of reeds.<sup>4</sup> From the highly valuable work of Ribas, published a century after Coronado's expedition, and written by one who had a good opportunity of seeing the Opatas in their primitive condition, we learn that their dwellings were "more durable and in better condition" than those of other Sonoran tribes.<sup>5</sup> It is possible that Father Ribas based his comparison upon the abodes of the Yaquis and Mayos, which were mere huts made of reeds and canes, and

confirms the local tradition that the site had been abandoned previous to the eighteenth, and even to the seventeenth century.

<sup>1</sup> Motepori was occupied in 1726. Rivera, *Diario*, p. 38. It was a mine, still worked in 1764. *Descripcion Geográfica*, p. 668.

<sup>2</sup> The information in regard to the old pueblo of Huépaca is only traditional.

<sup>3</sup> *Cibola*, p. 157.

<sup>4</sup> *Ibid.*, p. 156.

<sup>5</sup> *Historia de los Triunfos*, p. 392: "Sus casas mas durables y conpuestas."

without the foundations of stone peculiar to the houses of the Opata Indians.<sup>1</sup>

The indications concerning the mode of life and organization of the ancient inhabitants of the Sonora valley furnished by the ruins point to an agricultural stock, living in small communities. The ruins appear to be numerous, and are in clusters rather than in a line. This results from the broken character of the country, and it brought about the formation of local confederacies or leagues. It is not surprising, therefore, to learn that between cluster and cluster dissensions were wont to break out, which sometimes culminated in actual hostilities.

Thus I was informed that the Opatas of Sinoquipe and Banámichi had formerly confederated against their southern neighbors of Huépaca and Aconchi; that the Opatas of Oposura made war upon those of Banamichi and Huépaca; and that the people of Opodepe were hostile to those on the Sonora River, etc.<sup>2</sup> One of the consequences of these disturbances was the erection of defensive works, not around but outside of the villages, — places of refuge to which the whole population of several allied settlements could resort in case of danger. The existence of these places, which manifestly were fitted only for temporary occupation, seems to indicate that the warfare which the Indians of that part of Sonora carried on was not the persistent harassing peculiar to northern nomads, but attacks in larger bodies, of the approach of which those who were threatened could be forewarned.

The "cerro de trincheras," or fortified hill of Bato-na-pa, is situated a short distance south of the village of Banamichi.

<sup>1</sup> *Historia de los Triunfos*, pp. 5, 6.

<sup>2</sup> This information was obtained from Opata Indians of Banámichi, Sinoquipe, and Aconchi; how far it can be absolutely relied upon I do not know, yet I see no reason for doubting its truthfulness in the main.

The eminence forms a promontory of considerable extent, the western portion of which is rather densely overgrown with thorny shrubs. Towards the east, vegetation consists of trees, and the palo blanco predominates. The parapets mostly extend along the southern brink of the mesa, and they consist of low and rude walls of volcanic rocks piled up, and not of regular masonry. Their height varies, much of it having been destroyed. The highest point of the mesa is occupied by an enclosure in the shape of a lozenge, the walls of which are about one meter (3 feet) high, and as thick in places as 1.5 meters (5 feet). They are of dry work, consisting of boulders of the size of a man's head, and larger, piled up with considerable neatness, but without any mortar or mud. The enclosure measures about 25 by 21 meters (82 by 70 feet). The fortifications form something like a spiral, following the sinuosities of the ground. On the western slope there are no fortifications, which implies that danger had been expected only from the south and east. The parapets are so low at present that only by lying down behind them can any protection be secured. The whole is exceedingly primitive, and shows no skill beyond that of improving natural lines of defence.

I could not discover any traces of dwellings on the mesa of Batonapa; there is comparatively little pottery, and only a few crushers and an occasional fragment of a metate. All seems to indicate that the place was used only as a temporary retreat by the people of the neighboring villages, now in ruins.

Against an Indian foe the parapets would have been of good service, although their length required quite a number of men to occupy them successfully. The really important part of the stronghold is its highest point, where the rise and contours induced the builders to construct a double line of bulwarks, with angles and salients, so that the outer para-

pets could be commanded from the inner. On the whole, the Cerro de Batonapa resembles the fortified hill of Jio near Mitla, in Oaxaca; and even the Sacsahuaman above Cuzco, in Peru, though on a much smaller and more primitive scale.

The total height of the mesa of Batonapa above the valley is about 60 meters (185 feet), and the first or lowest parapets begin at an elevation of 50 meters (164 feet). To the north of the mesa are hot springs, from which the place has its name, signifying, in the Opata language, "Where the water bubbles."

There is a similar fortified hill near Huépaca, which tradition says was used by the people of the village and of Aconchi against their northern neighbors.

East of Banamichi rises the steep Cerro de Santa Elena, the ascent to which is only possible from the north, east, and south; on the west the acclivity is vertical. Rude parapets similar to those of Batonapa defend the southern and eastern sides, in addition to the great steepness of the slope. They do not encircle the eminence, but run only a short distance, forming not less than six lines, one higher than another, at varying distances. Near the summit is a circular enclosure of stone about 16 meters (53 feet) in diameter and of inconsiderable height. The summit affords an extensive view.

I did not penetrate farther along the Sonora River than Babiácora, or a hundred and ten miles in a direct line south of the Arizona frontier. Beyond that point begins the long and wild Cajon of Ures. There must be ancient vestiges in the vicinity of Babiácora, since it was formerly inhabited by Pimas.<sup>1</sup> South of it begins the ancient range of the Eudeves, a branch of the Opatas.<sup>2</sup> Instead of going in that direction,

<sup>1</sup> Zapata, *Relacion de las Misiones*, p. 352: "La lengua de la gente es pima."

<sup>2</sup> *Ibid.*, p. 354: "La lengua en lo general es ova, la cual solo hablan ellos entre sí, pero con los demas aun usan la lengua Egue." *Descripcion Geográfica*,

I determined to follow the trails leading eastward in order to reach, if possible, the Sierra Madre, where I was told that numerous ruins of ancient settlements might be found. The popular impression was that the head-waters of the Yaqui, and especially those of the Rio de Aros, are rich in vestiges of antiquity; but I was also warned that it would be very difficult, if not impossible, to penetrate into the wilderness, owing to the prevailing state of insecurity. While it was believed that General Crook had been successful in removing the Chiricahuas from the central mountain chain, it was thought that straggling Apaches still infested the country; and there were traces of their occasional presence between Babiácora and Oposura, the nearest settlement in the east. Between these two points, at least thirty-five miles of uninhabited country intervene, so rugged and mountainous that the distance is considerably increased, and the scarcity of water and the steepness of the slopes render transit most tedious and difficult.

On this whole stretch I saw no remains of Indian buildings; a Spanish hacienda stands at Bácuachi, but it is in ruins at present, as the Apaches compelled its abandonment. It is along the Sonora valley and in the countries east of it that one learns what a terrible scourge the Apaches have been since the close of the seventeenth century. Only very few villages are not still half in ruins, and the trails are dotted with mementos of bloody tragedies. The inhabitants of Sonora were not as well armed as their savage invaders, and moreover constant revolutions engrossed the attention of the central and state governments to such a degree that very little military protection could be given to outlying districts. Thus abandoned to themselves, the sedentary Indians and

p. 569: "Los Indios de esta mision son Eudebes." Orozco y Berra, *Geografía de las Lenguas*, p. 344. According to the last author (p. 345), the "Ova" is the Jova, also a dialect of the Opata; the "Egue" is the Eudebe.

Spanish settlers fell an easy prey to a wily and relentless foe.<sup>1</sup> I cannot repeat here the many harrowing tales told me by eyewitnesses of ravages committed, and of murders and massacres perpetrated.

From Babiácora the Sierra de la Palma must first be ascended, a nearly waterless and steep mountain chain of great ruggedness. The trail winds to the top of the crest, and then gradually descends along dizzy slopes, partially wooded. The Mesa de los Morenos, a wide and barren volcanic plateau, is next traversed, after which the Llano de Bácuachi is reached, — a grassy plain where fan palms grow to a considerable height, notwithstanding which the nights are quite chilly. Beyond the ruined hacienda, we crossed the bleak Sierra de Bácuachi unmolested. The descent into the Oposura valley is long and steep. Friable volcanic tufa forms the slopes, and on the picturesque perpendicular walls of chasms that open on every side wild fig trees, pitahayas, and other sub-tropical plants have sunk their roots, covering the cliffs with a network of green tapestry. The climate of the Oposura valley is warmer than that of the Sonora valley, but the vegetation is scrubby, and there is no beauty about the thorny jungles that skirt the river and obstruct travel. Beneath some of these thickets the remains of small villages can be traced. On Plate I. Figure 78, I have given the plan of the most considerable of these. The ruins are in all particulars like those of the Sonora valley, and I therefore refer to what I have said about the latter. The manufactured objects, in-

<sup>1</sup> I will only refer to the reply given in 1850, by the authorities of the village of Bácuachi, and incorporated in the *Noticias Históricas* of J. Lucas Biso (Boletín de la Sociedad Mexicana de Geografía y Estadística, vol. ii, n. 13, p. 71): “La decadencia comenzó desde la misma época de dicho alzamiento [1830], por lo insignificante que han estado las tropas presidiales hasta el día, así como la variación de la capital, como igualmente las revoluciones que ha habido en el estado.” That the Apaches were better armed than the settlers was already a subject of complaint in the eighteenth century.

cluding pottery, are also similar. North of Oposura are the mining regions of Cumpas and Nacosari, occupied in the seventeenth century by tribes of the Opatas stock.<sup>1</sup> I did not visit them, but obtained from a resident of Oposura a description of a house of the Opatas in that vicinity, the roof of which was supported by wooden posts placed outside of the walls, which were of stone laid in adobe. With the exception of a building which I saw in one of the eastern ramifications of the Sierra Madre, of which I shall hereafter speak, this is the only specimen of Opatas architecture which I have heard of as being still somewhat intact. East of Oposura a series of ranges, running parallel with those which I have mentioned as skirting the Sonora River, extends from south of Fronteras towards the junction of the Oposura River with the Yaqui, at or near Tepachi. They are the Sierra Púrica, the Cerro de Nacosari, and the Sierra Grande de Oposura, all wild and rugged chains, with very little water. The western approaches to the Sierra Madre are, in these latitudes, of great ruggedness.

The town of Oposura, or, as it is now called, Moctezuma, has suffered much from the Apaches, as well as from the political disturbances which have afflicted Sonora since the days of Mexican independence. Its buildings are not in as dilapidated a condition as those of Arispe, still they show traces of neglect, characteristic of the disheartening influence which constant insecurity exercises upon the human mind. This was for more than one hundred and fifty years the condition of the population of the northern States of Mexico. In daily peril of their lives from hostile savages, and separated from the outer world by deserts, a cloud of hopelessness has finally settled upon the inhabitants which it will take generations to remove. So long as hostile Indians might at any

<sup>1</sup> Ribas, *Historia*, pp. 358, 359.

moment deprive them of life and property, or some Pronunciamiento call them to arms for a cause of which they had not even a conception, there was slight incentive for them to display energy.

There is little to say in regard to the antiquities of this otherwise interesting region. The architecture of the natives who occupied these portions of Sonora bore such a modest character, and there is such uniformity among the ruins, that it becomes superfluous to refer to all of them in detail.

Crossing in succession the Sierra de Oposura and its eastern ramifications, the Sierra de las Bolas and the Cenizero, and finally the Sierra de Huassavas, to Granados, on the Yaqui River, I found myself surrounded by scenes of nature more rugged, but displaying greater exuberance in vegetation, than those sections of the Sonora valley which I have just described; but I also found there ancient vestiges of the same people.

In speaking of the ruin and decay which have befallen the settlements in Sonora, I have not mentioned another factor that has contributed towards it, the suppression of the order of the Jesuits. It cannot be denied that this order had, from the beginning of the seventeenth century until the second half of the eighteenth, performed great things in Sonora. They had raised the standard, both mental and moral, of the native inhabitants to a much higher level, and had correspondingly improved their material condition. The northern and central parts of Sonora had become dotted with Indian villages which possessed elements of a modest prosperity. With very limited means the Jesuits had resisted the terrible pressure which the Apaches brought to bear upon the natives. In some parts of the Sierra Madre they had been compelled to abandon, as I shall show further on, several of their missions. But in the main they held their own, and were a



mental as well as a material support to the sedentary Indians. The suppression of their order deprived the Christianized natives of this support, and utterly discouraged them. I do not pretend to judge the opportunity or justice of the measure that abolished the "Company of Jesus" for a time. But it is certain that it was a severe blow to Sonora and the northern regions of Mexico in general.

The number of Jesuit missions at one time in Sonora was considerable. Their ruins are not distinguishable from those of prehistoric settlements, except so far as tradition and documentary evidence apply to them. It is, therefore, as I have stated in the preceding chapter, not easy to separate the historic from the prehistoric. I was generally unsuccessful in doing it along the Sonora River, for traditionary information, as well as documentary evidence, is scant and confused. Along the Yaqui and in the Sierra Madre these impediments exist in a less degree, and the classification of the ruins into such as date from a time anterior to the Spanish occupation, and into villages still continuing to exist afterwards or founded since the sixteenth century, will therefore be a less difficult task.

## XIII.

THE UPPER YAQUI RIVER AND THE NORTHERN  
SIERRA MADRE OF SONORA.

THE village of Granados is of recent date, having been founded by two families, the Durazos and Arivsus, in 1826; it has now about four hundred souls, notwithstanding the great hindrance which the Apaches have been to the colonists. Hardly half a mile of a sandy and gravelly beach separates Granados from the Yaqui, which is here a beautiful, broad stream, easily forded in ordinary seasons. On the east bank begins the ascent of the Sierra de Bacadéhuachi.

That mountain chain presents an imposing aspect, rising so close to the river that some of its reddish brown crags seem to overhang it. It forms a mass of vertical cliffs, gigantic pillars, and narrow clefts, with hardly any vegetation, and its height above the stream and the green wheat-fields on the west is at least four thousand, possibly five thousand feet. The Bacadéhuachi chain is about twelve miles wide, separated by a narrow valley from the Nacori chain, beyond which the Sierra Madre looms up in solemn and rugged grandeur.

On the west side of the Yaqui the Sierra de Huassavas hugs the valley quite closely. Dry and rather broad beds of torrents descend from it and spread out towards the river bottom. The ridges between these arroyos are overgrown with the usual thorny jungles; and only the highest parts of

the sierra bear pine timber. In the Yaqui valley it is hot and humid; and at Huassavas, after so many months spent in arid regions, I was now in a country where the moisture of the atmosphere was perceptible even on a clear day. The feeling was by no means agreeable, yet to characterize the climate of Granados or Huassavas as "moist" would create an erroneous impression; it is only less arid than that of other parts of the Southwest.

The sources of the Yaqui are hardly known; from what I could ascertain, they lie nearly due east of the village of Nacori, beyond the bold Sierra de Que-va-uér-ichi, that rises abruptly above the Nacori valley. Chu-ui-chu-pa and Gavilan were indicated to me as the places where the largest river of the Mexican Pacific coast takes its rise. This would place it about in latitude  $29\frac{1}{2}^{\circ}$  and longitude  $108\frac{1}{2}^{\circ}$ , but subsequent investigations will, of course, modify these approximations. The Yaqui, under the name of Rio de Chuichupa, flows first from south to north, and through extremely wild gorges, as far as the neighborhood of Huachinera, in latitude  $30\frac{1}{2}^{\circ}$ . There it makes a short curve to the west, and then again flows, under the title of Rio de Baserac, due north, to the village of Babispe, where it again changes both name and direction,—the former to Rio de Babispe, the latter to the west. Another turn of the river takes place a short distance west of Babispe, and thence on the Yaqui keeps a more or less southerly course, but changes its name frequently. North of Huassavas it is called Rio de Oposto, farther on Rio de Huassavas, still lower down Rio de Sahuaripa; its main confluent is the Rio de Aros. The name of Yaqui is applied to the great stream only below Sahuaripa. I am unacquainted with the country below Granados, as my investigations had to be confined to its upper course, and to such portions of the western Sierra Madre as were accessible at the time.

The region west of the principal chain of the Sierra Madre and east of the ranges of the Purica and Oposura is wild and rugged. The valleys are fewer in number than in an equal distance on the Sonora River, and the gorges through which the Yaqui flows are longer; but some of the valleys, like that in which stand the villages of Granados and Huassavas, and, farther north, the pueblos of Baserac and Babispe, are very fertile. In the seventeenth century the Jesuit missionaries found a fruitful field for their labors in this section of Sonora, for not only were there a number of small Opatas pueblos in proximity to the river, but the interior valleys also had their hamlets, and far into the Sierra Madre extended the settlements of Opatas, Jovas, and Eudeves. The greatest portion of these villages were much smaller than those of to-day. When we read in the catalogue of the Jesuit missions of 1678 that Nacori had 450 inhabitants, Huassavas 632, Bacadéhuachi 360, Baserac 399, Huachinera 538, and Babispe 402,<sup>1</sup> — and in 1730, that the same places had respectively 281 and 150 souls, 150 families, 272 souls, 274 families, 100 families, and 180 families,<sup>2</sup> — these figures indicate the changes which the Jesuits had brought about in the distribution of the population. The missions along the Upper Yaqui and farther east began in 1645.<sup>3</sup> With the subsequent inroads of the Indians from the eastern flanks of the Sierra Madre and afterwards of the Apaches, several settlements were abandoned. These districts suffered from such depredations at an earlier date than the western parts of Sonora. The Janos, Sumas, and Jocomes, tribes living in the vicinity of Casas Grandes, were enemies of the sedentary tribes of Eastern Sonora before the appearance of the Spaniards.<sup>4</sup> Yet their

<sup>1</sup> Ortiz Zapata, *Relacion de las Misiones*, pp. 364, 366, 367.

<sup>2</sup> *Estado de la Provincia de Sonora*, 1730, pp. 622, 623, 624.

<sup>3</sup> *Catálogo de los Partidos*, pp. 793, 794.

<sup>4</sup> This was repeatedly told me by Opatas themselves, as will appear further on.

inroads made no such lasting impression as those subsequently perpetrated by the Apaches. The villages in the Sierra Madre were, of course, most exposed to attack, and we need not be surprised therefore to see more and better provisions for defence in these mountains than along the Rio Sonora. A good specimen of a village protected by a wall of circumvallation is figured on Plate I. No. 79.

This village stands on the Mesa de San Antonio half a mile east of Granados. The eastern end of the mesa overlooks the valley, with sides steep and gravelly. The usual thorny shrubbery spreads over the surface of the mesa, and the rectangular buildings, of which only rubble foundations remain, are scattered at irregular intervals and at every possible angle in relation to one another. The buildings were quite large in comparison with those on the Sonora River, some of them measuring as much as 8 by 10 and 8 by 12 meters (26 by 32½ and 39½ feet). I could not discover any trace of partitions, for the whole is very ruinous, and even the foundations are quite indistinct. In one place I found traces of a small enclosure. Few artificial objects are scattered about the premises, and the pottery fragments are like those on the Sonora River and at Oposura, — plain, coarse, and incised. The metates are of granite, but I found no stone axes, nor was there any flint or obsidian. The surface of the mesa shows no signs of having been tilled; yet it is possible that the people of the little pueblo may have raised corn on it in proximity to their houses, as precipitation is abundant during the rainy season. At the foot of the mesa, in the bed of the Arroyo de la Culebra, are rows of boulders, such as could be picked up in the bed of the torrent at every step, laid on the ground, but not set in it, in parallel rows, intersected by transverse ones at irregular angles, thus forming a series of more or less rectangular

areas of varying widths and lengths. These groups of enclosed spaces are found on the lower end of the arroyo over a space of more than a mile. Higher up I noticed nothing, as the bed of the torrent is so completely covered with boulders as to be almost impassable except on the narrow trail.

These contrivances were new and strange to me. They were undoubtedly artificial, and it was plain that they could not have been foundations of houses or fortifications. They looked rather like rude dams, laid across the course of the arroyo. But for what purpose? The rocks lie loose on the ground, and might be carried away by torrents suddenly descending during a freshet or after a thunder-storm. Nevertheless, they could oppose considerable resistance, and prevent the spaces between them, to a certain extent, from being covered with drift. In fact, they were freer from boulders and gravel than the unenclosed expanses. I was told by Opatas that these lines of stones had been laid by their ancestors in order to keep a certain expanse of ground free from drift, and thus render it proper for cultivation. In other words, that the rows of boulders enclosed garden beds, protected in a measure from being covered with drift by the low dams. Although in appearance sandy, the soil becomes productive wherever irrigated, and the inhabitants of the Mesa de San Antonio had thus formed tillable patches within easy reach of their village.

The query arose, however, why this method had been adopted, which was much more laborious and uncertain in the end, instead of cultivating the fertile loam of the river bottom. Still, a portion of the fields may have been located in the bottom also, as the garden beds in the torrent are of only limited extent. But I was also informed that the bottom was covered with thickets and trees previous to its

settlement in 1826, and it is well known that the stone axe was not adapted to clearing land. I accordingly conclude that these contrivances belong to the kind of agricultural expedients of which I have spoken in connection with the Gila, by means of which the waters of mountain torrents were made to serve for the irrigation of crops planted in their paths. As will be seen further on, such contrivances are very numerous in the Sierra Madre districts.

East of the Mesa de San Antonio, on a high, steep rock, plainly visible from Granados, belonging to the chain of the Cenizero, I was informed, there is a fortified village, rather, as appeared from the description, a "cerro de trincheras," like the fortified hill at Batonapa, and at Santa Elena near Banamichi.

North of the Arroyo de la Culebra and east of the town of Huassavas, which lies on the Yaqui three miles north of Granados, there are dams similar to those just described in nearly every one of the numberless narrow gulches which descend from the sierra and cut up the foot-hills into little nooks. Sometimes the dikes run across the beds of the torrents, as at the Culebra, or are laid transversely across terraces between two gulches. There is a dam in the Cañada de las Tinajitas, and there was a house near the dikes, which, in this case, are laid across a triangular terrace above the junction of two arroyos. There are four dams in the broad and quite level Cañada de Mochu-ba-bi, about three miles west-northwest of Huassavas, and there the number and extent of the dikes is greater than at the Culebra, but I failed to notice traces of dwellings. Pottery also is quite scarce, and only of the red incised kind. Probably the vessels broken were water urns, and the earthenware used on such patches was only brought thither for drinking-water for those who tilled the little fields, and there were no permanent abodes con-

nected with them. I inquired diligently whether there are Indian villages of any description on the mesas about the Cañada of Mochubabi; but those best informed denied it emphatically, assuring me that the garden plots had been cultivated by Indians who resided nearer to the river. Ribas mentions in 1645 a tribe of "Buasdabas,"<sup>1</sup> but whether the old pueblo stood on the site of the present one is not positively stated, although I believe this to have been the case.<sup>2</sup> It was manifestly smaller than to-day, as the policy of the Jesuits consisted in uniting the smaller pueblos to a larger one, and thus congregating them around the

<sup>1</sup> *Historia de los Triunphos*, p. 358.

