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8. Changing Contexts of Pueblo Adaptations, A.D. 1250-1600

DAVID R. WILCOX

The debate among archaeologists about the nature of Pueblo political organization during the late prehistoric period has become rather polarized in recent years (Cordell 1979b; Cordell and Plog 1979; Plog 1979; Hunter-Anderson 1981; Upham 1982; Graves and Reid 1983; Plog and Upham 1983; Whittlesey 1983; Plog 1985; Upham and Plog 1986; Graves 1987; Lightfoot 1987). Unfortunately, third parties to this dispute are hindered by the fact that neither side has yet adequately published the data that ostensibly form the basis of their positions. While it is therefore difficult to evaluate the substance of the various arguments, the debate has helped to identify several issues of general anthropological interest:

1. *The identification of ethnic group residues in the archaeological record.* Much effort in the 1930s and later was devoted to correlating ceramic distributions with linguistic groups in New Mexico and in postulating migrations (e.g., Mera 1934, 1935, 1940, 1943; Wendorf and Reed 1955; Ford et al. 1972). Plog (1979) and Cordell (1979b) have attacked weaknesses in the methodology of these arguments but have overlooked the potential for rethinking the data assembled by earlier authors along systemic lines. In particular, the *boundaries* of ceramic distributions such as Biscuit ware, Jemez Black-on-white, and the glaze temper types (Mera 1935; Shepard 1942) are identifiable archaeologically, and they presumably indicate the boundaries of interaction systems of various kinds, *some of which* do appear to correlate nicely with ethnic groups reported by the Spaniards (Schroeder 1979). Further, such boundaries can be traced as they change through time and can be contrasted with other distributions. Some of the relational sets that can thus be defined are settlement systems whose

organizations and histories can be studied archaeologically. In many cases, I believe that these settlement systems will prove to be the manifestation of ethnic groups whose identity as distinct polities first emerged along the Rio Grande and on the Colorado Plateau in about A.D. 1300 (see Ford et al. 1972).

2. *The internal organization of the Pueblo polities.* The belief that the Pueblos are today and always were egalitarian in their political organization has long dominated anthropological discussion (see, e.g., Spicer 1962; Dozier 1970; Ford 1972b; Riley 1982). An image of the Pueblos has thus been created that may be of some importance in understanding their efforts to survive as distinct ethnic groups in an American society that places such a high value on equality. Yet both ethnographers and archaeologists have found reason to question this image (see Wilcox 1981a for discussion). Thus the anthropological debate is joined, with both sides seeking to understand Pueblo culture better. Michael Graves has stated the common problem well:

Unfortunately, we are still some way from specifying the relative numeric values associated with prehistoric change in the Southwest and, as a result, conflicting hypotheses can find some level of empirical support. As most archaeologists will recognize, verification problems of the sort described here adhere to all forms of hypothesis testing. Special obligations are thus placed on archaeologists to examine and, if necessary, report the strength and quality of their evidence. (Graves 1987, 247)

3. *Stability and change.* Incorporation into the Spanish empire and later the American nation resulted in great changes in Pueblo demography, settlement size and location, and economy. In the century between 1598 and 1700, for example, many settlement systems of 6 to 12 villages were reduced to a single autonomous pueblo. Whether these demographic changes are correlated with changes in religious and social organization, and how large in scale they were, are unresolved questions (Wilcox 1981a). Recent discussion has centered on how large the Pueblo populations were prior to Juan de Oñate's colonization. Speculation about the potential devastation of disease vectors prior to 1598 has produced urban-scale estimates (Upham 1982, 1984, 1986, 1987), but strong ecological and historical grounds for doubting that epidemics ever occurred (Schroeder 1972; Reff 1987a, 1987b) make Upham's claims highly controversial. Another approach has been to use settlement data to estimate population. Kintigh (1985), for example, has shown that there probably were not more than 5,000 people in the seven Zuni pueblos in the late

sixteenth century; this is a quarter of Upham's (1982, 37) estimate.

4. *Regional and macroregional systems in which the Pueblo polities were embedded.* From the time of Anna Shepard's (1942) pioneering petrographic work, it has been certain that individual pueblos were not wholly autonomous economically. Advances in anthropological theory in the areas of network analysis (Hirth 1978; Hage and Harary 1983), regional analysis (C. Smith 1976; Johnson 1977), and world systems theory (Wallerstein 1974) have opened up new horizons for the archaeological investigation of Southwestern political economy. Several scales of analysis are involved: interactions among sets of "local" settlement systems that created regional systems; interactions among regional systems that created "macroeconomies" (Baugh 1982, 1984b); and interactions above the scale of macroeconomies that created world systems such as the Mesoamerican world system (Blanton and Feinman 1984).