<sup>2</sup> *Descripción Geográfica de Sonora*, p. 570. All I can gather from this work, which was probably written by Father John Nentwig, then missionary at Huasavas, is that the pueblo stood in 1764 on the same side of the river as to-day. The description of the trail from Oposura to Huasavas is very good, as well as that of the valley itself. Of the former he says: "Á Jonivavi, cinco leguas al Oriente, saldremos á dormir para destroncar (como dicen en Sonora) la jornada de diez y siete leguas, y las doce de bien mala tierra; y pasar la del mayor riesgo de mañana antes que sea de día, y con esto lograremos escafarnos del sol que en todo tiempo es bien bravo en acercándose á medio día. Mayor mente en las quebradubas y cañadas por donde baja el camino á Guasavas." Of the situation and of the valley he remarks: "Y pasando la vista por todos los rumbos, dirá alguno de la comitiva, en que hoy nos hemos venido á meter, que apenas se ve una cuarta de cielo? — Y es así, que en Guasava no se vé la cuarta parte del cielo, á causa de su situacion en un valle que no tiene un cuarto de legua de ancho, á la orilla derecha del rio, que mas abajo se llama el Grande, entre dos sierras altas y asperas, que corren, como su valle y rio, Norte Sur." Already in 1678 the church of Huasavas is qualified by Ortiz Zapata (*Relacion de las Misiones*, p. 364) as "Una linda y muy capaz iglesia, con crucero muy bueno en madera; ricos ornamentos de golpe de plata labrada para los altares; una muy buena capilla de cantores con instrumentos; la cantidad de muchachos de la doctrina en numero, y con puntualidad acuden á ella; la casa de la vivienda del padre buena y cumplida, y los demas habitadores del pueblo la tienen de terrado." It seems that in 1764 a new church had been built, *Descripción (ut supra)*: "Despues de visitar la nueva iglesia, que se puede contar entre las mas decentes de Sonora, dedicada al Apóstol de las Indias San Francisco Javier." In 1730 the old church was still in use. *Estado de la Provincia de Sonora*, p. 622: "La iglesia de Guazaca es grande fábrica antigua y está bien alhajada como tambien la casa." At present the church is only an adobe pile of considerable extent, but it has been rifled.



church of a central mission as much as possible. The abandonment of the smaller villages is therefore not an evidence of depopulation in this instance, but rather of concentration for purposes of teaching and for greater security.

Southwest of Huassavas and nearly due west of Granados, above a narrow and rocky gulch, there are Indian carvings, executed on a smooth rock at the height of about twelve meters above the bottom of the arroyo. They are uncouth, incised figures, possibly intended for human forms, and enclosed by a rude trapezoidal frame cut in bas-relief. This sculpture is called *La Cara Pintada*, (literally, the Painted Face,<sup>1</sup>) and while it is undoubtedly Indian, it is not known whether the work was done by sedentary natives or by nomads, although the presumption is in favor of the former. Inside of the frame containing the human figure there is also the outline, very crudely executed, of a snake, resembling somewhat the symbol for lightning of the New Mexican Pueblo Indians. No remains of houses or dikes are in the immediate neighborhood of the *Cara Pintada*; the spot is wild and rugged, and appropriate for symbolic sculptures of Indian origin.

To the north of Huassavas, for a distance of nearly thirty-five miles, extends a desert, a broken and deserted mountain country. It is the stretch between the two portions of the Yaqui River, of which the eastern flows from south to north, and the western, below the bend at San Raphael, in the opposite direction, forming thus a peninsula of scarcely eighteen miles in width, in latitude  $30\frac{1}{2}^{\circ}$ . This tongue is occupied, in its northern half, by a wild and arid mountain chain, the Sierra de Teras, while the southern is covered

<sup>1</sup> The term "Pintado," in common parlance in the Southwest, signifies quite as often, when applied to pictographs, "carved" as "painted." "*Cara pintada*" may therefore be also translated "face carved out of the rock." I thought, however, I saw traces of red paint on the sculpture, but may have been mistaken.

by ramifications of the Sierra de Huépari. Fifteen miles north of Huassavas lies the village of Oposto, which is also an old settlement of Opatas and an ancient mission, the baptismal records of which begin in 1645.<sup>1</sup> I did not visit Oposto, but, after glancing at the valleys of Bacadéhuachi and Nacori, and the western flanks of the Queuavérichi Mountains, turned to the north-northeast in order to reach Huachinera, and finally to cross over into Chihuahua.

The Sierra de Bacadéhuachi, as previously stated, is a range of great steepness and ruggedness, especially on its western declivity towards the Yaqui River opposite Granados. From its volcanic slopes, after two or three hours of tedious ascent, the river and the green wheat-fields on its banks appear as if they lay at the bottom of a deep chasm. We look at them through a gap flanked by enormous rocks, and everywhere gigantic pillars and lofty pinnacles rise to the sky. There is no permanent water and no vegetation, — nothing but naked walls and crags, steep inclines, and chasms.<sup>2</sup> From the crest the eye plunges eastward into the valley of Bacadéhuachi and over slopes less inclined, and therefore decked with the usual scrubby vegetation. Beyond that valley rises the Sierra de Nacori, and still beyond the pine-clad Sierra de los Parapetos, and a blue silhouette in the far east indicates the Sierra Madre. No ruins can be expected in the clefts and precipices by which the Bacadéhuachi Mountains are rent, rather than traversed.

<sup>1</sup> *Catálogo de los Partidos*, p. 793: "Segundo nuestro Padre San Ignacio de Opotu; sus bautismos comenzaron año de 1645." In 1678 the pueblo had 424 inhabitants. Ortiz Zapata, *Relacion de las Misiones*, p. 365. The church was not as large as that of Huassavas. In 1730 Oposto had 448 inhabitants. *Estado de la Provincia de Sonora*, p. 622. In 1764, the *Descripcion* (p. 572) places Oposto at "diez leguas al norte sobre la orilla derecha del mismo rio."

<sup>2</sup> This ascent to the Bacadéhuachi Mountains is called in *Descripcion* (p. 576). "La famosa cuesta de Bacatehac, donde cerca de una decena de cruces nos piden sufragios, por otros tantos muertos por los Apaches."

The valley of Bacadéhuachi is quite narrow, with a streamlet running through it. The climate is warm, there is some fertile soil, and there are small clusters of ruins scattered over the jungle-covered hills. The pottery, etc., is of the usual kind. Plans of the remains which I measured on the Mesita Montosa and the Mesita de San Marcos are given in Plate I., Figures 81 and 82, near the dilapidated and sad-looking present village.<sup>1</sup> The ruins on the Mesita Montosa present enclosures, plainly marked, and a mound indicating a small building. I was told that there were other ruins of like aspect and size scattered along the valley, but no vestiges of ancient settlements of considerable extent. None of the dike-like contrivances already described were found in the Bacadéhuachi valley.

The Sierrita de Nacori is a low range, on the crest and slopes of which I did not notice or hear of any ruins, but the valley of Nacori is rich in remains. They are, as far as I could see, small clusters, or frequently only isolated houses, nearly always connected with artificial dams. I have given a plan of the ruins on the "Divisadero," east of Nacori, where the indistinct remains of a few small buildings stand on the top of the hill (Plate I. Figure 80). A system of dikes and a few houses is found at Vay-ua-va-vi in the same vicinity. These ruins lie in the foot-hills of the Queuavérichi chain, a mountain range which rises majestically over the Nacori val-

<sup>1</sup> In 1884, Bacadéhuachi contained five hundred inhabitants. The place presented a sad appearance, being much dilapidated and neglected. The Apaches have committed fearful ravages during the past and present centuries. In some years the number of people killed in the parishes which now form the parish of Huassavas, and included Huassavas, Nacori, Opoto, Bacadéhuachi, Huachinera, Baserao, Babispe, and San Miguelito, an aggregate of 5,500 souls, reached as high as eighty to one hundred a year. The present church of Bacadéhuachi is a remarkable structure, but it dates from the closing years of the past century, when the Franciscans had charge of the former Jesuit missions. Remains of the old Jesuit church still exist, and I was informed (after it was too late) that it contained two stone idols of ancient make.

ley and terminates in a high peak which descends abruptly to the south. To cross this chain from either side is said to be attended with great difficulties, which has proved an element of comparative security for the inhabitants of Nacori during their long troubles with the Apaches. In later years the people of the Yaqui River were in the habit of sending their live stock to the Nacori valley for safety.<sup>1</sup> The valley opens to the south; in the north also there is a gap, but it is of difficult passage on account of the broken nature of its volcanic rocks. North of Queuavérichi rises the Sierra de los Parapetos, on whose western declivity ruins are found, at a place about twenty-five miles northeast of Nacori. Several of the steep heights that rise in front of the mountains, like videttes, were said to be fortified, one of which I examined, the lofty Cerro de Tonibabi, south of east of Nacori. I found it a typical "cerro de trincheras," very similar to the one near Santa Elena near the Sonora River. The parapets, however, were higher, and composed of larger blocks of stone. Little pottery accompanied the lines of fortification. I saw no houses, but a number of circular places which might have served as lookouts. The view from the height is very extensive to the west, north, and south. In the east the high sierra completely obstructs it. At the foot

<sup>1</sup> I was told that the ranges east of Nacori were impassable to cattle, and the only way by which the Apaches could drive them out was past one of the settlements lying east, south, or north of Nacori. The inhabitants of Oposura even sent their cattle to that valley, where they were safer than at a greater distance from the Sierra Madre. Nevertheless Nacori was hard pressed by the Apaches, and several times in imminent danger of being destroyed. The last attack was made on the 17th of July, 1883, and it came very near being successful. Nacori contains at present three hundred inhabitants. It is built in the form of a hollow square, and the houses are connected by a wall, so that it is in fact a fort, the entrance to which is by two heavy wooden gates. The church is a plain adobe structure. The houses of the hamlet are also of adobe, and not large. The fields are scattered along the arroyo, which is not always flowing. In fact, drought is a drawback to the otherwise fertile valley.

are hot springs, from which the place derives its Opata name.

The view which one enjoys from the hills northeast of Nacori is historically interesting. But, while extensive, it is by no means beautiful. Hills and vales covered with a dusty vegetation stretch toward the south and southeast, and along the horizon rise hazy isolated mountains, with a shaggy profile. At one time the Jesuits had several missions in that now utterly deserted region. Within a radius of thirty miles southeast of Nacori lay the Indian villages of Tyopari, Servas, and Mochopa. The mission at Tyopari was founded in 1676,<sup>1</sup> while Servas became christianized about 1645.<sup>2</sup> North-

<sup>1</sup> It is also written "Teopari," according to the *Catálogo*, p. 791. The baptismal records of the mission begin in 1676. "Sus bautismos comenzaron año de 1676." In the previous year it was visited, from the Chihuahua side, by Father Tomar de Guadalajara, S. J. Father Ortiz Zapata says, in the *Relacion de las Misiones*, p. 342: "Salió dicho padre al pueblo de San José de Teopari de Ovas cristianos pertenecientes al pueblo de Saguariipa que está quince leguas distante hácia el Oriente de la cabecera dentro de la sierra y habiendole visitado dice en su carta de Teopari á tres leguas está el rio que es el de Papigochic y ya cerca de Saguarpia coje el nombre de Iaqui y otras tres leguas ó cuatro rio arriba está una hacienda llamada Oparrapa; . . . de Oparrapa á dos leguas está la ranchería de Natora que es de mucha gente." He mentions other villages and rancherías, thus showing that some portions of the interior of the Sierra Madre were still fairly settled in the seventeenth century. In addition to those villages, it is stated, in 1764, that many Jovas lived in scattered houses, or possibly even in caves. I suspect that the following passage in the *Descripcion Geográfica* (p. 552) may apply to the latter sort of abodes: "Mas zapios y agrestes son los Jovas especialmente casi la mayor porcion de su casta que no quiere reducirse á vivir en pueblos, fuera de los que están en Ponida, Teopari y Mochopa; sino tiran a vivir en las barrancas de la sierra donde nacieron; . . . los de la ranchería de Satechi y los de las márgenes del rio de los Mulatos y del de Aros, que moran entre breñas y malezas, manteniendose con raices, yerbas y frutas silvestres, consistiendo sus siembras solo en tal cual mata de maiz y algunas calabazas y sandias donde los consentian las angosturas, en que dichos rios rompen por aquella sierra." In 1730, Tyopari contained seventy-eight families, and had a church, and in its neighborhood was the mission annex of Santa Maria de los Dolores, with forty-five families.

<sup>2</sup> *Catálogo*, p. 794, calls it "Sereva"; the *Relacion de las Misiones*, p. 366, "Sereba." That report gives the distance from Bacadéhuachi at "siete leguas

east of the latter place lie the abandoned silver mines of Huaynopa, about which weird tales are circulated in Sonora as well as in Chihuahua, and the search for which has cost so many lives.<sup>1</sup> Satechi is another abandoned village in that vicinity.<sup>2</sup> The Indians who inhabited these villages were, at Tyopari and Satechi, Jovas; at Mochopa and probably at Servas, Opatas.<sup>3</sup> Their abandonment was brought about by the incursions of the Apaches, except in the case of Servas, which the Sumas and Jocomes destroyed in 1690.<sup>4</sup> The other three were still occupied in 1764, and given up between that year and the end of the past century.<sup>5</sup> In examining the

de distancia al sur tiene el pueblo llamado Santo Tomas de Sereba, adonde se redujó un pueblo antiguo llamado Setasura." Population in 1678, 272 souls. Servas and Setasura are thus proved to have been not contemporaneously inhabited, but successive settlements of the same tribe.

<sup>1</sup> The mines of Huaynopa have been so frequently sought for that it may not be amiss to give here the location according to *Descripcion*, p. 577. Speaking of Satechi it says: "No confina esta mision con poblacion de Españoles, sino la despoblada de Guainofa, como doce leguas adelante de Satechi al nordeste en la sierra, la que tenía muy ricas minas de plata." The mines of Huaynopa must therefore have been abandoned before 1764.

<sup>2</sup> Satechi appears to have been a mere hamlet. *Descripcion Geográfica*, p. 576: "Y doce leguas al oeste sudoeste [from Nacori], hay una ranchería de Jovas que pertenecen á esta administracion llamada Satechi, de cuya nacion andan muchos por la serrania, sin reconocer pueblo ni padre misionero por suyo."

<sup>3</sup> Ortiz Zapata, *Relacion*, p. 348. *Descripcion*, pp. 568, 576. *Estado de la Provincia de Sonora*, p. 621.

<sup>4</sup> *Descripcion*, p. 585: "El pueblo de Santo Tomás de Servas de nacion opata está despoblado desde 1690 por haberlo asolado y destruido enemigos, que es creible serian Jocomis y Sumas." Of the others it is stated in the same place: "El pueblo de Natorase despobló el año de 1748, por orden del Exmo Sr. Virey conde de Revilla Gigedo, á causa de ser inadministrable desde Teopari su cabecera, por las muchas cuestas, malos pasos, larga distancia de leguas, cuyos naturales, de nacion Jovas se poblaron á media legua de Arivechi, constituyen hoy el pueblo de Ponida, en donde son administrados y el pueblo de Teopari y la ranchería de Chamada (esta ranchería ya se mudó al pueblo llamado Santo Tomás) quedaron desde entonces agregados á la mision de Saguariipa, habiendose despoblado el propio año San Matéo por invasion del enemigo Apache."

<sup>5</sup> *Descripcion*, p. 567: "Está á diez y seis leguas al Oriente" of Sahuariipa and an annex to the mission at the latter place. On page 576, it mentions Mochopa and Satechi as still occupied.

antiquities of this region, the fact of the comparatively recent abandonment of these villages should not be overlooked, nor should it be forgotten that several attempts at mining were made during the early part of the eighteenth century, in the interior of the Sierra Madre.<sup>1</sup>

If from the Cerro de Tonivavi we look to the north and the northeast, the bold and pine-clad mountains rising in that direction recall a recent event which has been of great importance to the Southwest in general. It was at Los Metates, northeast of Nacori, in what is called the Sierra de los Parapetos, that the late Major General Crook made the treaty with the Chiricahui Apaches which led to the pacification of that unruly tribe and its return to Arizona. Aside from the political and military importance of General Crook's achievement, and not speaking of the tact and daring displayed by him on this "armed peace mission," as I have elsewhere ventured to designate his campaign, we owe to it the first intimation of the existence of ruins in the interior of the Sierra Madre.<sup>2</sup> The officers of his expeditionary corps, notably Captain J. G. Bourke, have reported that cave dwellings and other ruined abodes, also dikes built for the purpose of forming arable plots on slopes and in the beds of torrents,<sup>3</sup> are met with in what now is a forest wilderness, shunned by civilized man for more than a century, and barely accessible at the present day. With the very limited

<sup>1</sup> *Descripcion*, p. 600: "Y mas á este rumbo hay muchas minas despobladas en las cercanías de la ranchería de Satechi y hasta bien ádentro de la sierra, como las que éran del real de Guainopa." It seems therefore that the mines in the interior of the Sierra Madre were abandoned previous to 1764.

<sup>2</sup> This was reported at the close of the campaign, but I have not at my disposal the publications in which the notices appeared. Whether or not Spanish authorities of older date have referred to those ruins, I am unable to say.

<sup>3</sup> *An Apache Campaign*, p. 60: "In every sheltered spot could be discerned the ruins, — buildings, walls, and dams erected by an extinct race once possessing this region." This was in the upper parts of the Cajon de Bamochi, east of the Sierra de Huachinera.

means placed at my disposal, one year after General Crook's memorable campaign, I intersected his route through the Sierra Madre in several places, and thus became able to testify to the truthfulness of the statements made concerning the antiquities in the interior of the great chain.

Turning to the regions that bound upon the Yaqui in the direction north of Huassavas, I have already stated that expanses devoid of ancient remains intervene between those in which are scattered traces of settlements. This leads to the inference that the groups geographically separated may have been also politically distinct. I recall in this connection the passage of Castañeda quoted in the preceding chapter.<sup>1</sup> Ribas, a hundred years later, speaks of the Buasdabas (Huassavas) and the Bapispes (Babispes) as distinct tribes,<sup>2</sup> and in the valuable description of Sonora of the year 1764 is the following explicit statement:—

“In the past an office has been created among the Indians, I do not know for what reason, which anciently was unknown to them. It is neither a religious office, nor for the royal service; neither for the public or private good has it any utility. This is the office of Captain General. It is clear that in ancient times it did not exist, either under that name or any other; for those of each cluster or settlement obeyed only the most valiant man who distinguished himself in his community, and they recognized no one as superior to him. Those clusters, although belonging to the same nation, had their dissensions and wars among themselves, as for instance those of Bacadeguatzi with the Baseracas, because the latter were in the habit of coming at night and making their provision of salt in the saline belonging to Bacadeguatzi; and if the former noticed their presence, they went out to

<sup>1</sup> *Cibola*, p. 157. See *ante*, p. 490.

<sup>2</sup> *Historia de los Triunfos*, p. 359.



defend their rights, as they claimed that the salt, which they used in their dishes, belonged to them exclusively, and that they were the sole owners of it, since they owned no other."<sup>1</sup>

This passage is quite instructive. In the first place, we are informed of the Salines in the vicinity of Bacadéhuachi, which are still known to exist, although they are of limited extent, and of the fact that in times anterior to Spanish colonization the natives used salt for household purposes. More important yet is the confirmation of the picture of the social organization of the Opatas, as I presented, though with less positive data, that of the inhabitants in the Sonora valley in times anterior to Columbus.

The distance between Huassavas and the village of Huachinera is fifty miles counting by the winding trail, which after thrice crossing and recrossing the Yaqui, meanders through rugged cañones and over steep and rocky ridges. The yucca plant grows quite tall in this wilderness, and as we rise towards the plateau (Llano) of Huépari oaks begin to appear. Not far from Huassavas, in a recess of the Bacadéhuachi Mountains, there is a cave called Vay-mó-dachi, where the Opatas used to hold secret meetings for magic purposes. Such conclaves were even said to have been held until lately, and they are an indication of some ethnological value. At present the cave is regarded as a resort of witches. To the secret organizations among primitive peoples, and to nightly gatherings of their members in secluded spots, the origin of many popular legends and weird folk-lore tales may safely be attributed.

I did not notice any ruins until I came to the basin called "La Tinaja," at the foot of the steep Cuesta del Jarato. There is permanent water in natural tanks, and I saw the

<sup>1</sup> *Descripcion Geográfica*, p. 595.

remains of small isolated buildings measuring about  $3\frac{1}{2}$  by 5 meters. Rubble foundations and rubbish are all that remain, except some traces of artificial dikes. Pottery, plain, red, and incised, was scattered over the scarcely distinguishable remains, and I noticed here for the first time the foot of a stone metate. This was new to me, and I am in doubt whether possibly the implement may not have been a modern corn-mill, accidentally broken on the spot and left by the owners.

The change in climate which one witnesses after ascending by the Jarato to the plateau of Huépari, is striking. A sloping plain covered with high grass and dotted with oaks stretches to the northeast. The wind blows cool and strong over it, and we breathe easily after the days spent in the narrow clefts along the Yaqui. The mountain panorama is extensive; the Cerro of Nacosari looms up in the west, and, in closer proximity, the forbidding Sierra de Teras. In the east rises the wooded Sierra de Huachinera, behind which, in a narrow and wild gorge called Cajon de Bamochi, General Crook and his little force toiled into the Sierra Madre the previous year. In the south, a broad gap divides the Bacadéhuachi range from that of Nacori; but the appearance is deceptive, for the Tahuaro, as this gap is called, is partly a lava-flow almost impassable on account of the rents and gashes in its surface. South of the Huachinera Mountains and east of the Nacori chain rise the crests of the Eastern Sierra Madre. The Tahuaro is remarkable for the profusion of nodules of obsidian contained in its lava, which appear also on the surface of the Huépari mesa, and, with the boulders of hard lava with which the ground is covered beneath the tall grass, render travel rather uncomfortable for the horses. Near the brink of the arroyo or valley of Tesorobabi, the rock becomes more friable, and the obsidian nodules

extend only over a part of the declivity. Vegetation crowds into the bottom of the upper part of the valley. Cottonwoods rise in tall specimens and cluster in groves, and wild flowers, such as the Tivin-a-ui, or Yerba de San Pedro, and others, adorn the spot, and poisonous ivy grows in abundance. The bottom, though not extensive, is fertile, and there is an abandoned hacienda at Tesorobabi; there are also said to be ruins in its neighborhood,<sup>1</sup> but I had not time to make any investigations. Thence the trail follows the downward course of the arroyo, and, while the trees diminish in size, there is no decrease in the quantity of wild flowers. Towards the lower end of the valley ruins again appear, which I was unable to investigate, but was assured that they were in all respects similar to those around Huachinera.

This former Jesuit mission, founded about 1645, is now a village of four hundred inhabitants, situated on the banks of the Tesorobabi Creek.<sup>2</sup> Bleak hills, with numerous ruins, surround the fields of the pueblo on all sides. On Plate I. Figure 83, will be found the plat of the ruins on the Mesa Juriban, opposite Huachinera. There is nothing in the appearance of the foundations to which the former houses are reduced to distinguish them from other similar places in Sonora. The same may be said of the remains at the Horconcitos, or Hueri-huachi, Plate I. Figure 84, three miles north of Huachinera, and of those at Terapa, a mile and a half north of the town. Besides the little mounds indicating houses, there are enclosures, without any traces, however, of the checker-board arrangement peculiar to ruins in Southern and Eastern Ari-

<sup>1</sup> Bourke, *Apache Campaign*, p. 57: "Alongside of this ranch are the ruins of an ancient pueblo, with quantities of broken pottery, stone mortars, obsidian flakes, and kindred reliquæ."

<sup>2</sup> In 1884 the population of Huachinera was 290 souls; there was not a house in the whole town valued at more than one hundred dollars.

zona. I saw no dikes at either of these three localities. What, however, struck me at once, was the character of the pottery. Instead of the coarse and plain ware noticed elsewhere in Sonora, the potsherds showed a degree of perfection which I had not seen farther north, except perhaps at the ruin near San Matéo, in Western New Mexico. Its quality was superior, comparatively thin, and well glazed. The shapes of the vessels were of the usual forms of pueblo pottery, but there were also a few with concave bottoms. All the designs were clearly evolutions from the well known symbols of the Pueblos. I noticed among them the clouds, the whirlwind, the earth, the double "line of life," and the lightning. The colors were of various and even of quite unusual hues, and the lines drawn with care. I was also struck by seeing for the first time a figure in the shape of a large heart. From the vicinity of Huachinera on, this excellent pottery was associated with all the ruins, irrespective of variations in architectural type.

West of Huachinera a long and sandy wooded valley leads almost due east towards the place where the Yaqui River issues from the sombre gorges of the Huachinera Mountains. This is traversed by the Arroyo de la Calera; afterwards comes a region quite broken, and thickly overgrown with mezquites and cottonwoods; and finally bare hills rise in the northwest, merging into the Sierra de Baserac. Descending these hills, the valley of Cobora is reached and the banks of the Yaqui River, which we had left to the west of us after crossing it the last time on the journey from Huassavas to Huachinera. This is here a roaring torrent, bordered by narrow tillable expanses in spots on the first or lowest tier of terraces above the gravelly bottom. Tall mezquites grow on these terraces in isolated specimens, and here I found a number of ruins of small villages, Cobora, Qui-ta-mac, and Los Otates,

all once Opatá settlements. For the plan of the first one, see Plate I. Figure 85. It will be noticed that the houses are more regularly disposed than elsewhere in Sonora, forming a hollow square. But none of the buildings exceed in size the average dimensions of those on the Sonora River. A system of dikes has been established near Quitamac, across the course of a gulch that descends a steep incline. Beyond each dike a little platform has been formed, the surface of which contained an accumulation of quite fertile soil. On the highest point of the dike there stood what appeared to be the remains of a small dwelling. It seemed as if the gravelly nature of the river bottom and the impossibility of irrigating the first terrace and of cultivating the steep slopes had compelled the creating of tillable patches in the course of the torrents in the artificial manner suggested. Such dams were quite numerous in this vicinity.

Ascending the banks of the Yaqui for a few miles in an easterly direction, and thus approaching the mouth of the gorge, I visited the ruins of Baquigopa on the north side of the river (see Plate I. Figure 86). Although the buildings are not much larger, they seem from the amount of rubbish accumulated and the height of the mounds to have consisted of adobe with rubble foundations, and possibly to have rested on low artificial platforms. In addition to houses, I found at Baquigopa the traces of a defensive wall of stone reared along the edge of the terrace on which the pueblo is built; and below this terrace extended an area covered with good soil, on which the foundations of small buildings appeared, together with traces of former cultivation. It would have been possible to irrigate this area from the river; but if there were ever any acequias, I was unable to discover them. Crossing the Yaqui again to the south, and traversing the dizzy and dangerous path that winds around the cliff of Civo-

na-ro-co above the raging stream, I visited the ruins of Bat-so-pa. These consist of at least seventy or eighty houses in a badly ruined state, stretched out at irregular intervals on a narrow tongue above the river. There are many dikes built across the gulches, which terminate on this tongue.

At Batesopa I was shown a circular depression measuring about ten meters (33 feet) across, surrounded by a low rim three meters (10 feet) in width, looking very much like the threshing floors in use among the Pueblo Indians of New Mexico, except for the slight depression. I was told by an Opata from Huachinera, one of the few who still have a practical knowledge of the Opata language, that the sun and moon had been created here by his ancestors. I copy the story as told me from my Journal of the 18th of April, 1884:—

“The people built two fires, and then began to tickle each other. A man and a woman were found who were not ticklish. They threw the man into one of the fires, and he was changed into the sun, and the woman into the other, and she became the moon. The sun appeared first in the heavens, in the west; whence he proceeded east, there to begin his diurnal course, and the moon followed in like manner.”

Afterwards the same Indian told me: “The old people sat together all night in order to invent a name for the sun, and at sunrise they had not yet found one, when a cricket, sitting under a metate near which an old woman was crouching, began to chirp, ‘Ta-senide, Ta-senide.’ Thenceforward they called the sun ‘Ta.’ They took the cricket, put it in a safe place, and cared for it until it died of old age.”

I give this bit of folk-lore especially on account of its analogy with the Nahuatl legend of the creation of the sun and moon.<sup>1</sup> It is noteworthy that the Opata language has lately

<sup>1</sup> *Historia de los Mexicanos por sus Pinturas* (Anales del Museo Nacional de México, vol. ii. p. 90): “Visto que estaba acordado por los dioses de hazer sol,

been declared to belong to the same stock as the Nahuatl;<sup>1</sup> and while it may be that the tradition is originally Opatá, there is a possibility that it was imported by Central Mexican Indians who came to Sonora with the Spaniards.

In connection with these myths I was informed of some historical traditions concerning the ruined pueblos in this remote corner of the upper Yaqui region. They point to the fact that the Opatas of Batesopa and Baquigopa, and perhaps those of Cobora, were frequently disturbed by the inhabitants of Casas Grandes, on the other side of the Sierra Madre. From Batesopa, Casas Grandes may be reached in less than five days of wearisome foot-travel, across a very rough mountain wilderness.<sup>2</sup> It was also asserted that the Opatas of Batesopa in revenge made incursions upon Casas Grandes. At last the aggressions of the Indians from Western Chihuahua became so troublesome, that Batesopa and Baquigopa had to be abandoned, their inhabitants retiring to Terapa in the immediate vicinity of Huachinera. When the hostilities on the part of the Casas Grandes Indians ceased, Bate-

y aúa fecho la guerra para dalle de comer, quizo quiçalcoatl que su hijo fuese sol, el qual tenia á el por padre y no tenia madre, y tambien quizo que tlalocatecli, dios del agua, heziese á su hijo del y de chalchuitli, que es su muger, luna, y para lo hazer ayunaron no comiendo fasta . . . y sacaronse sangre de las orejas, y por esto ayunauan, y se sacavan sangre de las orejas y del cuerpo en sus oraciones y sacrificios; y esto fecho, el quiçalcoatl tomó a buhijo y lo arrojó en vna grande lumbré, y de allí salió fecho el sol para alumbrar la tierra. Y despues de muerta la lumbré, vino tlalocatecli y echó á su hijo en la ceniza, y salió pecho luna, y por esto parece senizienta y escura; y en este postrero año deste treze comenzó alumbrar el sol, porque fasta entonces aúa sido noche, y la luna comenzó á andar tras el y nunca le alcança, y andan por el aire sin que lleguen a los cielos." More explicit yet is Sahagun, *Historia General de las Cosas de Nueva España* (ed. of 1829, vol. ii. pp. 245-250); but the quotation is too long to be given here.

<sup>1</sup> Gatschet, *Classification into Seven Linguistic Stocks* (Wheeler's Survey, vol. vii. p. 403).

<sup>2</sup> The wild gorge from which the Yaqui emerges into the low grounds of Batesopa is said to lead, in the first place, to a spot called "Los Taraycitos," where well preserved ruins are reported as existing.

sopa and Baquigopa were again occupied, until finally the Jesuits prevailed upon the people to abandon them permanently, and to settle at Huachinera. These tales therefore apply partly to a period anterior to the seventeenth century, and, if reliable, they cast some light upon prehistoric occurrences. At all events, they tend to show that villages of sedentary Indians formerly existed much farther in the interior of the Sierra Madre than now, and that many of these villages were not the abodes of a "lost race," but simply the results of a former expansion of a stock still existing.

I have already mentioned that the Sierra Madre contains vestiges of cave dwellings, and it is not certain that all of these were prehistoric. Besides the well known fact that a part of the Tarahumares in Southwestern Chihuahua dwelt, and dwell to-day, in caves, many of which are artificially partitioned, I have been able to find a few leaves of the oldest church books of the parish of Bacadéhuachi, on which were recorded several notices of deaths of Indians whom the "enemy" had wounded, and to whom the missionaries went to administer the sacraments in the caves in which they lived.<sup>1</sup> It seems, therefore, that even during the historic period there were Opata (or Jova) Indians who resided in such natural shelters; and also, that, as I have repeatedly remarked, cave dwelling is not peculiar to a distinct stock or tribe, but a result of natural causes, or of circumstances affecting the security of living.

The artificial objects which I noticed in connection with the ruins described are like those around Huachinera, and the potsherds exhibit the same superiority in design and

<sup>1</sup> *Libro de Difuntos de Bacadéhuachi*, 1655, MS.: "Matauan los Opauas adentro de las cuevas, endonde biuían antes de cristianizarse, y les daban sagrado, porque estauan catequizandoles."



make. The pieces are mostly thin, but very hard. I was informed while at Huachinera that layers of excellent mineral paint, of various hues, crop out in the neighborhood of Nacori. These mineral deposits may have exercised some influence upon the quality of the pottery; but it is surprising that at Nacori itself the ancient pottery should belong to the crude and almost undecorated variety peculiar to the Sonora valley, and that the finer kinds should be found about forty miles farther north. Painted specimens are found occasionally in localities where the common kinds prevail, but they are extremely rare. East of Nacori, in the main sierra, the potsherds are said to belong to the handsomely decorated class. The places where they were noticed cannot be very far, in a straight line, from the Nacori valley.

From Huachinera to Baserac, the distance is about twelve miles. At first, the trail follows the Tesorobabi torrent, which below Huachinera is not perennial; then it enters a broad and open valley, "rather bleak. The heights on both sides are low and somewhat rocky, but not so rocky as farther south. There is hardly any vegetation but low cedars, mezquites, and arboriferous *Opuntia*. Everything looks 'New Mexican.' At the Estancia, a large hacienda, the Yaqui is crossed again; it is a broad, swift, and limpid river, which here has emerged from the cañones of the Sierra de Baserac, and soon after turns to the north. Remaining on the east side of the river, we crossed bare hills and dry gulches, until we emerged again into the valley, which there has assumed an almost semicircular form. The village of Baserac lies directly above the river on a steep bluff, not so high as the one on which Huachinera is built."<sup>1</sup>

A little east of this trail, and a few miles only to the south of Baserac, an arroyo winding through a series of basins is

<sup>1</sup> *Journal*, April 21, 1884.

traversed by a number of artificial dikes. The arroyo is enclosed by bleak hills not over fifteen meters (49 feet) high, from which the rock projects in ledges and benches; occasional cedars or junipers, and a few mezquites, grow on them, and the tops are covered with grass. The bottom of the gulch is the usual sand and gravel, except behind each of the traversing dikes, where triangular or quadrangular patches of soil have formed as high as the original height of the dikes. That height nowhere exceeds 1.5 m., or 4 feet 10 inches, and their thickness is not over 0.5 m., or 22 inches; they are regular walls of broken stones laid in adobe mud, and the grade on an extent of 120 meters is not quite 12 meters. I noticed no traces of buildings in connection with these dams, but there are ruins within a compass of a few miles, among which is the ancient pueblo of Ta-mi-cho-pa, of which only faint traces remain, — so faint, indeed, that it was impossible to secure a ground plan. It lies on the north side of the Yaqui, on a plateau showing signs of former cultivation. Tamichopa is a historic pueblo. It was inhabited until 1758, and there was also a Spanish rancho near it. On Saturday before Palm Sunday, while the inhabitants were all away from their homes, the Apaches set fire to the houses, and everything was consumed except the chapel, and the place remained deserted thereafter.<sup>1</sup> Opposite Tamichopa, on the terraces above the river, on what is called the Mesa de la Prensa, are ruins of enclosures, and also of a few houses. I have given a plan of the former on Plate I. Figure 87.

The old pueblo of Baserac stood, as I was informed by an

<sup>1</sup> *Descripcion*, pp. 577, 585: "El por los Apaches abrasado pueblo y estancia Tamichopa, que asi lo llaman por el mucho chamizo que aqui se da en las vegas del rio. . . . Tamichopa, pueblito y estancia de la mision de Baseraca, fué destruido y quemado (dejando intacta la capilla) por los Apaches el año de 1758 vispera de Ramos. Fué la dicha de sus pocos naturales Opatas hallarse en la ocasion todos fuera de él para quedar con sus vidas."

aged Opatas living in the village, on the east bank of the Yaqui, although to-day it stands on the western. The present church is a clumsy adobe building, but there are still remains of an older edifice, built by the Jesuits. A few arches of stone resemble the style of the seventeenth century, and the beams in the present temple may also be ancient. There are many descendants of Opatas in the place, but I found only a few who could speak the language. Even among these there was much difference of opinion concerning the derivation of the most current local names, and while my informants unanimously confirmed the traditions related above, as to hostilities between the people of Casas Grandes and the Opatas of Batesopa and Baquigopa in early days, and the consequent abandonment of these villages, their statements concerning other subjects were conflicting and contradictory.

West of Baserac the Sierra de Teras rises in frowning crags, over which there are only one or two passes, and it is moreover poorly supplied with water. On its eastern base lie ruins, at a distance of about twelve miles from Baserac. The place is called Los Metates, and forms a basin surrounded by steep heights at the foot of the mountains. Oaks grow in clusters, and tall grass covers the bottom, in which there is permanent water. The site is in appearance completely shut out from the outside, looking like a hidden corner, a secluded retreat. From the base of the lofty cliffs narrow tongues of rock descend and traverse the bottom, forming mesas of inconsiderable height with steep sides and partially bare tops. On the upper ends of these mesas stand some oaks, and grass in bunches and tufts grows wherever possible. One of these mesas is about 146 feet high, and on its western side ascent is apparently impossible, while it is also very difficult from the east. Upon it are ruins, mostly made up of lines of parapets, the lower

ones of which consist only of rocks laid on the surface. On the top of the mesa are dry walls; elsewhere rocks, two to five times the size of a man's head, form the parapets, all of which have been artificially broken. One structure is evidently an enclosure, and there is in fact only one ruin that appears to have been a building. Nevertheless, there are a number of large metates, some of them very well preserved and apparently little used, and also considerable of the handsomely painted ancient pottery. It looks as if the height had been occupied only a short time, and the dwellings had been constructed only of the frailest material; and as if it had been hastily abandoned. (See Plate I. Figure 88.) There is an upright post of wood, which has been hewn and squared with implements of iron. The walls at that place are 0.90 m. (35 inches) high, 0.60 m. (2 feet) thick, and although of dry work are built with considerable accuracy and neatness. The wooden post is called a whipping-post (*picote*) by the natives, but I was unable to obtain any information from them in regard to the history of the ruin. It was manifestly a fortified hill, or "cerro de trincheras," like *Batonapa*, *Tonibabi* near *Nacori*, and others. If the hewn post is of the same date as the ruins, it would indicate that the latter belong to the historical period. Several settlements of *Opatas*, such as *Teras*, *Guepacomatzi*, and *Toapara*, are mentioned in the past century as lying north of *Opotu*, and as having been abandoned on account of the persistent hostilities of the *Apaches*, *Sumas*, and *Jcomes*.<sup>1</sup> I am unable to

<sup>1</sup> *Descripcion*, p 585. "San Juan del Rio, los Opatas llaman al paraje *Toapara*. Era antiguamente poblacion de Opatas, visita del de Tera á doce leguas arriba de *Opotu*: se ven todavia las ruinas de una pequena iglesia que hubo; despues fué real de minas muy ricas por la continua batería que daban los *Apaches*. *Guepa Comatzi*, cueva grande, fué una ranchería de Opatas á tres leguas rio arriba con buenas tierras. . . . *Tieras*, pueblo y mision de Opatas, cuatro leguas de *Guepa Comatzi*, el cual se habian agregado muchos *Bumas* y

decide whether Los Metates was one of them. From the statement that both the first and the last mentioned had a small church, I infer that neither of them can have been the place which I speak of. There is a bare possibility, however, that the Opatas driven from one or the other of those pueblos might have found a temporary refuge in this hidden recess of the Teras range; in which case the traces of work done with iron tools might easily be reconciled with the other more primitive features of the ruins.

Before reaching Los Metates, the valley of Las Escobas has to be traversed. It is more grassy, but the grass conceals large boulders which render walking very disagreeable. Oaks are scattered over the bottom, and a rivulet of limpid water trickles through it. In places this has been dammed up by dry walls constructed with boulders neatly piled. The main one of these is 1.3 meters (4 feet 3 inches) high, and behind it extends for five meters (16 feet) a space of rich arable soil. The garden plots thus formed are very small; but here, as well as at Los Metates, the large boulders strewn everywhere were an almost insuperable obstacle to cultivation. As at Los Metates, the works at Las Escobas appeared in a good state of preservation.

Taking a different route from the one by which I had reached Los Metates, I satisfied myself that most of the country west of Baserac, as far as the Teras range, is devoid of ruins. On a rock above the broad Arroyo de las Flechas, which terminates at Baserac, there were formerly

Jocomis, administrada de frailes Franciscanos: Hasta que por un mulato mayor-domo disgustado, se alzaron dichos Sumas y Jocomis, y tripulados entre Apaches empezó dicha nación á guerrear y hostilizar á estos pueblos, y los Opatas de dichos puestos se agregaron parte á Opotu, parte á Teurizatzi, etc. El padre misionero tuvo á tiempo aviso de la sublevacion y se retiró á Babispe, por lo cual habiendole buscado los alzados para matarlo á la mañana, como no lo hallaron, quemaron iglesia y casas, cuyas ruinas aun subsisten."

some rock carvings representing arrows;<sup>1</sup> now they are almost obliterated.

East of Baserac rises the low and barren mountain chain which bears the name of the village.<sup>2</sup> I heard of caves that had once been inhabited, one of which turned out to have been used as a distillery of mezcal; the others I could not visit, but I penetrated as far as Joi-tu-da-chi, in the sierra, entering it by a picturesque cajon, through the bottom of which a lively brook is running. Joitudachi is a dismal spot, a bald ridge with very steep slopes. Below it is a dry arroyo traversed by artificial dikes, and on the brink above stands a ruin (Plate I. Fig. 89), containing the only specimen of Opata house architecture in which the walls are in part intact. They are from 0.30 to 0.35 m. thick, and built of thin plates of sandstone imbedded in adobe mud. Their height on the north side (on the south they are destroyed) is not over four feet. Every trace of the roof has disappeared, and the pottery, etc. is as usual. On both sides of the Cajon of Mechapa ruins are said to exist, and to be of the usual description. I also heard of caves in which witches were wont to gather, and of nightly processions from one of these caves to the other. An Opata of Baserac assured me that in a cave in the sierra sandals of yucca had been found, and that his ancestors used to wear them until after the coming of the Jesuits; at the present day moccasins are generally almost exclusively worn.

The most northerly point along the Yaqui is Babispe. That unfortunate village has been completely destroyed since my visit, by the earthquake of May, 1887. It had a large and massive church, built towards the end of the last century, after the Franciscan order had taken charge of the missions

<sup>1</sup> So I was informed; I did not examine the place myself.

<sup>2</sup> Sierrita de Baserac.

which the Jesuits were forced to abandon. Of the old temple no trace remains. Fertile lands extend in the bottom below the pueblo, but east of the river the mountains rise in steep slopes. I found painted pottery and traces of ruins adjacent to the pueblo, and at La Galerita, midway nearly between Baberac and Babispe, a small cluster of houses and enclosures of the usual type stand near the dwelling of Jesus Escalante.

Such small hamlets may be found at various places along the Yaqui River. At San Miguel, as already stated, rock carvings are known to exist, but I could not proceed in that direction, as my plan was to cross into Chihuahua in order to visit the ruins of Casas Grandes. I therefore took leave of Sonora at Babispe, which is the last settlement towards the northeast. The country north of it has been traversed and examined by the officers of General Crook's expedition on their march towards the Sierra Madre in 1883. I copy from the work of Captain Bourke the description which he has given of the scenery between San Bernardino, on the United States boundary line, and the Babispe valley: —

“The whole country was a desert. On each hand were the ruins of depopulated and abandoned hamlets, destroyed by the Apaches. The bottom lands of the San Bernardino, once smiling with crops of wheat and barley, were now covered with a thickly matted jungle of semi-tropical vegetation. The river banks were choked by dense brakes of cane, of great size and thickness. The narrow valleys were hemmed in by rugged and forbidding mountains, gashed and slashed with a thousand ravines, to cross which exhausted both strength and patience. The foot-hills were covered with *chevaux-de-frise* of Spanish bayonet, mezcal, and cactus. The *lignum-vitæ* flaunted its plumage of crimson flowers, much like the Fuchsia, but growing in clusters. The greasewood, ordinarily so homely, here assumed a garniture of

creamy blossoms, rivalling the gaudy dahlia-like cups upon the nopal, and putting to shame the modest tendrils pendent from the branches of the mezquite.

"The sun glared pitilessly, wearing out the poor mules, which had as much as they could do to scramble over the steep hills, composed of a nondescript accumulation of lava, sandstone, porphyry, and limestone, half rounded by the action of water, and so loosely held together as to slip apart and roll away the instant the feet of animals or men touched them."<sup>1</sup>

There are said to be ruins near San Bernardino, which was deserted previous to 1852, on account of the Apaches.<sup>2</sup> Between it and Babispe there was only one considerable hacienda, at Batepito,<sup>3</sup> where I have heard there are ruins. Of settlements of Indians within historic times I know of none nearer than about Fronteras, where a mission and frontier garrison existed; its Opata name is Cu-quia-ra-chi. North of Fronteras lay Santa Rosa, and in the vicinity Turica-chi and Cu-chu-ta,—all Opata villages which the incursions of the Janos and Sumas obliged their inhabitants to abandon.<sup>4</sup> The description of Sonora, of the year 1764, mentions ruins near San Bernardino, in the valleys of Cu-chuve-ra-chi and Batepito, but adds: "There is no recollection of the people who lived in the said localities. From what I

<sup>1</sup> *An Apache Campaign*, p. 44.