While the fact of Mesoamerican-Southwest connections is undeniable, the nature of the *systemic* interaction in the prehistoric period is highly controversial (Di Peso 1974; Kelley and Kelley 1975; Mathien and McGuire 1986). In contrast, the nature of Plains-Pueblo interaction is much better defined. Analyses of it using both the ecological approach of Speth (1983; Speth and Spielmann 1983; Speth and Scott 1985a, 1985b) and Spielmann (1982) and the macroeconomic perspective of Baugh (1982, 1984b, 1986; see also Snow 1981 and Wilcox 1984) have been fruitful. Differences of interpretation among these scholars hinge on very different conceptions of the nature of Rio Grande Pueblo social and political organization (see Spielmann 1990 and this volume), and hence the discussion of Plains-Pueblo interaction is closely linked to the issues reviewed above.

A volume devoted to Plains-Pueblo interaction is thus a welcome event. It creates a context for the informative comparison of ideas and data that is essential if a wider synthesis is to be achieved. My objectives in this paper are to show: (1) that a reexamination of existing data on Pueblo settlement systems can shed new light on critical organizational issues and (2) that an analysis of the changing structure of Plains-Pueblo macroregional systems in the period A.D. 1250–1600 reveals previously unappreciated relationships with important implications for the nature of Pueblo political organization. The perspective developed in the first part provides the elements used to construct the model presented in the second.

Data on the Piro (Marshall and Walt 1984) and Northern Tewa (Mera 1934) support the claim that Pueblo ethnic groups were organized into sharply bounded, multisettlement polities whose settlement systems exhibit a size hierarchy. Elsewhere I have called these polities "ethnic alliances" and hypothesized that they were governed by councils (Wilcox 1984; see also Robertson 1983; M. Smith 1983), leaving open the question of whether there were offices analogous to those of paramount chiefs (see Wilcox 1981a). In contrast, Spielmann (1982, 1990) sees them as egalitarian confederacies or "big man" systems. If it can be agreed that these multisettlement polities existed, the debate should logically turn to questions about the nature of internal integration and social solidarity, and to the interactions among these entities.

In the second part of the paper, I analyze the nature of the macroregional systems in which Pueblo polities were embedded from A.D. 1250 to 1600. I begin with a discussion of the several systems of interaction among southern Plains populations and populations on their west and east (Fig. 8.1). The *absence* of late prehistoric connections between Paquimé (Casas Grandes) or the Rio Grande pueblos, and Gibson Aspect sites in northeastern Oklahoma such as Spiro is documented. This lack of interaction contrasts sharply with the presence in the protohistoric period (A.D. 1450–1700) of a Pueblo–southern Plains macroeconomy.

Next, I define the parameters of a hypothetical macroeconomy centered at Paquimé, arguing that it may have successfully incorporated *western* Plains groups from the southern Llano Estacado and West Texas. This was a century or more before the protohistoric Plains-Pueblo macroeconomy developed farther north. Disintegration of the Paquimé and Mississippian macroeconomies resulted in profound organizational changes, one of which was the emergence of a new political economy among Pueblo IV polities that soon involved Plains groups.

A Pueblo–southern Plains macroeconomy thus emerged in the mid fifteenth century that eventually integrated the Pueblos with the Fulton Aspect descendants of the Gibson Aspect peoples. I explore the possible political implications of these arrangements in an interpretation of the role of the Wichita Indian at Pecos in 1541 whom the Spaniards called Turco. I suggest that the ecological concept of "mutualistic" interaction used to explain Plains-Pueblo interaction