<sup>2</sup> Bartlett, *Personal Narrative*, vol. i. p. 255.

<sup>3</sup> *Descripcion Geográfica*, p. 606.

<sup>4</sup> *Descripcion*, p. 605: "En primer lugar nos encontramos con él de Fronteras ó Santa Rosa Corodeguatzi. . . . Este fué el primero y único presidio de Sonora desde 1690 hasta 740; porque como por los años de 686 se alzaron los Jacomis, sumas y Janos y se unieron con los Apaches, empezando á hacer guerra á los Opatas, asaltaron el dia 10 de Mayo de 1688 el pueblo de Santa Rosa, á cosa de ocho leguas al Norte de Cuquiaratzi, y á este dicho 11 de Junio de 89, por lo cual los Opatas de Santa Rosa se retiraron al paraje en que ahora está dicho pueblo." The three missions named were founded in 1653. *Catálogo de los Partidos*, p. 794.



learn, I have no doubt that the Oyata nation extended over these countries, and what causes me to believe it is, that many of these places have names in that idiom, like Batepito, or turn of the waters, Cuchuveratzi, or valley or torrent of the fish called matalote, Naideni, Bacatzi, etc."<sup>1</sup> While the evidence presented by the author of the "Geographical Description" is not absolutely convincing, yet, in presence of the emphatic statements of the Opatas that their stock originally came from the north,<sup>2</sup> the conjecture is legitimate that the ruins north of Babispe are those of Oyata settlements, as well as those farther south.

The orography of the region north of Babispe deserves a brief notice. The ranges or clusters of mountains are in fact continuations of the cordillera, which, in Arizona, terminates on the Mexican frontier with the southern ends of the Chiricahuis. South of it rise in succession the Pitaycachi, Sarampion, and finally Oche-ta-hué-ca, which is also called Sierra de Babispe. All these mountains are comparatively arid, and their profiles are as sharp and rugged as those of any of the Sierra Madre or more western chains. A little to the east of them rises the Cabellera as a transverse range, while the others run in a southeasterly or southerly direction.

The pass over which the trail to Chihuahua crosses is usually called the Pass of Carretas; between it and Babispe I noticed no ruins. It is a wild and mountainous country with narrow valleys, partly covered with thickets and groves, partly bald and bare. From the height of the Cuesta Grande, where the last ascent is made, we gaze as it were upon another world.

<sup>1</sup> *Descripcion*, p. 605.

<sup>2</sup> The same is stated of all the natives of Sonora by Ribas, *Historia de los Triunfos*, p. 20: "Y finalmente en los informes que sobre esta materia hizo, siempre halle rastros de que todas estas naciones, que se van asentando de paz en nuevas reducciones, salieron de la parte del norte."

## XIV.

## NORTHWESTERN CHIHUAHUA.

THE Cuesta Grande is noted in the history of the past century for the innumerable murders perpetrated there by the Apaches and their allies, the Janos, Sumas, and Jocomes.<sup>1</sup> The ascent to the crest is steep, and the trail narrow and leading in places by the side of precipices. It is interesting to watch a train of a hundred or more pack animals and saddle horses creeping up the dizzy slopes. On the crest the view changes, and in place of deep mountain gorges, a broad level stretches to the east, bleak, bare, and solemn. Dark hills of lava scattered over the foreground alone interrupt the monotony of this elevated plain.<sup>2</sup> In the north towers Ochetahueca, clad in dark pines; farther on along the horizon distant ranges rise of the Sierra de las Espuelas, near the boundary line of the United States, looking pale in the morning light. No trees appear to cover their slopes, but in strong contrast with these bleak mountains stand the northern branches of the Sierra Madre south of us. The Sierra Tesahui-nori, which is the most western of the three branches composing the great chain at this end, is covered

<sup>1</sup> *Descripcion Geográfica de Sonora*, p. 578: "A tres leguas de Babispe al Nornordiste empieza la famosa cuesta de Carretas, por los muchos estragos que en ella han hecho los Apaches en las vidas y haciendas de los pasajeros y traficantes."

<sup>2</sup> I have no means at command for ascertaining the elevation of Carretas or of the plateau on which it stands, but estimate it at about five thousand feet.

with forests of pine. Watercourses trickle through its gorges into the level plateau, there to sink and disappear. The first of these brooks which the trail intersects is crossed at the hacienda of Carretas.

Carretas was formerly inhabited by tribes which to-day are extinct; there was a settlement of Sumas and Janos, which had been gathered around a chapel forming a mission. This mission was administered by the Franciscans of the province of Zacatecas,<sup>1</sup> and was abandoned in consequence of the outbreaks which began after the rebellion of the Pueblos of New Mexico, in 1660.<sup>2</sup> It appears that in

<sup>1</sup> Fray Francisco de Arlegui (*Crónica de Zacatecas*, p. 105) places the foundation of the mission of Carretas about 1660, but erroneously. Francisco de Gorraez Beaumont, *Informe al Virey Marqués de Mancera*, p. 233: "Al segundo año de mi gobierno en aquellas provincias, haciendome capáz de ellas, tuve noticia como en este paraje citado de las Casas Grandes y otro llamado del Torreon y las Carretas y su circonferencia había muchos Indios llamados Yumas y otras naciones que pedían ministro de doctrina que mediante el se bautizarían y recibirían el Santo Evangelio; y aunque á los principios por cosa no usada ni vista, no di crédito á ello, se fué corroborando esta voz á los pasajeros que iban y venían desde el Parral al Reale de Sonora." Further on he says: "Soy de opinion que será muy del servicio de su Majestad el que se pongan las tres doctrinas en el paraje de las Casas Grandes, Carretas y Torreon." Therefore in 1667 the mission of Carretas had not yet been established, and it did not even exist in 1669. *Informe de Oficiales Reales*, August 17, 1669, p. 256. It was established between that year and 1680. *Descripcion Geográfica de Sonora*, p. 586: "A estos no ayudaria foco para fortalecer esta frontera, ejecutar lo mismo en los pueblos desiertos, el uno de Carretas que fué tambien de la administracion de los Frailes Franciscanos. de nacion Suma, que se alzó." Rivera, *Diario y Derrotero*, p. 45: "Y encontrando con las ruynas de vn pueblo y mission de Yndios Sumas q̄ Huvo en el paraje que se nombra Carretas."

<sup>2</sup> I am unable to fix the date positively, but the general uprising of the tribes took place in 1684. The *Descripcion Geográfica* (cap. ix. art. ii.) places it in 1686, and Arlegui (*Crónica de Zacatecas*, p. 104) between the years 1686 and 1690, stating that between these two years the missions of Carretas and Torreon were destroyed by the Apaches. Still, it is certain that the Janos had already risen in 1684. *Testimonio sacado á la letra de los autos de pedimento del Cabildo, Justicia y Reximiento en que piden licencia para salirse de este puesto*, MS., fol. 1:

1834 there was again a hacienda at Carretas, which was afterwards destroyed by the Apaches. It was subsequently re-occupied, then abandoned again, and in 1884 was still in ruins. Since that time it has been purchased by Americans, and is said to be now in a flourishing condition.

Carretas is a beautiful spot, but for agricultural purposes its resources are slight, as the arroyo, though perennial, carries but little water. But for a cattle ranch it has few superiors, if any; the wooded foot-hills of the Sierra Tesahuinori come down to within a short distance of the dwellings, and the soil is light and productive. Tall grass spreads out everywhere except on the ridges and masses of dark lava scattered through the extensive plain. Between the Cuesta and Carretas I noticed no signs of ancient ruins; and this is easily explained, since not only is the intervening country destitute of water, but volcanic and other rocks frequently crop out unfit for tillage. When we reach the light and white soil, resembling that on the Lower Gila and on the Tempe delta, ruins of ancient habitations reappear along the course of the stream, on the border of the plain, near what is called El Vado.

The appearance which these ruins present is strikingly different from that of any of those investigated by me in Sonora. They resemble the ruins on the Gila and Lower Salado, inasmuch as they consist of low mounds of white earth, indicating buildings larger and more substantial than those of Sonora, and connected with them were enclosures. The walls surrounding the latter were embankments of the same material as the mounds with some traces of stone-work.

"Y despues que V. M. tomó posesion havido sublivacion general de todas las naciones comarcanas fués an llegado á profanar los vasos sagrados en la mision de N. Sa. de la Soledad de los Xanos." If Janos was attacked in 1684, it is presumable that the more exposed mission of Carretas suffered about the same time.

The mounds are about  $1\frac{1}{2}$  meters (5 feet) high, and covered with all kinds of well painted potsherds like those found in the ruins of Northeastern Sonora. Metates and crushing-pins, besides pottery, were the only manufactured objects noticed by me on the spot. On Plate I. Figure 91, I have given a reduced plat of this ruin. There are faint traces of stone or rubble foundations on one of the mounds composing this cluster; otherwise it is clear that buildings and enclosures were of the same kind of white adobe as the walls at Casa Grande and other ruins on the Gila. Whether or not the enclosures protected cultivated patches I could not determine; it seems unlikely to me, however, that they could have been reared for defensive purposes. They are different from the enclosures of Arizona, since the latter surround the central edifices and have buildings attached to their inside.

This ruin is not the only one in the vicinity of Carretas. There are others, I was informed, farther down the arroyo, where it is still perennial.

After crossing from Sonora into Chihuahua by way of the Cuesta Grande and reaching Carretas, one finds the landscape so different from what it was on the western flanks of the Sierra Madre that he is scarcely surprised at meeting also a different variety of ancient aboriginal architecture. The climate of the plateau is cooler than in the valleys of the Yaqui; there are no trees, only grass and cactuses covering the dreary plain. Strong cool winds blow over it, and there is no shade nearer than the mountains; frail houses, even if resting on rubble foundations, would not have sufficed for permanent abodes, and thick walls were therefore a necessity. That they should be of the same kind of adobe as on the Gila resulted from the similarity of the soil, and, besides, it was easier to manufacture adobes than to break

and pile the hard lava rock that crops out here and there on the surface.<sup>1</sup>

The well established fact, that the Sumas and Janos dwelt in the vicinity of Carretas in the seventeenth century, and probably at an earlier date, raises the question whether the ruins there may not be perhaps those of their settlements. This, however, would attribute to the tribes named a higher degree of culture than we are authorized to allow them according to Spanish authorities.<sup>2</sup> We have no evidence that either of these tribes lived in houses built of solid material, like those at Carretas or Casas Grandes. Although it is not impossible that they may at some remote period have undergone a change in culture that brought about a decline in architectural and other arts, there is no proof of it to my knowledge.

From Carretas on, the landscape becomes, if possible, more monotonous; the plain stretches to the east and north, and the Sierra de en el Medio looms up in front of the Espuelas, and of the chains along the boundary line of New Mexico. In the south, another northern branch of the Sierra Madre, the Sierra de San Pedro, succeeds the Tesahuinori chain, and we already catch a glimpse of the third and most easterly ramification, the Sierra del Carcay. At "Lagartos,"<sup>3</sup> the return trail of General Crook's corps is intersected by the road from Babispe to Janos. In the east low and bald ranges

<sup>1</sup> I allude here to the resemblance between the Gila ruins and those of Northwestern Chihuahua without in the least intending to imply that they are those of the same people. This may be possible, but similarity in architecture is by no means sufficient to prove it.

<sup>2</sup> See Part I. of this Report, pp. 87-93.

<sup>3</sup> This name was given to the place on account of the large sized-lizards said to live in a rocky eminence rising by the side of the road. The day was cold, and they did not show themselves out of their hiding places. In this century "Lagartos" was the scene of a massacre perpetrated by the Apaches upon a convoy.

loom up, the Sierra de Janos, the Escondida, and the Palotada, while in the west the mountains of Sonora sink below the horizon. The plain gradually dips towards the east, and not a drop of permanent water is found between Carretas and Los Alisos.<sup>1</sup> The latter is a dry arroyo, but at the so called Ojitos there are springs, and also ruins (Plate I. Fig. 91) similar to those at Carretas. The mounds are smaller, and the enclosures larger, and it can be distinctly seen that they were cultivated areas. These remains are, so far as I know, the only ones between Carretas and the course of the Casas Grandes River near Janos. At the latter place, seventy miles east of Babispe, we strike the main line of ruins, which extends from Ascension in the north to the interior of the Sierra Madre.

I have already stated that the Sierra Madre begins south of the trail from Babispe to Janos, or about in latitude  $30\frac{3}{4}^{\circ}$ , and it is composed of three parallel ranges, the Tesahuinori in the west, the San Pedro in the middle, and the Carcay in the east. The first two are pine-clad and with more gentle declivities, although the gorges are narrow and rugged; the Carcay is a mass of frowning walls, crowned by tower-like cliffs and battlements. I heard of ruins in the valleys that separate these chains, and was also told of ruins in the first two. There are certainly remains at the Casa de Janos.

In the vicinity of Janos I investigated two ruins, represented on Plate I. Figures 92 and 93. Their appearance resembles that of the mounds near Agua Dulce, and between Casa Grande and Florence, on the Gila. They form whitish hillocks covered with bits of well painted pottery; and in one place a wall has been excavated, which is seen to have been 1.1 meters (3 feet 7 inches) thick, and of identical make

<sup>1</sup> This was the scene of the engagement between Colonel Garcia of the Mexican troops and the Apaches under Gerónimo, in 1882.

with the ancient adobe walls in Southern Arizona. Two rooms as far as exposed measure respectively 3.0 and 2.4 by 2.5 meters (10 and 8 by 8 feet), but I am inclined to believe that they were larger. The size of the largest mound is about 20 by 15 meters, or 65 by 49 feet.

Janos is a comparatively ancient settlement. Its vicinity was held by a tribe of that name, or one which the Spaniards called by that name. This tribe, as stated in the first part of this report, has completely disappeared, having been absorbed by the Apaches in the beginning of the past century.<sup>1</sup> About 1727, seventy families of Sumas were added to the few Janos still living near the place, but this colony of Sumas also gradually disappeared.<sup>2</sup> Janos became a frontier garrison (Presidio) at an early date.<sup>3</sup> In 1684, its native inhabitants killed their priest, Fray Manuel Beltran, and sacked the buildings of the church, as well as those of the Spanish colonists.<sup>4</sup> It was reoccupied some time afterwards, and the

<sup>1</sup> See Part I. page 91.

<sup>2</sup> In 1726 Don Pedro de Rivera found a small settlement of Sumas at Janos. *Diario y Derrotero*, p. 45: "Quando arrivé segunda vez al Presidio de Janos encôtré en él las setenta familias de los Yndios de la nacion Sumas que queda preuenido, no quisieron poblarse en el presidio de el Pasco: y haviendome aplicado con la mayor atencion á fin de que dichos Yndios se redujesen á vida política, y se retirasen de la infeliz en que andaban. Se consiguió el fin que se pretendía; facilitandoles su quietud cõ agregarla al pueblo inmediato de los Yndios Janos: por cuyo medio se libertó la tierra de los enemigos de aquella nacion que la hostilizaban."

<sup>3</sup> Its name was Santiago y San Felipe de Janos. Rivera, *Diario*, p. 29. The Presidio must have been founded after 1686. Escalante, *Carta al Padre Morfi*, par. 7.

<sup>4</sup> Escalante, *Carta*, par. 7: "Subleváronse los Zumas y los Janos, y estos por medio de los Mansos infieles quitaron la vida á su ministro el Padre Fray Manuel Beltran, destruyéron el templo y profanaron los ornamentos sagrados. Llamábase esta mision Nuestra Señora de la Soledad de los Janos." *Causa Criminal què se a seguido contra los Yndios Xptianos Manssos por Denunsiacion, etc.*, 1684, MS. fol. 28. A Manso Indian testified in regard to this massacre: "Que es berdad que para matar al Pe Beltran y á los otros Españoles fueron nuebe ynfieles ayudandoles á los Janos y Sumas." *Testimonio sacado á la letra de los autos del Pedimento del Cabildo, Justissia y Reximienio*, 1634, MS., fol. 1:



Janos were subdued by Don Domingo Gironza Petriz de Cruzate, Governor of New Mexico, but residing at El Paso del Norte.<sup>1</sup> According to Villasenor y Sanchez, the Presidio in 1748 was garrisoned only by forty-seven soldiers and four officers.<sup>2</sup> In 1857 the garrison was removed from Janos to Casas Grandes, where it remains to-day.

South of Janos the Casas Grandes River, there running about from south to north, passes through wild and bleak gorges, in which no vestiges of antiquities exist to my knowledge.

I have stated in one of the previous chapters that the Casas Grandes River empties into an inland basin, the centre of which is occupied by several shallow lagunes, thus forming a separate drainage system between the Rio Grande in the east and the Yaqui in the west. These lagunes lie on Mexican territory between the parallels of 31° and 32°, and the meridians of 107° and 108° west. The three principal ones are the Laguna de Guzman, the Laguna de Patos, and the Laguna de Santa Maria. The first, which is also the largest, receives the waters of the Casas Grandes River; the second, those of a small stream, called Rio del Carmen; and the third, the Rio de Galeana, or Santa Maria.<sup>3</sup> Owing to the flatness of this lake country and the nature of its soil, and also to lack of precipitation during the greatest number of months in the year, the extent of these shallow lakes is quite variable.<sup>4</sup> I have heard of ruins situated not far

“Pues an llegado á profanar los vassos sagrados en la mision de Nra Sra de la Soledad de los Xanos, matando á vn relixoso y vna familia de Españoles.”

<sup>1</sup> Escalante, *Carta*, par. 7: “Perseveraron todos estos en su rebeldia dos años, hasta que no pudiendo mantener la incesante guerra que D. Domingo Gironza hacia matando y apresando á muchos de ellos, se rindiéron y pidieron paces el año de 1686.”

<sup>2</sup> *Teatro Americano*, vol. ii. p. 365.

<sup>3</sup> Pedro García-Conde, *Ensayo estadístico sobre el Estado de Chihuahua*, 1836, p. 12.

<sup>4</sup> *Ibid.*, p. 13, speaking of the Laguna de Guzman: “Su tamaño es muy varia

from their shores, but could not verify the truth of the statement. Along the Casas Grandes River ruins are found as far north as the vicinity of Ascension, but I had not time, on my journey from Casas Grandes to Deming, to examine them closely. They loom up like whitish mounds, and some of them appear to be of considerable size. I saw potsherds that had been picked up on their surface, which looked like the ancient pottery of Janos and Northeastern Sonora. North of Ascension, although the river runs through a grassy plain, it is in a channel of from ten to twelve feet in depth, and with vertical sides, so that access to its waters is difficult.<sup>1</sup> Trees and shrubs grow along the banks in the channel, but the plain is destitute of all vegetation except low and scrubby mezquite. Under these conditions the construction of irrigating ditches became quite a severe task, and this may have been at least one of the reasons why I failed to find any traces of antiquities between the Espia, an isolated conical hill some distance north of Ascension, and Deming in New Mexico. The plain south of Deming to the Mexican frontier, a distance of at least forty-five miles, has no other perennial water than occasional springs, and the Boca Grande is an arid and rocky mountain cluster, and so is the Sierra de la Hacha farther west. There may be a few small ruins on the upper slopes of the latter mountain, but I am not sure of it.

The inland basin of which I have here spoken, therefore, if not completely devoid of ruins, seems to be without any considerable number of them. Between the Casas Grandes

ble, pués en el tiempo de las aguas sobresale de sus regulares bordes y en el rigor de la seca es muy reducido.”

<sup>1</sup> This channel is narrow, but descent to the river on horseback is impossible sometimes for a distance of ten miles. It is quite a trying situation to ride for hours within sight of the water without being able to get the thirsty animal to it. The only spring of any consequence on the plain is the Ojo de la Mosca, not far from the boundary line of the United States.

River and the lagunes rises the Corral de Piedras, an arid chain in which I have been told no ruins exist except those of Apache huts, and of large, rudely made enclosures, said to be of modern origin. Ancient remains, therefore, are limited to the upper courses of the streams that empty into the lagunes from the south and some of the valleys descending into them, and to the Upper Rio Mimbres in New Mexico. Of the last I have spoken in Chapter VII. The difference in architecture between the northern and the southern ruins is considerable. The former are all small buildings of stone with stone enclosures; the latter, in the lower regions at the foot of the Sierra Madre, are large buildings of adobe, often many-storied, similar to those on the Lower Gila of Arizona, and indicating more extensive settlements and a larger population.

Between Janos and Ascension there is a mountain pass through which the river has cut its way, in which I noticed no ruins. Neither did I see any south of Janos for twenty-five miles, or as far as the plain of Corralitos. This hacienda, with mining works, dates from this century, and lies in a broad valley, which extends, with various narrowings, as far as Casas Grandes. Everywhere in the valley the soil is easily cultivated and fertile when irrigated. Groves of cottonwood line the banks of the river at intervals. It is a beautiful valley, not so extensive as that along the Gila and the Tempe delta, but quite as favorable for agriculture; but it is colder, since its altitude is about four thousand feet, and snow falls nearly every winter, remaining on the ground sometimes for several days. While therefore the Casas Grandes valley was, on a smaller scale, also a "centre of subsistence" for land-tilling aborigines, it is still neither in extent nor in general resources so well suited for the increase and establishment of a considerable Indian population as are those portions of Ari-

zona. Nevertheless, it is a very interesting region, and one in which native culture in the Southwest probably attained its highest development. It is also happily conditioned in the sense that, while its natural resources are considerable, the climate is sufficiently temperate to inspire man to activity, and not to depress his moral and physical powers in the same degree as in warmer countries where the contrast between the seasons is less marked.

The mountains bordering the valley on both sides seem to be devoid of ruins. From Corralitos the rugged Carcay is plainly seen, and between it and the valley rises the Pajarito, a naked volcanic chain of lesser elevation. South of it, due west of Casas Grandes, the Cerro de Montezuma dominates the valley. In the east also there are barren chains like the Cerro Colorado and the Escondida, so that the valley lies between two cordilleras which gradually converge. Fifteen miles south of Casas Grandes the space separating them narrows to a gap between volcanic heights, called the Boquilla. Farther on lies San Diego, where the Casas Grandes River is formed by the junction of the Rio de Palanganas with the Rio de Piedras Verdes. The Palanganas rises due south, and is flanked on the east by the Sierra de Ancon; the Piedras Verdes descends from the northwest, and has its source between the Sierra de San Pedro and a more southerly ramification of the Sierra Madre. This chain, which looms up ten or fifteen miles west of San Diego, beyond an arid plain, is the Sierra de la Madera de Casas Grandes, at least twenty-five miles distant, and to it the inhabitants of the valley have to resort for their wood. The profile of the chains is not strongly marked, and its slopes are densely wooded. The eastern ramifications of the Sierra Madre, except the Carcay, have less rugged profiles and bear more vegetation than the western branches of the great central chains.

Along the rivers Casas Grandes, Palanganas, and Piedras Verdes the ruins are disposed in groups as well as in isolated mounds; they are therefore far from constituting a continuous line. Near Corralitos I saw but a few inconsiderable remains, but after leaving the abandoned hacienda of Barranco Colorado white eminences loom up conspicuously here and there. It may be seen at a glance that the houses which crumbled into these hillocks of white sandy clay were in many cases two or more stories high. I counted at least fourteen groups of mounds, and isolated ones, some of which were not higher than 0.50 or 1.5 m., and one group is shown on Plate I. Figure 92a. The highest of the three mounds composing the cluster appears to be three meters, but it is impossible to determine its elevation without excavating to the ground floor. Mounds of a similar character are visible also on the east side of the Casas Grandes River, but they are not as numerous, since the valley there is narrower than on the western side. The river runs in a shallow groove, and the ruins are always at a distance of from one half to one and two miles from it. The intervals between the groups vary greatly; sometimes they stand near together, again a mile or more separates two groups. Nowhere did I see a cluster indicating a considerable pueblo; nevertheless, owing to the size of the houses, it is possible that the largest group may have contained several hundred inhabitants. Potsherds are strewn over and about the mounds, striking on account of the brightness of their colors and the regularity of their designs, as well as for the thinness and hardness of the clay and their fine glaze.

About four miles north of Casas Grandes, the valley narrows, and, after turning an angle, the village of Casas Grandes appears. It is a town of dilapidated adobe buildings, with a population of one thousand souls, and with barracks

occupied by about four hundred soldiers. The church is the usual adobe pile, and poorly equipped with ornaments and decorations. Before reaching the village, the ruined church of San Antonio de Padua de Casas Grandes is passed, standing on the second tier of terraces above the river, with its walls still of their full height. Around it the soil is covered with fragments of the same pottery as that on the ruined mounds. I am unable to state precisely when this church was built, but it must have been after 1667, and some years previous to 1680.<sup>1</sup> In 1726 it was still in use, the Franciscan order from Zacatecas administering to the spiritual wants of the unimportant settlement of Spanish colonists and Sumas and Conchos Indians.<sup>2</sup> In 1748 the church was already abandoned, and a single dilapidated hacienda, called Santa Ana Bienes, contained the remnants of the once prosperous population.<sup>3</sup> The uprisings of the Sumas in 1684,

<sup>1</sup> It is certain that in 1667 there was no church at Casas Grandes, although Arlegui intimates that the mission had been founded before that date; his statements are positive. The date of 1680 I infer from the importance which the settlement at Casas Grandes had then acquired through its production of wheat and the number of cattle raised there. Compare, in regard to the last two points, Fray Francisco de Ayeta, *Carta al Virrey*, 1680, MS.

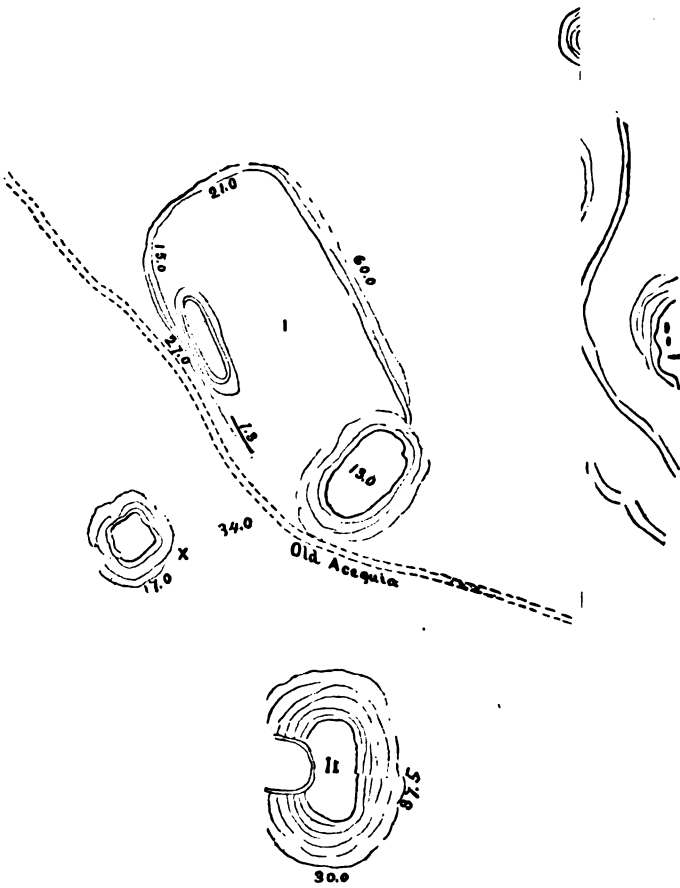
<sup>2</sup> Rivera, *Diario y Derrotero*, pp. 35, 47: "Y habiendo pasado el pequeño rio de Casas Grandes hize noche á la vanda de el Veste de él, en vna Estancia de Ganado, que llaman S. Antonio. . . . Y encontrando con el pequeño pueblo y mission de S. Antonio de Casas Grandes, habitado de cinco ó seis familias de Yndios Conchos y Sumas, y administrado por religiosos de S. Francisco, hize noche cerca de él, en vna hacienda de labor, situada á la vanda de ueste de el rio, como lo está dicho pueblo."

<sup>3</sup> Villaseñor y Sanchez, *Teatro Americano*, vol. ii. p. 363: "El Valle que llaman Casas Grandes, tambien muy ameno, aunque de poco pueblo, por lo inhabitando y peligroso, por cuya causa no se pueden cultivar sus tierras por falta de gente. Manteniendose algunos vecinos con sus huertas en gran miseria, sin poder adelantarlos. En dicho tránsito está otro puesto con el mismo peligro, que el antecedente, endonde se halla extinguida aquella doctrina, que auía de religiosos del Seráphico Orden, por auer desolado el pueblo, ó pueblos, que en dicho valle auía, sin auer quedado en él más, que un Indio. Inmediatamente a dicho pueblo, oy demolido de Casas Grandes, está la hacienda, nombrada Santa Ana Bienes, cuyas tierras son abundantes de frutas de Castilla."

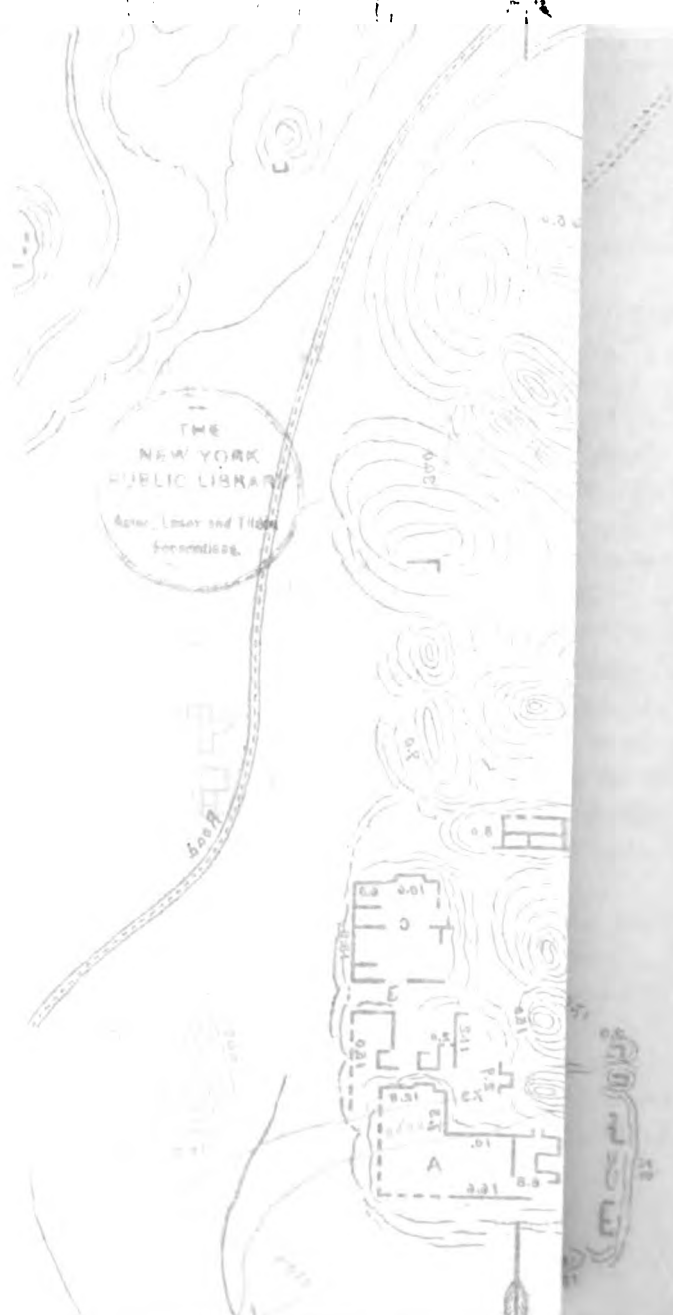
their subsequent alliance with the Apaches, and the depredations of the latter, had accomplished its destruction. In the present century, after Casas Grandes had been repeopled, the sufferings of its inhabitants from the savages, principally since the outbreak in Sonora of 1831 or 1832, were sometimes fearful; neither life nor property was safe until 1884. The Apaches, Janeros as well as Chiricahuis, had their strongholds in the Sierra Madre, whence they could descend with impunity upon the settlements.

Half a mile south of the present village are the famous ruins from which the name Casas Grandes, or Great Houses, derives its origin. They lie on the southern extremity of a terrace which rises above the river bottom, and is traversed by several small gulches running in the main from northwest to southeast. A considerable portion of the ruins lying nearer to the river has been partially built over with modern houses, so that their full extent can hardly be ascertained; but I believe the plan on Plate I., Figure 93*a*, will give a fair idea of them. Besides being quite extensive for Southwestern ruins, they are also compact, so that the population, if we take into consideration the fact that the houses were several stories high, may have amounted to three or four thousand souls. In that case it would have been by far the largest Indian pueblo in the Southwest, and twice as large as the most populous village known to have existed farther north.

I refer to the ground plan of the edifices which I could survey and measure (Plate VI.), where it will be seen that the buildings which are partly intact stand on the southern limit of the whole cluster. The site is well selected, commanding an extensive view. The ground is gravelly, as the terraces generally are, and ledges of rocks protrude here and there. The cultivable bottom land commences at the foot of









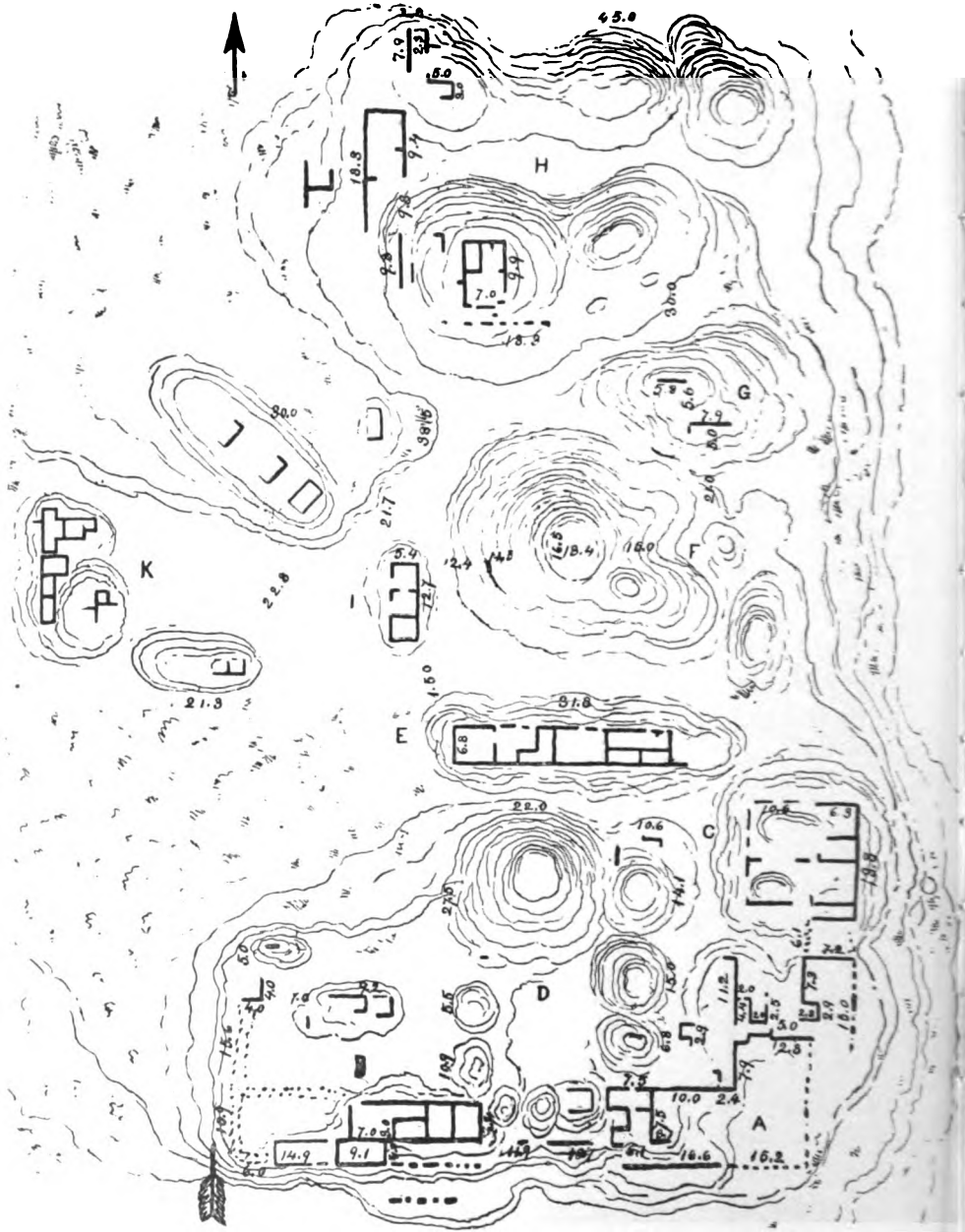


PLATE VII. — MAIN PORTION OF RUINS OF CASAS GRANDES.

the terrace, which is only a few feet above it. A part at least of the pueblo, therefore, was built on ground unfit for cultivation, but adjacent to such as was tillable, and not farther from the river than a quarter of a mile. No enemy could approach Casas Grandes in the daytime without being discovered. In the west a bleak terrace stretches as far as the foot of the Cerro de Montezuma, at least three miles distant. In the east the whole bottom, and the terraces and hills beyond, together with the farthest mountain slopes, lie open to the view; to the south every crag and cleft in the Sierra del Cristo may be scanned; and in the southeast, between bare heights, the Pass of Chocolate opens naked and bleak, leading into the fine valley of Galeana. Except the cottonwoods and the fields along the river, only a scrubby and dusty vegetation covers the ground. The light of the sun is reflected from the white slopes with a dazzling glare.

The walls exposed in the ruins are in places two or sometimes three stories high, and their thickness varies between 0.40 m. (16 inches) and 1.2 m. (4 feet). They are of the same make and pattern as those of the ruins in the Tempe valley, so amply described by Mr. Cushing. (See Plate VII.) Most of the rooms are large, with some exceptions, and the doorways are of quite a good size. The air-holes and apertures for light deserve the name of windows; they are round, rectangular, and elliptical or oval. One round window measured 0.38 m. (15 inches) across; an elliptical one opened in a corner was 0.85 m. (2 feet 10 inches) by 0.40 m. (16 inches); and a rectangular one measured 0.50 m. (20 inches) in width. The lintels of the doors as well as of the windows were of wood, and mostly 0.15 m. (6 inches) thick. They seemed, from the impressions which were left, to have consisted of flat or half-round pieces, but I could not determine the kind of timber used. Of the roofing or ceiling I saw but one

specimen. Round beams from 0.13 to 0.17 m. in diameter (5 to 7 inches), supported a superstructure of ocotilla poles and earth. The floors were of earth, and the walls were covered in places with a thin coating of whitewash, and I noticed traces of fire on them.

A wall with two superposed grooves, the upper clearly the groove of the ceiling, but the lower oblique and ascending almost to that ceiling, seems to indicate a flight of steps; but I could not determine positively whether it was a staircase or not. If it was, the inhabitants of Casas Grandes had made quite an important stride in architectural progress. Of ladders I saw no trace.

The question of the form of these edifices, whether they were like the pueblos of the north, with retreating terraces, or with a central tower, as Casa Grande, or massive blocks with straight walls to the top, is a difficult one to determine. The conical shape of the mounds would lead to the inference that the central parts were higher than the outer ones; on the other hand, there are outer walls still standing which are three stories in height. From the older descriptions of Casas Grandes in my possession, I cannot gather any light on this subject. Mr. Bartlett, who has furnished a careful description of the ruins, says:—

“From a close examination of what remains of the building or buildings, I came to the conclusion that the outer portions were the lowest, and not above one story in height, while the central ones were from three to six stories. Hence the large heaps of ruined walls and rubbish in the centre, and in consequence the better preservation and support of that portion of the edifice. By far the larger portions which have fallen are the exterior walls. This arises from the moisture of the earth and the greater exposure to rains. The central parts are in a measure protected by the accu-

mulation of rubbish, and by the greater thickness of their walls." <sup>1</sup>

Mr. Bartlett saw Casas Grandes fully thirty-eight years ago, or more than thirty years previous to my visit to the place; and was therefore able to notice a great many features which have since disappeared; nevertheless, I do not believe that the houses had as many stories as he attributes to them. Four, or in some edifices five, is the most I could allow.

The ruins of Casas Grandes stand close together, even appearing to be crowded in a small compass. Alleys, rather than streets, separate the various mounds; and although the width of these passages must have been greater when the edifices were intact, there is nowhere, so far as I was able to detect, any square or public yard of considerable extent. There is less distance in this great pueblo from one mound to another than in the ruins between Casas Grandes and Corralitos, and much less than at Casa Grande in Arizona. This is a singular feature. The houses at Casas Grandes are also those best preserved in the whole region.

That the object of these great houses was, first of all, the abode of the people, can scarcely be doubted. The objects scattered about the ruins almost everywhere are mostly

<sup>1</sup> *Personal Narrative*, vol. ii. p. 350. García-Conde (*Ensayo Estadístico*, p. 74) is more positive: "Entre estas ruinas se encuentran dos especies de habitaciones muy distintas: la primera consiste en un grupo de piezas construidas de tapia y exactamente orientadas según los cuatro puntos cardinales: Las masas de tierra son de un tamaño desigual, pero colocadas con simetría y descubre mucha habilidad en el arte de construirlos por haber durando un tiempo que excede de trescientos años. Se reconoce que este edificio ha tenido tres altos y una asotea con escaleras exteriores y probablemente de madera. Este mismo género de construcciones se encuentra todavía en todos los pueblos de los Indios independientes del Moqui al N. W. del Estado. Las masas de las piezas son muy estrechas, con las puertas tan pequeñas y angostas que parecen calabozos. Todavía existe en muchas partes el enjarre de las paredes cuya finura é igualdad demuestra la inteligencia de los arquitectos." Escudero (*Noticias Estadísticas del Estado de Chihuahua*, 1834, p. 234) copies the above textually.

household articles and utensils. No place has been dug into without metates, pottery, and other articles of daily use coming to light. Still it is not improbable that places of worship were also included from the descriptions given. I was not able to make any excavations, and do not venture any opinion. Fetiches have been found at the ruins, but where and under what conditions I could not ascertain. One quite remarkable find is of considerable importance in an ethnological sense.

In one of the large mounds which are now partly built over, and in which only excavations of small depth can be made, a little room was opened in which, I was told, a large meteorite was found. It was noticed that the block, which was of unusual size and of a silvery hue, had been originally wrapped up in some kind of matting, which crumbled as soon as air was admitted into the chamber. The meteorite was afterwards removed to the city of Chihuahua, where it fell into the possession of Don Enrico Miller, or Müller, an old and prominent resident, but where it is now I could not ascertain.

Upon the supposition that the above statements are correct, the finding of this meteorite in one of the buildings of the ancient pueblo becomes a very interesting feature. It is not to be presumed that the aerolite fell into the building, but it is much more likely that it was found elsewhere and carried to the place where it was subsequently discovered. That it was enveloped in matting shows that superstitious care was bestowed upon it, that it was considered as a fetich, and therefore that the small room in which it was discovered had some religious purpose.

It is well known that the States of Chihuahua, Durango, Coahuila, Zacatecas, and even Jalisco, have been frequently the site of falls of large meteorites. The number of such

blocks of huge size found in those States is remarkable. In the State of Chihuahua alone, at least three, and probably more, enormous aerolites have been discovered. These blocks fell, as far as known, during times anterior to the Spanish period. There existed among the Indians of Western and Central Chihuahua a tradition to the effect that the fall of at least one of these masses had some connection with the movements of some of the tribes. The tradition is confused, for the reason that the Spanish authorities relating it bring it into relation with the supposed migrations of Central Mexican tribes from the north to more southerly regions.<sup>1</sup> While it would be wrong absolutely to discard such an interpretation, since we have no means of testing it, it is well to recall here the fact of the discovery of the Casas Grandes meteorite. The folk-lore alluded to by the Spaniards in the sixteenth century, however, was not applied to that meteorite, since Casas Grandes was then unknown to them, but to one of the large meteorites in Southern Chihuahua.<sup>2</sup> From all appearances the tradition was peculiar to the Tarahumares and the Tepehuanes, tribes which, according to the latest linguistic investigations, belong to the same stock as the Opatas, Pimas, Yaquis, and also the Nahuatl of Central Mexico.

My inability to excavate the ruins has rendered it impossible for me to ascertain anything concerning ancient burials. I have not heard of skeletons having been discovered inside the great houses; but there are structures which remain enigmatical to me. These structures lie west and northwest of

<sup>1</sup> Villagran (*Historia de la Nueva Mexico*, cantos i. and ii.) is, so far as I know, the earliest printed authority in which this tradition is mentioned. A condensed version of it is found in Zárate-Salmeron, *Relaciones de todas las Cosas, etc.*, 1626, par. 105 to 108.

<sup>2</sup> The locality is identified by Zárate-Salmeron (*Relaciones*, par. 105) as "tres leguas de Santa Bárbara, media legua abartado del Camioi por donde pasan los carros que van al Nuevo México."



the measurable portions of the ruins, and appear on the plan under the numerals I. to V. and VII. to XII. (Plate VI.) With the exception of I. and IV., they are solid elliptical or circular mounds, of various heights, composed mainly of gravel. They suggest the idea of artificial platforms upon which buildings were to be erected; but I saw no traces of foundations, and the level on which they are situated is already higher than that of the great houses themselves. Nos. I. and IV. are still more peculiar; while the others are low, hardly over one or two feet high, I. rises to an elevation of 3.5 m. (11½ feet). It has been excavated in the centre, and the section shows nothing else but a solid mass of gravel. It is a mass of gravel, with a rim of stones extending around its upper slopes at a few inches below the top, which is flat, and thickly strewn with fragments of pottery. This artificial elevation is connected with a partly ruined enclosure, the interior of which is free from gravel, and was slightly moist. The enclosure consists of an embankment supported by a stone wall, similar to the dikes near Baserac in Sonora. The stone wall was built on the inner side, and the surface of the area thus enclosed is thirteen hundred square meters, or a little more than one fourth of an acre. The star-formed structure IV. is a low heap of gravel with a slight depression in the centre.

The little artificial eminences, numbered IV., VII., VIII., and IX. are scattered in a line along the brink of a dry gulch which bounds the southern complex of the ruins on the north, northeast, and east, merging into the bottom proper. What their object may have been, I cannot surmise, neither can I imagine the purpose of the other mounds.

In regard to I., it is well to note that it lies on the line of an old acequia, so that it seems as if the enclosed area with

which it is connected stood in some relation to the irrigating ditch, although I do not venture to suggest that it was originally a garden plot.

I could not find any signs that the low mounds mentioned were pyral mounds, and nowhere did I see any trace of combustion. Still I was afterwards informed that a layer of charcoal and ashes, containing charred bones, had been noticed near the top of mound II. The excavation in the latter mound was made for the purpose of treasure-seeking. As in many other places in the Southwest, Casas Grandes is credited with fabulous ancient wealth. Before referring to the irrigating ditches, traces of which exist at and near Casas Grandes, I will mention the building N. Mr. J. R. Bartlett has also spoken of it in his valuable work.<sup>1</sup> The plan of this building is so different from that of the other houses that the thought arises whether it may have been of modern origin. Still the potsherds are ancient, although less numerous. The ground plan of this ruin recalls that of a house of a Spanish Mexican hacienda, and the building was only one story in height.

It will be noticed that one-story edifices are not uncommon at Casas Grandes, and that they stand mostly on the outside of the large clusters, rather than between the many-storied buildings. The rooms are on the whole considerably larger than in northern ruins, those on the Gila and Salado excepted.

I am in doubt as to whether some of the buildings stood on platforms or not. The open space forming the southeast corner of the group A appears as if raised a foot or two above the rest. Still, the amount of rubbish is so considerable that it is impossible, without excavations, to determine whether the substructure is artificial or not. On the south-

<sup>1</sup> *Personal Narrative*, vol. ii. pp. 360-362.

western corner of the same group are traces of an enclosure of adobe, similar to the one around the Casa Grande, and to the walls surrounding the mounds at Tempe and the Casa Blanca.

Comparing the architecture of Casas Grandes with that of the Gila, it strikes me that the settlement was more compactly built, and that the edifices present a higher degree of skill, if not in the manner in which they are constructed, at least in that in which they are arranged. They were manifestly not for habitation alone, but also with the view of defence. There are, as far as I could see, no fortifications proper, but the size and situation of the buildings, their number, and the strength of the walls, were a means of protection against an Indian foe. The buildings were really fortresses, as well as houses. Where a cluster is as large as Casas Grandes it is probable that the downfall was gradual, and probably brought about by various causes.

Of all the objects found at the ruins of Casas Grandes the pottery attracts the principal attention. Not that it is any better than that found in the ruins of that section in general, for it is of the same make and type; but the number of specimens found in a good state of preservation is striking. The decoration on these vessels — I have seen but very few plain ones — derives its patterns from symbolic figures which are like those of the pueblos of New Mexico. In addition to the painted pottery, there is also plastically decorated ware, but all of this that I have seen is also painted. One jar showed very crude corrugations, but still was painted reddish brown; another kind of pottery had regular indentations carefully painted in various colors. It may be remembered that, in speaking of the corrugated pottery found at Fort Apache, I said that it was painted, but without regard to harmony with plastic designs. Lastly, I have heard of pottery with human figures, colored in alto-

rilievo, but was unable to procure any specimen. I was assured that the figures are grossly obscene. Mr. Bartlett has given fair representations of the Casas Grandes pottery.<sup>1</sup> The shapes are like those of New Mexican pueblo pottery, with the difference that the bottoms are convex.

The metates of Casas Grandes differ from others seen by me in the Southwest in being much better fabricated, and even sometimes elaborately carved. They are generally square, and nicely finished, but I saw one of crude make. A double metate of lava was shown to me, and Mr. Bartlett has figured one with legs.<sup>1</sup> Whatever crushing-pins I saw were prismatic, and not cylindrical as they are farther south. I noticed mortars of lava, fairly made, and one pestle, with the head of a mountain sheep rather well sculptured. The last implement was of syenite. Stone axes are like the well known instruments of the kind from Arizona. I heard of cotton cloth found in the ruins, and of threads of yucca fibre. I have seen many turquoise beads and ear pendants of turquoise precisely like those worn to-day by the Pueblo Indians or found in the ruins; also shell beads and many shells, entire as well as broken and perforated. The following species have been identified from the copies made by me in colors: *Turritella Broderipiana*, a species from the Pacific Coast; *Conus Proteus*, probably from the West Indies; *Conus regularis*, from the West Indies; and a *Columbella*, locality not given. All the univalves found at Casas Grandes, as far as I know, are marine shells. The finding of such shells at a point so far away from the sea-coast and nearly equidistant from the Gulfs of Mexico and of California, is a remarkable feature, implying a primitive commerce or inter-tribal warfare which carried the objects to the inland pueblo at Casas Grandes.

<sup>1</sup> *Personal Narrative*, plate to page 362.

Two interesting finds I have still to report. One is a fetich of the puma (*Felis concolor*), "mountain lion," or cougar. The specimen was of small size, apparently made of some kind of actinolite, and the figure was exactly like the fetiches of the mountain lion, called at Zuñi "long tail." It might have been manufactured in New Mexico, so great is the resemblance. Another piece was only the head of the same animal, of larger size and of the same kind of stone. If the body was in proportion to the size of the head, the whole figure would have been as large as a small domestic cat.

It is quite likely that the main portion of the fields lay in the bottom near the river, where the land is very fertile and can easily be irrigated. South of Casas Grandes and at a distance of about two or three miles, an ancient acequia may be followed for a distance of about half a mile. It is nearly  $5\frac{1}{2}$  meters (18 feet) wide, and, although it has no artificial lining, the sides are raised, one meter on the west, and  $1\frac{3}{4}$  meters on the east (3 and  $5\frac{7}{8}$  feet), so that it is a mere shallow trough. This acequia stretches across from one side of a bend of the river to the other, but I was unable to find whether it merely connected the sides or extended farther. There are some ruins on the dunes west of it, as well as on the eastern bank.

The main irrigating ditch, however, which is traceable at Casas Grandes, enters the ancient village from the northwest (see Plate VI.), and can be traced for a distance of two or three miles. It runs almost straight from northwest to southeast, and I have been told that it takes its origin about three miles from the ruins, at the foot of higher slopes, and near a copious spring. It looks therefore as if it had conducted the waters of the spring to the settlement for household purposes only. Indeed, after passing the enig-

matical structure marked I., it empties into the circular tank V., the diameter of which is 15 meters (49 feet). The depth of this tank is still 1.6 meters (5 feet). South of it I was unable to trace the ditch any farther; but there is, near the house N, and thirty meters west of the building B, another tank, VI., 22 meters (72 feet) in diameter, with a rim one meter high and 12 meters wide (3 and 39 feet). This tank is two meters deep in the centre. It is not impossible, therefore, that the acequia, after passing through or by the tank V., continued its course in order to supply the larger basin VI. also.

The acequia is best preserved on the terrace in the northwest of the ruins. There its course is intercepted by gulches, and the section is therefore very plain. It seems that, at a depth of about four feet below the present surface, a layer of calcareous concrete formed the bottom of the shallow trough through which the water was conducted. This channel is about ten feet wide, and, what I had never seen before in the Southwest, was carried on a steady and very gradual incline by means of artificial filling, and probably by wooden channels crossing intervening gulches. The calcareous concrete forming the bed of the acequia may be artificial, in which case the channel at Casas Grandes would be similar to the lined water-conduits at Tule in Eastern Arizona. This is interesting, since it shows that tribes living under natural conditions so different as to develop distinct varieties of architecture have resorted to the same contrivances for purposes of irrigation.

Another acequia, 4.3 meters (14 feet) wide and also slightly raised above the ground, showing four longitudinal rows of stones laid at intervals of from four to six feet, may be traced in the bottom. It looks more like a road-bed than like a ditch, still I cannot conceive it to have been anything else.

It seemed to me as if both these channels had been connected, and as if they were but branches of the main line running across the terrace, one deflecting to the west of the ruins to fill the two artificial basins (V. and VI.), the other entering the bottom between the western part of the ruins and that portion of them lying in the bottom. But it may be that the lower acequia derived its waters from the river. At all events, it seems clear that the inhabitants of Casas Grandes had made considerable progress in irrigation.

Ruins are said to exist on the east side of the river also, and opposite the main cluster; but I was not able to visit them. Having heard many reports concerning relics of antiquity both south and west of Casas Grandes, and at the same time having satisfied myself that the ruins did not extend to the east any farther than the first or second terrace above the river, and that they were of the same description as those already investigated by me, I determined to penetrate as far as San Diego, where the Casas Grandes River is formed by the junction of the Palanganas and Piedras Verdes, in order to examine the ruins along the banks of these two streams, and finally to turn to the west and investigate as far as possible the eastern ramifications of the Sierra Madre. My object consisted especially in verifying the truth of reports touching the existence of caves or cliff-houses in the interior of the great chain. I also desired to ascertain whether there were ancient remains in the mountains of the same type as those at their base.

The only ruins of any consequence which I saw between Casas Grandes and San Diego were those situated near the Boquilla, which are represented on Plate I. Figure 94. They consist of mounds, and of walls of lava blocks connecting them, which seem to have been intended for defensive purposes. The mounds are, as will be seen, smaller than those

on more open expanses, and the site is traversed by several dry arroyos. All the potsherds scattered about, although of the same kind as those at Casas Grandes, are much more decayed. A peculiar structure is the one standing opposite the ruins, and on the south side of the river. It is an artificial mound  $1\frac{1}{2}$  meters (5 feet) high towards the side from the stream, and 5 meters ( $16\frac{1}{2}$  feet) towards the water's edge. While the bulk is made of adobe, the base is surrounded by a casing of large flags of stone. The appearance of the ruins, the length and solidity of the stone walls, as well as the situation, lead to the inference that the village may have been located there for the purpose of defending the entrance to the valley from the south, or at least of impeding the approach of an enemy from that quarter. The population of the village cannot have exceeded three hundred souls.

This ruin lies in what is called the "Malpaís," or lava-fields. The Cerro de Montezuma in the west, and rugged heights of lava in the east, approach each other, and a short distance south of the ruins the two ranges form a gorge, the Cerro de la Boquilla, a steep and rocky mass rising abruptly above the east bank of the stream. At San Diego, a short distance beyond the Boquilla, a bleak plain begins, which stretches to the west as far as the eastern slope of the Sierra Madre. The Rio de Palanganas is lined by cottonwood groves; but the Piedras Verdes has less shade. Along both streams rise, rather conspicuously, the white mounds of many ruins, scattered in small clusters. On the plain itself, as it is destitute of water, only an occasional small artificial mound appears.

I could not detect the slightest difference between the ruins situated on the two rivers mentioned, in sight of each other, and separated only by short distances. Plate I. contains (in Figures 95, 96, 98, and 99) plans of those groups, the



first two lying on the Palanganas near San Diego, and the other two on the Piedras Verdes. I have no comments to make touching these ruins, since they are of the same type as those near Corralitos and Carretas, therefore of the Casas Grandes variety, only smaller than the great houses. They suggest the former existence of quite a number of small settlements composed each of several large houses, many-storied, or at least two stories high in most places. Their elevation is difficult to ascertain, without excavating to the ground floor. One group on the Piedras Verdes was 1.6 meters (5 feet), and another  $3\frac{1}{4}$  meters (10 feet 10 inches) above the surrounding level. There were adobe enclosures connected with the mounds, as at Carretas and at Ojitos, and on the Gila; and the pottery was of the same kind as at Casas Grandes.

The plain between San Diego and the foot of the Sierra Madre is a gradual incline covered with grass, on which antelopes were grazing in herds when I crossed it on the 25th of May, 1884. The grass had been recently burnt off. The width of the plain I estimate at ten, perhaps twelve miles. Where it abuts against the mountains, scrubby oaks appear, and at the Puerto de San Diego the ascent of the Sierra commences. The Arroyo de la Cuerda here empties into the plain. On both sides of this arroyo, and partly across its bed, are dams and dikes exactly like those which I have repeatedly described in the preceding chapter. Between the dikes extend more or less regularly shaped plots of tillable land, called by the inhabitants of Casas Grandes "labores," or tilled patches. The quantity of water running down the arroyo must be considerable during freshets, but in the dry season there is only a little rivulet near the base of the mountain. Connected with these artificial garden beds are ruins of houses, small buildings containing from two to four rooms.

The walls seem to have been partly of adobe, partly of stones; and small stone enclosures are connected with them. (see Plate I. Fig. 97). The mound, which measures about twenty-one by twelve meters, indicates a one-storied building, and is surrounded by a system of stone enclosures on three sides, resembling a combination of the checker-board and central mound ruins of Arizona. The potsherds are like those of the other ruins, but much more decayed.

The so called Puerto de San Diego, a very picturesque mountain pass, ascends steadily for a distance of five or six miles. On its northern side rise towering slopes, the crests of which are overgrown with pines. In the south a ridge of great elevation terminates in crags and in pinnacles. The trail winds upwards in a cleft, and is bordered by thickets consisting of oak, smaller pines, cedars, mezcal-agave, and tall yucca. As we rise, the view spreads out towards the south-east and east, and from the crest the plain below and the valley of Casas Grandes, with bald mountains beyond, appear like a topographical map. Turning to the west, a few steps carry us into lofty pine woods, where the view is shut in by stately trees surrounding us on all sides. The air is cool; deep silence reigns; we are in the solitudes of the eastern Sierra Madre.

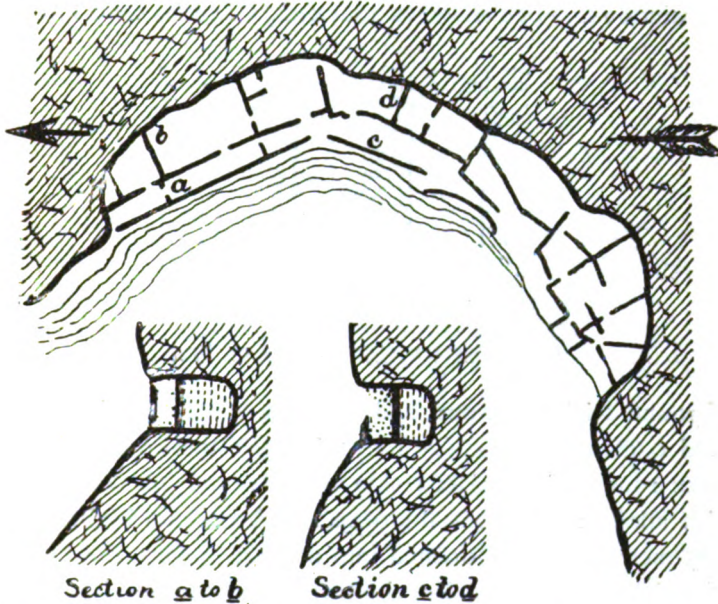
From the crest of the Casas Grandes chain narrow ridges run in every direction almost, forming long and narrow grassy valleys, with shrubs as well as clumps of trees growing in them. Turkeys, deer, and other game, roamed about in numbers at the time when I wandered through these sections. From the tops of the ridges an extensive view is occasionally enjoyed to the west, the northwest, and the southwest. Pine forests cover hill and vale, and higher summits loom up along the horizon. Only a few peaks of considerable altitude appear in the west, which my companions pointed

out as belonging to the mountains of Sonora. I doubt the accuracy of their statement, as it would be impossible to see the chains of Sonora from the Casas Grandes range.

These solitudes, rich in beautiful forests, in running water, and in narrow but fertile valleys, have for more than a century been the lurking places of the Apaches. It was difficult, and very dangerous, to pursue them thither. There a branch of them, the so called Janeros, was formed out of the remnants of the now extinct tribes of Sumas, Janos, and Jocomes, and of bands of Apaches who had drifted at an early date into Western Chihuahua. Until 1884 the Chiricahuis occasionally roamed through this wilderness, and the band of the notorious Juh, who was drowned in the Rio de Piedras Verdes in 1884, made their home in these forests.

These mountain fastnesses are well adapted to the residence of small clusters of agricultural Indians seeking for security. I therefore neither saw nor heard of ruins of larger villages, but cave dwellings were frequently spoken of. Some very remarkable ones are said to exist near the Piedras Verdes, about two days' journeying from Casas Grandes. I saw only the cave dwellings on the Arroyo del Nombre de Dios, not far from its junction with the Arroyo de los Pilares. They lie about thirty-five to forty miles west-southwest of Casas Grandes. The arroyo flows through a pretty vale lined on its south side by stately pines, behind which picturesque rocks rise in pillars, crags, and towers. The rock is a reddish breccia or conglomerate. Many caves, large and small, though mostly small, open in the walls of these cliffs, which are not high, measuring nowhere over two hundred feet above the level of the valley. The dwellings are contained in the most spacious of these cavities, which lies about two miles from the outlet of the arroyo. They are so well concealed that, along the banks of the stream,

it is easy to pass by without seeing them. The wall in which the cave opens is partly inaccessible, and a single trail leads up on a narrow ledge, which terminates, at an altitude of 27 meters (88½ feet), at the entrance of the cavity. The height of the cave, which is wholly natural, is 2½ meters (8¼ feet), and its greatest depth does not exceed 5 meters (16½ feet). I subjoin the ground plan of the cave, with its

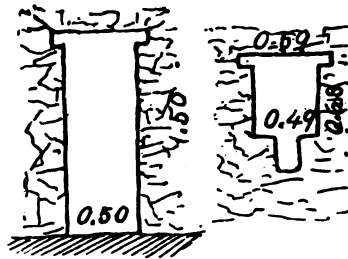


CAVE DWELLINGS ON THE ARROYO DEL NOMBRE DE DIOS, CHIHUAHUA.

partitions 0.34 m. (14 inches) wide, made of a white material similar to the adobe of the ruins in the Casas Grandes region. In front of the rooms runs, almost along the brink of the precipice, a wall which near where the trail enters the cave reaches as high as the roof, thus forming a corridor with the walls of the apartments in the rear. Where the

outer wall is lower, it is crowned with irregular battlements. In this purely protective or defensive exterior device circular loopholes are so disposed as to command the trail.

On the whole, the walls inside of this cave were not only well preserved, but they displayed more care and neatness in their execution than those of most of the cave dwellings which I had examined farther north. The doorways resembled those of Casas Grandes, only they were smaller, as were the windows. (See sketches annexed.) Lintels were formed



CAVE DWELLINGS AT NOMBRE DE DIOS.

of round sticks of wood, and over one window, which measured 0.68 by 0.59 m. (27 by 23 inches), there were nine of these round sticks placed side by side and plastered over with adobe mud. One doorway, which was not higher than 1.25 meters (4 feet), opened into a short gallery, the ceiling of which was formed by eighteen little canes. The only artificial objects which I noticed lying about were a few potsherds, and one metate showing very little traces of having been used. The Apaches have left traces of their presence in some very rude pictographs, and a number of names were also written on the walls, showing that I was by no means the first visitor there who could read and write. I was unable to decipher the inscriptions, which were nearly effaced.

The number of inhabitants which this cave could have sheltered is small. On the Rio de Piedras Verdes another cave is said to exist that contains thirty-four rooms; and I heard repeatedly of other ruins, but saw none. I could not penetrate deeper into the mountain fastnesses without an escort. From the scenery which presented itself to the eye as often as a crest was reached, I judged that the interior of the sierra, or at least that part of it east of the Sonora boundary line, is heavily wooded, and traversed by narrow valleys with perennial water.

Along the course of the Nombre de Dios, there are narrow strips of fertile soil, where the inhabitants of the cave dwellings described may have had their patches of cultivated ground. In winter it is colder than at Casas Grandes, and on the morning of the 24th of May ice formed on the surface of the water of the stream. The ancient dwellers in this region enjoyed also an abundance of game, deer, turkeys, and bears, being quite common, and fish in the stream. In the early morning, before the sun rises, the large green parrot which the people of Casas Grandes and vicinity call Guacamayo, or macaw, flutters from tree-top to tree-top, filling the air with its discordant screams. If the interior of the Sierra Madre is ever opened to travel and civilization, it will be found prolific in resources of divers kinds, and as interesting to the naturalist as to the student of archæology.

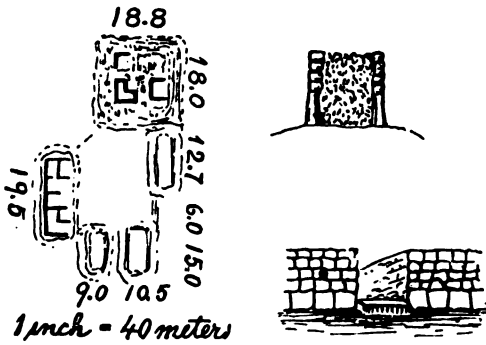
I returned from the Arroyo del Nombre de Dios to Casas Grandes by a different route, and on the return trip I examined the ruins on the Rio Piedras Verdes. Between the banks of that river and Casas Grandes on the northern flanks of the Cerro de Montezuma, I saw no vestiges of antiquities.

The Cerro de Montezuma forms a long and sharp ridge, running approximately from north to south. Its elevation above Casas Grandes I estimate at two to three thousand feet;

its slopes are bare, quite steep, and in places even precipitous towards the west. Valleys and gulches run down to the eastward, and in these valleys and near the base are some very well preserved specimens of dikes or dams, similar to those in the vicinity of Huachinera and Baserac. Some are laid on only one side of an arroyo, others on both sides. The walls look as if they had been but recently made, so neat and well preserved do they appear. They are one meter (39 inches) high, and  $1\frac{1}{2}$  meters thick, and in their rear extends a level and fertile surface. What attracts still more attention is the old trail by which the mountain is usually ascended. This is properly not wider than one meter, although it appears double that width, having been considerably eroded. It is not, as people at Casas Grandes state, cut out of the rock or scooped out of the soil, but simply worn out by much ancient travel, and it seems as if all the loose rocks, drift, or boulders had been carefully removed so as to clear it. The depth of the track is from 0.30 to 0.45 m. (12 to 18 inches). In one place, where it winds along a steep slope, it appears to be  $2\frac{1}{2}$  meters (8 feet) wide, but only part of this width is artificial, and the remainder a natural ledge.

The trail leads to the lowest or northern portion of the crest, and there, on a terrace slightly sloping to the eastward, stand the mound and defensive wall represented on Plate I. by Figure 100, called by the people of Casas Grandes "El Publito." I append here detailed sketches of both mounds and wall. The former constitute a hollow square, and are like those at Casas Grandes, and in that valley in general, but smaller. The buildings could not have been higher than two stories originally, and protruding walls of adobe show a thickness of 0.55 m. (22 inches). Pottery as usual is handsomely painted. The wall is built about twelve

meters to the east of it, on a slightly lower level, with a width of five feet; its original height it is impossible to determine. A passage with a step at its entrance formed by a large slab,  $2\frac{1}{2}$  feet wide, leads through this wall; a rudely semicircular enclosure terminates against it in the east. Inside of the enclosure stands a mound built of stones five feet high, and measuring  $4\frac{1}{2}$  by  $3\frac{3}{4}$  meters (15 by 12 feet). What this en-



PUEBLITO ON THE CERRO DE MONTEZUMA.

closure and mound were intended for I cannot well imagine, unless as a lookout placed in front of the main wall; but it protects only one side of the gateway. The total length of the wall is 77 meters (253 feet), and the work on it is well executed. Flags or slabs of stone set upright along the base of the wall support blocks carefully broken, which constitute a good facing, one on each side, and between the two facings smaller stones are filled in to constitute the body of the structure. The binding material is adobe. The little mound appears to be of solid stone-work, also well executed. All these structures suggest the idea of defences. Still we may inquire why the wall extends only across a portion of the width of the terrace. It could be turned both on the north and the south, and, besides, the crest rising to the south affords an enemy



every opportunity of assailing the wall from above or the rear. All around is perfectly bare, and no foe could approach, unless at night, without being exposed to detection. West of the house, along the brink of a precipice, rude defensive structures, analogous to those of the "cerros de trincheras" of Sonora, are erected on ledges and in crags. These are low parapets, and circular and square enclosures of small dimensions, but all nearly on the same level, and not concentric, as those at Batonapa; but their rudeness is in strong contrast with the fine finish of the eastern line of defence. Besides these, circles and polygons of stones clumsily piled are irregularly scattered over the terrace. It seems certain that these structures are not of the same age as the mounds, and the well built eastern wall of defence.

A trail similar to the one by which the Pueblito is reached leads up the ridge to the south, and finally to the summit of the Cerro. Another trail leads on to the terrace of the Pueblito from the north, and still another climbs up from the west through crags and crevices. It is easy to see that these trails are all ancient.

Following the first of the three trails, the highest point of the mountain is reached. Thence the slopes are steep to the east and west sides, more gradual to the south and north. Like all the slopes of the Cerro, it is partly rocky, partly covered with small bunches of grass, with cactuses growing between the tufts. At the Pueblito *Opuntia* grow in clusters to a large size; higher up everything is low and stunted, and nothing obstructs the wide view. In the north it embraces the country as far as the Sierra Florida in the vicinity of Deming, New Mexico; in the south it is not so extensive, as the Sierra del Ancon and the Sierra del Cristo close the view intervening between the Casas Grandes valley and Galeana in that direction; in the west the levels at the foot of the

Sierra Madre, and the different branches of that chain as far as Namiquipa, appear with remarkable clearness; and in the east we look over the ranges beyond the Casas Grandes River and far into white and arid plains.

On the highest point stands the ruin of a circular tower, built of plates of stone laid in adobe mud, five feet in thickness, and with walls in places still eight feet high. I noticed no entrance or door, so that it looks as if the walls had to be scaled in order to get inside. There is indeed a heap of stone rubbish lying outside, which led me to suspect that a flight of steeps built outside might have afforded the means of entrance. This feature is found in the many-storied watch-towers near Zuñi, some of which are in use to-day. Inside of the tower are partition walls from two to three and a half feet thick; there is also a niche. The central partitions may have been of adobe. At a distance of ten meters, and seven feet lower than the outer circumference of this tower, a wall of stone encompasses it which is now not over four feet high, and in most places two feet thick. The stones appear to have been piled up loosely without binding between them, and nowhere did I notice a gateway or entrance.

I could not find any pottery around this ruin, and the absence of such objects confirmed me in the supposition that this tower was a post of observation. I copy what I wrote in my Journal of May 30, 1884, on the day I explored the ruins on the Cerro de Montezuma: "The position of the Cerro is a very remarkable one. Isolated, and dividing the valley of Casas Grandes in the east from the valley of San Diego and the Piedras Verdes in the west, it absolutely dominates both, and the whole plain at the foot of the Sierra Madre from its farthest southern termination to the Pajarito. Every flank, fold, pass, or crest of the Sierra Madre on its eastern face is seen. To the east every plain, valley, range, and pass

from the Boquilla to beyond Corralitos, and in the far north the Sierra de la Hacha, and even the Florida, are dimly visible. The view is immense, and access to the tower, except from north and south, very steep and difficult." It is not to be wondered at, therefore, if it has been regarded as only a post of observation, never inhabited, but temporarily occupied by videttes looking out for the safety of permanent settlements situated below.<sup>1</sup>

Neither at the tower, nor at the Pueblito, did I see any traces of permanent water.

While the probabilities are quite strong that the tower was a military construction, it is not to be overlooked that it may have been a place of worship. The two are often combined in Indian life, and the trails that converge on the top of the Cerro de Montezuma become an interesting feature, indicating that there was much travel up and down the mountain.

The trails leading over the crest of the Cerro are the most direct route from Casas Grandes to the ruins on the Piedras Verdes. This seems to point to the fact that the villages or groups of houses on the Piedras Verdes and Palanganas were in close communication with the villages on the Casas Grandes River, and that some of the settlements on both sides of the Cerro were coeval. The trail leading from the central watchtower to the south, as well as that rising to it from the

<sup>1</sup> García Conde, *Ensayo Estadístico*, p. 74. "Á distancia como de dos leguas al S. W. está un divisadero ó atalaya en un picacho que domina un terreno extenso por todos rumbos, con el objeto quizá de descubrir la aproximacion del enemigo. En el declive meridional del mismo picacho hay innumerables lineas de piedras colocadas á propósito, pero á distancias irregulares en cuyos extremos se ven montones de piedras sueltas." These parapets, which from the description of the statistician of Chihuahua indicate something similar to the "cerros de trincheras" of Sonora, I have not seen. Mr. Bartlett also alludes to the tower on the top of the Cerro in his *Personal Narrative*, vol. ii. p. 362. He did not visit it himself, but says, "This fortress can be discerned with the naked eye, and on looking at it through my spy-glass it showed quite distinctly."

north, indicate that the tower was visited from the Casas Grandes and Piedras Verdes, as well as from the Palanganas or from the settlement near the Boquilla. It is not unlikely that the villages along the three streams formed, if not one great cluster politically united through a common government, perhaps a confederacy or league.

The ancient culture which flourished at Casas Grandes and in its neighborhood was similar to that which existed on the banks of the Gila and Salado in Arizona; the architecture especially is of the same type. But at Casas Grandes there was a marked advance over any other portion of the Southwest so far visited by me, shown particularly in certain household utensils, in the possible existence of stairways in the interior of houses, and in the method of construction of irrigating ditches. Nevertheless the strides made were not important enough to raise the people to the level of more southern tribes. Their plastic art, as far as displayed in the few idols and fetiches, remains behind that of the Nahuatl, Tzapotecas, Mayas, etc. They seem to have reached an intermediate stage between them and the Pueblos, though nearer to the latter than to the former.

That a sedentary tribe, if permitted to reside for any length of time in a country like that of Casas Grandes, should achieve some progress in art and industry is natural, for the resources which this country presents are great enough to favor progress in art and in industry, and the climate is not tropical enough to exhaust and dampen energy. In this respect it was more favorable than the Tempe delta.

It is not improbable that the Casas Grandes region — in which I include the valleys of Corralitos, Janos, Ascension, and the stretch as far as the Boquilla and the Piedras Verdes and Palanganas Rivers — at one time contained a population

more dense than that of any other part of the Southwest inhabited by sedentary aborigines. Of their numbers it is impossible to form an estimate, as we do not know which and how many of the villages were contemporaneously occupied. That all of them were inhabited at the same time can hardly be supposed, as that would be unusual for Indian communities and customs, and furthermore the degree of decay is quite different in the various ruins in the same vicinity. For the largest settlement, which is the one now in ruins at Casas Grandes, three to four thousand souls would be, according to my impression, a reasonable estimate.

Part of the ruins at Casas Grandes is beyond all doubt the best preserved ancient specimen in that district, while at the same time it is by far the largest cluster. It may be that Casas Grandes was last abandoned, or the better preservation may be due to its extent and the size of its houses. The usual supposition is that Casas Grandes was the "capital" of a certain range or district, and that the smaller ruins are those of minor villages, just as Tenochtitlan formed the main seat of the Mexican tribe, while Ixtapalapan, Mixquic, Huitzilopochco, and Tepeyacac constituted outlying settlements. But I doubt whether there was any governmental tie uniting the villages on the Rio de Casas Grandes between the Boquilla and Corralitos with those near Janos or those near Ascension, even if all these groups were contemporaneously occupied. It is inconsistent with the nature of Indian institutions that clusters geographically separated should be politically connected. It is more likely that such a connection may have existed between the villages on the Piedras Verdes and Casas Grandes, and the different constructions on the Cerro de Montezuma seem so to indicate. It is my impression that several tribes, probably of one and the same stock, occupied

the country in separate and autonomous groups, and that Casas Grandes is probably the last refuge of one of these tribes.

What that tribe was, what language they spoke, what were the causes that produced their downfall, and what has become of them, are all questions which I do not presume to answer; but it is well to present here whatever scanty information touching the past of Casas Grandes has been preserved to us, either in Indian folk-lore or in Spanish documents.

There is still a possibility of finding some clue to the questions enumerated above in the traditions of Sonoran tribes, or in those of the Tarahumares and Tepehuanes. What leads me to this supposition is, that while I was in Eastern Sonora several Opatas Indians assured me that Casas Grandes was built by the Opatas in former times. Upon what facts this tale was based I could not learn. Certain it is, however, that the architecture of the ruins is strangely like that on the Gila, and since the ancient buildings there are claimed by the Northern Pimas as those of their ancestors, and we know that the Southern Pimas, or Nebomes, still occupied similar edifices in Sonora in the middle of the seventeenth century, some color is given to the surmise that the builders of Casas Grandes may have been of the same stock as the Pimas, Opatas, Yaquis, and kindred groups. I was also informed that the original name of Casas Grandes was Hue-hue-ri-ki-ta in Opatas, but I place no great stress on this. The word appears to me as one manufactured for the occasion, since it is a literal translation of "great houses." I have already related that, according to local Opatas traditions, the people at Casas Grandes before the Spanish occupation warred against the Opatas near Huachinera; but that tradition fails to state whether the aforesaid people then occupied the villages now

in ruins, or whether they were the Sumas who were found in possession of the valley when it was first discovered.<sup>1</sup>

I have already stated that, when the Spaniards entered Central Sonora, they heard of a tribe called Sunas, which was either living in or roving through the eastern portions of Sonora, or what to-day is the State of Chihuahua. The district of Casas Grandes was first visited by a missionary, as far as I am able to ascertain, in 1660, or thereabouts. Fray Andres Perez, a Franciscan, made the first attempts of Christianization there among the Sumas, as the Indian inhabitants of the valley were called, and also Yumas. He found the aborigines to be very docile. He was succeeded by Father Aparicio, who soon died.<sup>2</sup> In the early reports concerning

<sup>1</sup> Alegre (*Historia de la Compañia de Jesús*, vol. ii. p. 404) states that the Sumas already in 1649 molested Sonora; but it is not clear whether these Sumas were those of Casas Grandes, or a branch of them living in the vicinity of Fronteras and on the Upper Yaqui.

<sup>2</sup> According to Alegre (*ut supra*), Father Marcos del Rio, a Jesuit priest and missionary at Huassavas in Sonora, made the first successful effort to convert the Sumas: "Consiguió la dulzura y el celo del Padre Marcos del Rio, ministro de los Guasabas que por marzo de 1651 se dejó ver la primera vez en sus tierras á convidarlos con la paz de parte del Gobernador, y con luz del Evangelio. Para prueba de la sinceridad de sus proposiciones, llevo el Padre un sello del gobernador. Ellos lo creyeron, y luego viniéron á Opotu, pueblo de los Guasabas, mas de cien caciques con sus hijos y mugeres en señal de confianza." The fact that they came to Opotu indicates that these Sumas did not live at Casas Grandes, but in the territory of Sonora, probably near Fronteras. In regard to Fray Pedro de Aparicio I refer to the documents following. Francisco de Gorraez Beaumont, *Informe*, p. 235. According to Fray Antonio Valdés, *Patente*, p. 245, Don Francisco de Gorraez Beaumont, when he was Governor of New Biscay, sent Fray Andrés Pérez to Casas Grandes: "Avisándole de todo lo necesario para el efecto mencionado, el cual se ha ejercitado mas de dos años en catequizar, bautizar y casar mucha cantidad de Indios, por mar poblacion, reducirlos á doctrina y obediencia real, prometiendonos muchos frutos y muy grandes adelantos en la continuacion y cuidado que se debe ir asegurando en aquellas nuevas plantas que se han reducido al verdadero conocimiento; y para este efecto ha estado sustentando dicho Señor maese de campo al religioso con su hacienda, dándole la misma cantidad que S. M. (que Dios guarde) da á los ministros de esta provincia que son mas de trescientos pesos sin el maiz con que los socorren cada año, y lo va continuando despues que acabó el oficio de gober-

these efforts, the Great Houses are mentioned as already in ruins, and the inevitable Montezuma tradition was at once attached to them,<sup>1</sup> which indicates that the Sumas themselves had probably no recollection of the past history of the place, and were therefore not the builders and inhabitants of the ancient buildings.

I refer to the first part of this report for whatever scanty notices I have been able to collect touching the condition and degree of culture of the Sumas.<sup>2</sup> It is noteworthy that, while the Indian inhabitants of the Casas Grandes valley are described as of a mild disposition and given to the pursuit of agriculture, the Sumas around El Paso were always turbulent nomads, who gave the Spanish authorities a great deal of trouble. With the appearance of the Apaches in Chihuahua, the tribes of Casas Grandes, Janos, and Carretas broke out also. In 1684 a secret council was held near Casas Grandes, which was attended by the Sumas, Janos, Jocomes, and other tribes from Southwestern and Southern Chihuahua.<sup>3</sup> The

nador ; pues á los dos religiosos que fueron ahora, el uno nombrado Fray Pedro de Aparicio y el otro Fray Nicolas de Hidalgo, los había con la misma cantidad que dió al primero." Andrés Lopez de Gracia, *Carta al Gobernador Don Antonio Oca Sarmiento*, August 16, 1667, p. 342 : "Si bien echando mucho menos á nuestro reverendo Padre Fray Pedro de Aparicio, de que dí cuenta á V. S. de su muerte ; y áhora la doy de nuevo por el grande sentimiento que los Indios han hecho chicos y grandes." It seems that the church had already been commenced in 1667 : "La obra del templo y su convento crecía" ; but it was abandoned for a short time after the death of Father Aparicio : "Despues de su fallecimiento algunos de los Indios se han ausentado, parado la obra." The death of Father Aparicio must therefore have taken place at Casas Grandes, and about 1667.

<sup>1</sup> Francisco de Gorraez Beaumont, *Informe*, p. 234 : "Por haber traído noticia que en este pueblo de las Casas Grandes era panfno de minería y segun tradición antigua y ruinas que se veían que decían ser del tiempo de Montezuma."

<sup>2</sup> Part I., page 89.

<sup>3</sup> Alegre, *Historia*, voi. iii. p. 53 : "Determinaron tener una junta general cerca de un grande edificio ó ruinas antiguas que hasta hoy llaman Casas Grandes, de qué hemos hablado en otra parte. Allí se había de determinar de comun acuerdo el modo, lugar y tiempo de hacer la guerra, y se citaba para fines del mes de octubre con motivo de hacer las primeras hostilidades á la entrada del invierno."



outcome of their deliberations was open revolt, which, while locally suppressed, still placed the Spanish colonists in a critical position. In consequence of it, the settlements of the Spaniards in the vicinity of Casas Grandes were abandoned for some time. In 1727 there existed at Casas Grandes only half a dozen families of Sumas and Conchos Indians, and a single Spanish hacienda. In 1748 even that hacienda was in ruins.

Thus we cannot gather from documents of Spanish origin, as far as known to me, anything in relation to the past of Casas Grandes in prehistoric times. That the Montezuma tale should at an early date have been attached to the ruins is natural, as it was to the Casa Grande of Arizona. It was declared to be one of the "stations" which the Central Mexican tribes made during their supposed wanderings from north to south. Even the number of souls (600,000) is given in 1727.<sup>1</sup>

I regret to leave Casas Grandes and its interesting ancient monuments without being able to say more about them.

<sup>1</sup> Rivera, *Diario y Derrotero*, p. 48: "Al día diez y siete, al rumbo de el Sueste, pasando luego que comencé á marchar, por las ruynas de vn palacio que fabricó el Emperador Montezuma, quando desde las partes de el Norueste de la Nueva México, como trescientas leguas y de vn parage q̄ se nõbra el Teguayo, salió con seiscientas mil personas á poblar la ciudad de México: procurando en aquel sitio tan ameno fertil, dar descanso á la multitud grande de Yndios que conducía; Conocebe en lo soberuio de los edificios, y en su magnitud, ser fábrica suya: pues siendo su figura un paralelo grande. Tiene cada lado doscientas y cinquenta toyses de Paris. Conservandose hasta oy algunas maderas, que permanecen en los altos de el tal palacio, que avn haviendo pasado mas de tres siglos se reconoce algo, de lo magnífico de su fábrica." Still more grotesque is the description of the adobe of Casas Grandes given by Mota-Padilla, in *Historia de la Nueva Galicia*, p. 357: "Por vnos edificios de piedra bien labrados, de que tienen tradicion haber sido fábrica de los primeros Mexicanos, quando salieron de entre el Norte y Poniente con su primer emperador Moctezuma á poblar la Nueva España; y no hay dusa que admira el primor del ajuste y labrado de las piedras, y se discurre que la union de estas sería con el sumo de algunas yerbas."

They belong to the class of ruins which are beyond the reach of historical knowledge ; but I have no doubt that, when the folk-lore of tribes living to-day at a distance from the place becomes thoroughly known, much will be revealed that may to some extent remove the veil of mystery now shrouding their past. I also venture to suggest, that at the earliest possible date the ruins of Casas Grandes be thoroughly investigated, since excavations, if systematically conducted, cannot fail to produce valuable results.

Between Casas Grandes and the line of the Mexican Central Railroad extends a stretch of arid country which is unknown to me ; and not less arid is the expanse between the range known as the Corral de Piedras and El Paso del Norte. Around the latter place I have heard of ruins, but was unable to see any. In the mountains east of the pass, on the Texan side, caves have been discovered which showed traces of former habitation. Among other things sandals of yucca were found of nearly all sizes, from that of the foot of a child to that of a full-grown man. I also heard of pottery and of stone implements having been found in these caverns ; they are natural, not artificial, but I could not ascertain whether they had been partitioned. It is known that in the sixteenth century only roving tribes occupied the region of El Paso del Norte, and that the first permanent establishment there within historic times is due to the efforts of the Franciscans. Fray Garcia de San Francisco (or de Zufiga) settled the Mansos in that vicinity in 1659. Previously they had roamed up and down the lower course of the Rio Grande in New Mexico, having their headquarters mostly in the vicinity of Doña Ana and Fort Selden.<sup>1</sup>

<sup>1</sup> Part I., pp. 165, 166. I briefly refer to the main documents quoted : *Auto de Fundacion de la Mision de Nuestra Señora de Guadalupe del Paso del Rio del Norte* (1659, MS.) ; Benavides, *Memorial*, p. 9 ; and Rivera, *Diario y Derrotero*, p. 26.

South of El Paso del Norte, at the hacienda of San José, casual diggings have brought to light some antiquities, among which were metates and a fetich of stone. The remainder of Chihuahua is unknown to me as I have only traversed it by rail; but I cannot refrain from alluding here to the statement of Villagran, that while Juan de Oñate was marching with his soldiers and colonists through Central Chihuahua in 1598, they noticed in the deserted regions quantities of potsherds "good and bad, sometimes gathered in heaps."<sup>1</sup>

As I have made no explorations farther to the south than the vicinity of Casas Grandes and Oposura in Sonora, this chapter terminates the descriptive portion of the second part of my final report to the Institute.

<sup>1</sup> *Historia de la Nueva México*, canto ii. fol. 11 :

" Assi la cuidadosa soldadesca,  
 Á mas andar sacaba y descubria  
 Desde los anchos límites que digo,  
 Patentes rastros, huellas, y señales  
 Desta verdad que vamos inquiriendo,  
 Á causa de que en todo el despoblado.  
 Siempre fuimos hallando sin buscarla,  
 Mucha suma de loça, mala y buena.  
 Á vezes en montones recogida."

## XV.

## CONCLUSION.

AT the present stage of my knowledge regarding the vestiges of the past of the aborigines of the Southwest, as well as of their present condition, I do not venture to enter into any theoretical discussions or speculations. The investigator who dwells far from the centres of scientific knowledge must be content with presenting his mite of modest research with as little comment as possible. A conclusion to this long report can therefore be only a short *résumé* of what has preceded.

Glancing at the contents of the fourteen chapters devoted to archæological description, we cannot fail to notice that the vestiges of sedentary aboriginal life are scattered over a large proportion of the area embraced in what is commonly termed the Southwest of the United States. With the exception of the great plains and vast arid plateaux, wherever permanent water could be secured we find traces of tribes accustomed to sedentary life and familiar with its characteristic arts. In many regions these evidences are slight, and show that the occupation has not been of long duration, or that it has not produced any high culture; in some localities civilization attained a development superior in degree as well as in form. Such differences, however, are only varieties of one general type. The ancient culture represented in the ruins of the Southwest appears therefore to have been nearly uniform in every section.

Although the communal pueblo houses of the north seem to be different from the structures on the Gila and at Casas Grandes, they still show the same leading characteristics of being intended for abodes and at the same time for defence. In the northern villages, however, both features are intimately connected, whereas farther south the military purpose is represented by a separate edifice, the central house or stronghold, of which Casa Grande is a good specimen. In this the ancient village of the Southwest approaches the ancient settlements of Yucatan and of Central Mexico, which consisted of at least three different kinds of edifices, each distinct from the others in the purposes to which it was destined.<sup>1</sup> It seems, therefore, that between the thirty-fourth and the twenty-ninth parallels of latitude the aboriginal architecture of the Southwest had begun to change in a manner that brought some of its elements that were of northern origin into disuse, and substituted others derived from southern influences; in other words, that there was a gradual transformation going on in ancient aboriginal architecture in the direction from north to south.

I have alluded only to the most striking examples of Southwestern aboriginal architecture, the large houses. In regard to another kind, the small detached buildings, it must be observed that the small house is probably the germ from which the larger structures were evolved, and that the small houses also undergo modifications, especially from north to south, in the size of the rooms. I repeat here what I said in my preliminary report to the Institute of August 11th, 1883: "There is a gradual increase in the size of the rooms in detached buildings in a direction from north to south, which

<sup>1</sup> The Calli, or dwelling; Tecplan-calli, or official house; and Teo-calli, or house of worship. These terms are from the Nahuatl of Mexico. There were other buildings temporarily devoted to special purposes, but these three were the leading forms.

increase is most distinctly marked over the area where the detached house alone prevails."<sup>1</sup>

There are regions, like Central Sonora, where the small house is the only architectural type now remaining from ancient times. It will be noticed that the square or rectangular dwellings of the Opatas of the Sonora River confirm the impressions above recorded. If we compare them with the dimensions of the huts now inhabited by tribes living still farther south, we find their size increase as we advance from a colder climate to a warmer one.<sup>2</sup>

Large halls are not found in the ruins of the north. They appear to be almost the rule at Mitla and in Yucatan; and they are met with on the Gila, under a climate which is semi-tropical.

Equally noteworthy is the increase in dimensions of the doorways and windows. In the lofty structures of Arizona and Chihuahua there is considerable resemblance to the doorways of ancient edifices in Yucatan and other southern States of Mexico.

The outer coating of the walls is of course different in the arid northern countries from that in the moist regions of the tropics. Elsewhere I have mentioned the plating, with polished slabs, of the walls of Mitla, which was applied, I suspect, not merely for ornamental purposes, but with a practical object.<sup>3</sup> Where summer rains are as violent as under the tropics, a coating of adobe or gypsum would be unable to resist them for any length of time.<sup>4</sup> In the South-

<sup>1</sup> *Fifth Annual Report*, p. 62.

<sup>2</sup> Compare notices of the houses of the central plateau of Mexico, of the coast of Vera Cruz, and of the State of Oaxaca, in my *Archaeological Tour*, pp. 20, 124, 128, and 265.

<sup>3</sup> *Ibid.*, pp. 293, 304.

<sup>4</sup> Juan Bautista Pomar, *Relacion de Texcoco* (1582, MS.), says of the buildings of ancient Tezcuco: "La forma y edificio de sus casas son bajas, sin sobrado ninguno, unas de piedra y cal, y otras de piedra y barro simple, las mas de adobes

west a thinner coat was sufficient; still there is improvement in such coating, from the northern sections to the southern, shown by the finish of the wash applied to the surface.

I have alluded to the appearance of artificial mounds and artificial platforms or terraces on the Gila, and perhaps also in the Casas Grandes region. It is well known that both of these structures are conspicuous in the ruins of Southern and Central Mexico. The estufa, however, is a specifically northern feature, and therefore disappears as soon as the climate becomes more equable and finally tropical. But if we consider one of the objects for which the estufa was used, we find it represented in the south also. It is proved that the estufa was not so much a structure for religious purposes as it was the regular abode of the males, including the boys after they had attained a certain age. In this respect it finds its counterpart in the Telpuch-calli, or "House of the Youth," of the ancient Mexicans.<sup>1</sup>

Military constructions do not seem to play, in the Southwest, the conspicuous part which they assume farther south. In the New Mexican pueblo the defensive element is combined with that of shelter, and only in rare instances is there a defensive wall added to the already strong edifices. Watch-towers are additions, wherever the site is favorable, or wherever they were looked upon as necessary. Places of refuge

de ñe mas usan en esta ciudad, por ser muy buenos porque los hallamos hoy día á edificios viejos hechos de mas de doscientos años á esta parte, tan enteros y sanos que largamente pueden servir en edificios nuevos." Adobe houses were certainly plastered outside, as is intimated by the same authority further on, although not positively. I also found adobe houses at Mitla decorated inside with "a thin layer of white plaster." *Archæological Tour*, p. 292. Judging from the white composition which I found at Cholula in the great mound, that plaster was made of unburnt lime, and therefore of much greater durability than the gypsum whitewash, or the yellow clay, daubed over ancient buildings in the Southwest

<sup>1</sup> For the Telpuch-calli, see my *Social Organization and Mode of Government of the Ancient Mexicans* (Twelfth Annual Report of Peabody Museum, p. 557).

seem to be peculiar to the Southwest. Southern Arizona, Sonora, and Chihuahua contain, so far as I know, the greatest number of them. The pueblos on the Salado and Lower Gila had circumvallations, but the resemblance of such adobe enclosures to the stone enclosures connected with other ancient buildings in the same districts seems to suggest that they had more to do with cultivation than with the safety of the inhabitants, for which reliance was had upon the central house of each village rather than upon the wall surrounding it.

Cliff-houses and cave dwellings are, as I have repeatedly stated, expedients resorted to out of necessity and favored by natural features, but cannot be considered as a separate type. They occur south as well as north, and are an ethnological feature based upon geological opportunities. Although there is considerable difference in appearance between the ancient architecture of the Southwest and that of Southern Mexico and Central America, there is in reality only a gradual transition, brought about principally by physical causes. Life under the tropics, wherever nature is not too exuberant, is conducive to permanence of abode in a higher degree than in a colder climate, and with permanence only can advances in a certain direction be made. But the nomad is by no means less intelligent than the village Indian, and in many respects he is even his superior; for, as I have observed in the first part of this report, the difference between the two may be compared to that between a man who has travelled extensively and one who has spent his lifetime inside a village community. The example of the Navajos proves that when the nomad once gives up his objections to steadiness of abode, he becomes a more successful and more enterprising villager than the sedentary native who has remained *in statu quo* for centuries past. In all speculations upon the origin of certain clusters in Central Mexico, found living in a state



of considerable advance in architecture and other arts, we are not authorized to conclude *a priori* that they had been sedentary Indians from time immemorial. The Southwest presents cases well authenticated of wild tribes becoming villagers, and of villagers turning to a wandering life. I allude to the Navajos and to the Mansos as an example of the former, and to the Pápagos of Arizona as an example of the latter. We also know of tribes one part of which was living in villages, while the remainder led a roving life. Such were the Jumanos of Chihuahua, in comparison with their kindred in New Mexico, and the Sumas of Casas Grandes, as compared with the Sumas at El Paso del Norte. If Central Mexican folk-lore speaks of wild tribes having become sedentary, and having achieved greater success than their precursors, we need not discard such tales as improbable.

Moreover, the abodes of nomads indicate sometimes greater mechanical skill on the part of their builders than do those of the village Indians. Thus the Comanche tent is by no means a contemptible achievement. It is improper also to extol the stone house at the expense of the house of wood. The long house of the Iroquois was a very intricate structure, and the same may be said of the houses of Alaskan tribes. We should bear in mind that it is much more difficult to frame than it is to pile, and that most of the stone or adobe work in North America is only careful piling.

In artificial objects there is also progress from the north to the southward, but not so steadily marked; uniformity is the rule, and progress is local rather than general. An instance is the beautiful pottery found at the ruin near San Matéo in Western New Mexico, at a place surrounded by ruins covered with potsherds inferior in quality as well as in decoration. In comparison with more southern specimens,

even the finest vessels of Casas Grandes appear inferior; there is a certain tendency towards shapes and decorations of the tropics, but they are far from being as elaborate. I have no need of treating in detail of the articles in stone and bone, and of textile fabrics. Artificial objects depend largely upon the natural resources in the immediate surrounding, and hence they vary in degrees of perfection from locality to locality. But I must insist upon one prominent feature, the decorations of the pottery all over the Southwest bear a marked resemblance. The symbols are the same on the San Juan River in Northwestern New Mexico as in the Sierra Madre and at Casas Grandes, with the single exception, which I have purposely not mentioned before, that at Casas Grandes two new figures appear. One is the heart, and the other resembles the symbol of a flag, as it is sometimes found in ancient Mexican pictographs. The heart is also found on New Mexican pueblo pottery, but always as the heart of some animal, the body of which is painted on the bowl or jar. Zuñi vessels abound in representations of this kind. At Casas Grandes the heart stands by itself, accompanied by the well known conventional signs for clouds, water, lightning, the whirlwind, etc. On the same vessel on which I noticed the heart I also noticed the flag, and I saw both figures only on one jar at Casas Grandes, although I had noticed the heart on a potsherd from the vicinity of Huachinera in Sonora. It may be conjectured that, with the advance made by the old inhabitants of Casas Grandes, they had also invented new symbols.

Plastic pottery displays greater improvement in southern ruins than the painted ware; still it is not without reserve that I make this statement, as at San Matéo I saw evidences of great skill and taste in indented ware. I saw painted ware with handles representing animal heads that fairly compared

with anything from Chihuahua. What is most noteworthy is the fact that at Casas Grandes human figures executed in *alto-rilievo* were found on vessels. Of such a stride as this I have no knowledge either in New Mexico or in Arizona, although the canteen from the Estanque Verde, near Tucson, clearly represented a duck. But in that case the whole vessel had the form of the animal, while at Casas Grandes the plastic decoration is independent of the general shape.

Articles of personal decoration seem to have been the same all over the Southwest, and made of nearly the same material; if any metal at all has been found it has been only a very few specimens of copper. Neither bronze nor silver, still less iron or gold, in a worked or crude state, has been found. At Casas Grandes I heard of copper rattles, and of a turtle made of hammered copper; although I believe in the authenticity of the rattles, I have doubts about the accuracy of the report concerning the turtle.

The fetich of the American panther, or puma, found at Casas Grandes, is quite interesting, as showing that this important prey-fetich, which plays such a prominent part in Pueblo mythology, was also recognized in Northwestern Chihuahua; and it was represented with the same characteristics (the long tail curved back) as among the Pueblos.

The only large figures found are the mountain lions, or panthers, discovered by me on the mesas north of Cochiti in New Mexico. It is also noteworthy that buildings used exclusively for places of worship have not been discovered.

In alluding to an apparent transition in architecture from north to south, I by no means desire to convey the idea that such a transition must necessarily imply a common origin of the tribes that inhabited the different regions in former times. The greater part of the Southwest and of Mexico presents the same character of aridity, and the tropical re-

gion there is less extensive than the arid area. Architecture therefore has either taken a higher flight in decorative art, or it has shrunk to modest dwellings constructed of perishable material. Still, the fundamental plan of the most elaborate buildings recalls the simpler types of northern edifices.<sup>1</sup>

Modern science recognizes language as the surest ethnographic criterion. It is admitted that when two tribes geographically separated speak the same tongue, or dialects of it, they must have sprung from the same original stock. While this is true in the main, it may still be subject to contingencies. In the first place, language is not immutable; it changes in some cases even more rapidly than customs. Contact between tribes speaking distinct idioms brings about the gradual formation of a new one containing the elements of both, but sometimes so disguised that it may be difficult to trace the original components. Thus a new language is forming to-day among the Maricopa Indians, who, mingling and intermarrying with their neighbors the Pimas, teach their children words and phrases from both idioms. The result, if the tribe survives, will be the formation of a new mode of speech. Again, the overpowering of one tribe by another may bring about the gradual extinction of the language of the vanquished, and the substitution of that of the conqueror, but modified by the former. Such changes require many centuries, and we have not had the aborigines under our observation long enough yet to see one idiom completely displacing another, except where European languages have superseded those of the Indians. But prehistoric times were subject to no such limitations, and the possibility is not to be disregarded that clusters who were found speaking a certain idiom in the six-

<sup>1</sup> I refer to the works of Lewis H. Morgan on this subject. See *Houses and House Life of the American Aborigines*. Also Juan Bautista Pomar, *Relacion de Texcoco*, MS.

teenth century may originally have belonged to a different stock. While, therefore, language is certainly the safest guide in the search for original relationships, it is well to bear in mind the above contingencies, and their possible results.

Myths and traditions sometimes afford means of tracing relationships, but they are not infallible guides; a folk-tale travels as well as an object of art or of industry. The Zuñi Indians have a story called the Red Feather, bearing considerable resemblance to the Greek myth of Orpheus and Eurydice. The natives of Durango in Mexico had a similar tale,<sup>1</sup>

<sup>1</sup> *Apostólicos Afanes de la Compañía de Jesús*, lib. i., cap. iii. pp 23 and 24: "Vivía este en el rio de Santiago casado, y dexando cierto dia á su muger buena y jana se fué á buscar sal á la costa de tierra caliente, y de buelta ya, la encontró en el camino: Y aunque la requirió adonde ivapni le habló palabra, ni se detuvo; Siguíola el marido, dexando sobre una peña el tercio de sal, que trahía cargado, y vió que se entrava en *Muchita*. De que adivinando lo que havia sucedido, empezó á llorar su viudéz; Acertaron á passar por allí los custodios de aquel infierno; Les contó sus desconsuelos, compadecidos aquellos personases de sus lágrimas, le dieron unas varillas, diziendole, que á la noche, quando saliera á bailar, la flechará con una de ellas, y que si acertaya á herirla, lograría, que ella le conociese, y bolvería á su casa. Pero que advirtiera, que havia de llevarla con especial cuidado, hasta llegar á su tierra, donde havia de tratarla blandamente, sin gretarla, ó reñirla, hasta que con el tiempo cobrara fuerza aquella alma; porque al eco solo de vna voz alta moriria eternamente, y no podría ya ni él, ni otro sacar de aquel lugar alma alguna. Cogió el Indio las varillas, y luego que vió á su muger bailando acertó á flecharla en una pantorrilla, con que ya conoció al marido; llevóla este con el cuidado, que se le havia advertido. Llegado á su casa, supo como havia muerto el mismo dia, que la encontró. Para festejar el regozijo de su resurreccion convidó á todos sus parientes; y como el paradero de todos los convites era la embriaguez, abrió las botijas, para que bebieran todos. Por ser el que estaba mas alegre, repetí mas los brindis, de que le resultó lo que otras vezes; y el prorrumpir en aquellas furias, á que provoca el vino, dando tales gritos que llegaron á oidos de aquella tierna alma; quien solo de este achaque murió segunda vez, y se fué á *Muchita*, donde yace eternamente sepultada." The Zuñi tale of the "Red Feather" is quite similar, according to what Mr. Cushing told me. The guardians of *Cothluellonne* (the lagune at the bottom of which the souls pass the time in constant enjoyment, and especially in dancing) furnished the disconsolate husband the means wherewith to recover his spouse. They visited him at night, in a cave near *Cothluellonne* whither

but I should be loath to admit that this indicates an original connection between the Tepehuanes and the Zuñis. It may as well have originated in both places independently, as it certainly did in Greece and in Zuñi. The tale of twin heroes, children of the Sun-Father, who in mythical times freed the earth from monsters hostile to mankind, is widespread over the Southwest.<sup>1</sup> We find it also in Guatemala, in the tales about Hunahpu and Xbalanque.<sup>2</sup> I have already spoken of the tale, preserved by the Opatas, of the manner in which the sun and moon were created at Baguigopa on the Upper Yaqui, and of its striking analogy with some of the creation myths of the Nahuatl of Central Mexico. In this case the resemblance is more significant, as both the Opatas and the Nahuatl belong to the same linguistic stock. Among the Pueblos the last resting place of the soul is at the bottom of a lake; a similar belief existed among the Opatas;<sup>3</sup> and the Nahuatl had their souls cross a river before they entered upon their final abodes.<sup>4</sup> These are not the only instances of resemblance between the folk-lore of the Southwest and the South that might be quoted.

he had retired, and spoke to him under the disguise of white owls. The manner in which he lost his wife after her resurrection is somewhat differently told.

<sup>1</sup> Compare Part I., pp. 289, 308, and my *Contributions to the History of the Southwestern Portion of the United States*, p. 22.

<sup>2</sup> *Popol Vuh*, part i., chap v. to xiv. inclusive.

<sup>3</sup> *Estado de la Provincia de Sonora*, p. 628: "Sus viejos, que entre ellos tienen grande autoridad, les enseñan patrañas muy ridículas. Diré una sola . . . estos les han persuadido (con algunos resábios de la fabulosa laguna Stigia) que en muriendo van sus almas á una espaciosa laguna, en cuyas orillas por la banda del Norte estaba sentado un hombrecillo muy pequeño, que llamaban *Butzu Uri*. Este, pues, las recibía, y colocándoles apiñadas por su multitud en una gran canoa, las remitía á la otra banda del Sur, á dar residencia á una reverenda vieja que se llamaba *Vatecom Hoatziqui*. En una por una las iba comiendo, y á las que hallaba pintadas con las rayas con que se afean las caras, las arrojaba á la laguna diciendo que no las comía porque tenían espinas, y las no pintadas pasaban á su vientre contentas de gozar de una inmundísimo bienaventuranza."

<sup>4</sup> Sahagun, *Historia General de las Cosas de Nueva España*, ed. 1829, vol. i., app. to lib. iii. cap. i. p. 263.

Of greater importance are dim traditions preserved by Southwestern tribes which point to their origin in a certain direction, and to shiftings of the tribes in ancient times. While the Pueblos declare that they came to the surface of this earth in Southern Colorado, and the Navajos claim that they first lived in a region not very remote from that pointed to by Pueblo mythology, they also speak of wanderings of tribes, of which they possess only a vague recollection, in the direction of the south. The belief seems to be general among them that the drift of the shiftings has been from more northerly regions to southerly climes. What importance must be placed upon this can only be determined by future investigations of folk-lore. Ribas asserts that all the tribes of Sonora and Sinaloa agreed in affirming that their ancestors originally issued from the north.<sup>1</sup> The same is reported from Chihuahua by Villagran and by Mota-Padilla.<sup>2</sup>

Linguistic evidence supports such traditions to a certain extent. The great Uto-Shoshonee stock of languages embraces a number of tribes, ranging from Alaska to Central Mexico and Nicaragua. It is shown that the Nahuatl, the Sonoran tribes (with exception of the Seris), the Indians of Jalisco and Durango, the natives of Western Chihuahua, the Arizonian Pimas, and the Moquis belong to the same linguistic branch as the Shoshonees, Yutes, Comanches, and many tribes of the Northern Pacific slope.<sup>3</sup> The Navajos, and their outlying branches of the Apaches, are of the same linguistic stem as the Tinnah of the extreme Northwest.

<sup>1</sup> *Historia de los Triunfos*, p. 20: "Y finalmente, en los informes que sobre esta materia hize, siempre hallé rastros de que todas estas naciones, que se van asentando de paz en nuevas reducciones, salieron de la parte del Norte."

<sup>2</sup> Villagran. *Historia de la Nueva México*, cantos 9 and 11. Mota-Padilla, *Historia de la Nueva Galicia*, chap. i p. 21.

<sup>3</sup> Gatschet, *Classification*. Also Brinton, *The American Race*, p. 133.

The linguistic status of the New Mexican Pueblos is not yet definitely ascertained; as Dr. D. G. Brinton very justly remarks, "No relationship has been discovered between either of these and any tribe outside the territory."<sup>1</sup>

Thus the tales of slow wanderings, or rather shiftings, of Indian clusters from colder to warmer climes across the Southwest, become by no means improbable; but such movements must not be imagined to have been on the same scale as the irruption of vast hordes, such as Europe witnessed in the early part of our era, and which early writers upon Spanish America have conceived to have occurred in Mexico in prehistoric times. I say this not in order to censure deserving men who centuries ago took pains to record the fading traditions of tribes then first becoming known to Europeans. At their time ethnology was not yet a science, and they wrote according to the prevailing state of knowledge, and according to the points afforded them for comparison. Hence arose misconceptions and honest exaggerations, which have become deeply engrafted upon ethnological thought, and have cast a veil over ethnological facts. The movements of tribes have been slow and disconnected; there has been, it seems, a general tendency to drift towards the tropics, but never in a continuous stream. Neither is it certain that the groups that were met with as occupants of Central Mexico, Yucatan, and Central America in the sixteenth century were originally homogeneous. Some, perhaps many, of them may have been conglomerates, made up from fragments of vanished tribes speaking different languages, which finally coagulated into a new idiom.

This is a picture of the prehistoric past of the Southwest, somewhat different from that which, modelled upon the ancient history of Europe, has often been presented. On a pre-

<sup>1</sup> *The American Race*, p. 116.



vious occasion I thus wrote to the Institute on the subject: "The picture which can be dimly traced of this past is a very modest and unpretending one. No great cataclysms of nature, no waves of destruction on a large scale, either natural or human, appear to have interrupted the slow and tedious development of the people before the Spaniards came. One portion rose while another fell; sedentary tribes disappeared or moved off, and wild tribes roamed over the ruins of their former abodes."<sup>1</sup>

While the drift of shiftings of tribes has been generally from north to south, it is by no means certain that numerous deviations from that course have not occurred. It is even probable that retrograde movements took place. Hence, principally in Mexico, the conflicting statements about migrations and the quarter from which tribes reached the districts where they were found established. Furthermore, the narrower the continent becomes towards the south, the greater is the possibility of casual or intentional invasions from the outside, important for the ethnography of the interior. This is an element which could hardly have played any direct part in the Southwest, except along the coast of Sonora. There contact with peoples from outside of the American continent was possible, but no traces of such contact are known. But it must be remembered that very little, if anything, is known of the folk-lore of the Yaquis, Mayos, and Opatas. It seems certain, however, that even the New Mexican Pueblos, or some of them, had a notion of the existence of the sea before the coming of the Spaniards. This is easily accounted for by the commercial intercourse of the Zuñis with tribes of Northern Sonora and of the Lower Colorado River. From the side of the Mexican Gulf it was much more difficult to reach the interior populations, and yet marine shells whose

<sup>1</sup> *Fifth Annual Report*, p. 85.

home is the coast of that gulf were found in the ruins of Casas Grandes.

It should not be overlooked, also, that there are said to be traces of a slow movement across the plains to the eastward, and of remains left by tribes who appear to have settled at intervals along the banks of the few rivers that traverse the steppes of Eastern New Mexico. If the existence of these traces should be confirmed, the question of the connection of tribes in the Mississippi Valley with the Southwest in pre-historic times would acquire some importance.

Further than what I have intimated in these pages, I do not venture to go for the present. The time has not yet come when positive conclusions in regard to the ancient history of the Southwest can be formulated. In the course of the past ten years new methods of research have been developed in ethnology, as well as in archæology, and at some future day these may lead to the solution of questions which at present are perhaps not even clearly defined.

SANTA FÉ, NEW MEXICO,  
April 20, 1891.

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