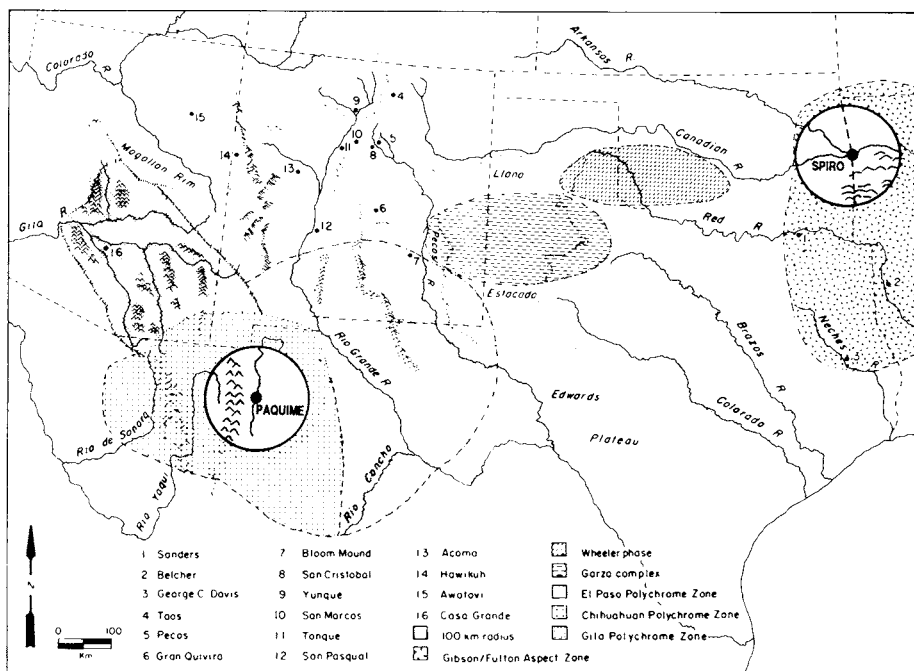


FIGURE 8.1. Cultural relationships in the Southwest and the southern Plains, A.D. 1250–1600.

is insufficient. It needs to be redefined in cultural and political terms as part of a more complex system of human adaptation.

TWO CASE STUDIES OF PUEBLO ETHNIC ALLIANCE

The Piro

Surveys by H. P. Mera (1940) and more recently by Marshall and Walt (1984; Marshall 1989), among others, have considerably clarified the structure of Piro settlement patterns during the glaze-paint period (Tables 8.1 and 8.2, Fig. 8.2). In writing of the Piro and their neighbors in 1582, Espejo (Hammond and Rey 1966, 221) commented, "They respect each other's boundaries." Archaeological data support this claim. Mera noted that

A matter of considerable interest is seen in the very marked gap between the northernmost glaze-paint village of the Piro division and that of the most southern West Tiwa [Los Lunas district] settlement in that same

category. *For a distance of some two score miles, on both sides of the Rio Grande Valley, there appears to have been good agricultural land on which it has been impossible to obtain evidence of occupation during any of the glaze-paint period.* (Mera 1940, 18; emphasis added)

More recently, surveys by Marshall and Walt in what they call the Rio Medio District (Marshall 1989) have documented numerous glazeware sites in the twenty-mile section north of Abo Arroyo (opposite Abeytas Pueblo, LA 780; see Fig. 8.2). Interestingly, however, though occupation in that section was dense in early glaze times, by Glaze E nearly all of these settlements had apparently been abandoned, or only a trace of occupation is indicated (Marshall 1989, Figs. 1 and 2). Glaze E ceramics were present in the Piro area by the early 1500s (Marshall 1987, 30, 80). Correlating Gallegos's account (Hammond and Rey 1966, 103; see below) with the archaeological data suggests that only three sites, accounting for 155 "houses," were located in this boundary zone in 1581. Archaeological testing of the sites north of Abo Arroyo is needed to clarify just how late they were occupied and the circumstances of their abandonment.

Documents from the Espejo expedition (Hammond and Rey 1966, 174–176) report the sighting of "some small pueblos and many deserted ones" in the eight leagues north of Abo Arroyo. A pueblo at the place they called El Corvillo (Hammond and Rey 1966, 176) may also have been abandoned. Luxan's statements are vague on this point.

Summing up, then, current data continue to support, though in a somewhat modified form, Mera's inference of a settlement hiatus (1940, 18). During Glaze E times, from Sevilleta and San Francisco on the south to the Los Lunas–Belen area on the north, there was a more than 20 km settlement hiatus in which only "small pueblos" are attested in the late 1500s. The Glaze E hiatus, a no-man's-land a day's travel long, was probably the result of the politics of threat and counterthreat or open warfare between the Piro and the Los Lunas Tiwa. While Espejo heard no reports of warfare, Hernán Gallegos, who was there a year earlier, reported that the Piro were at war with another nation "farther on" (Hammond and Rey 1966, 82, 221). The abandonment of "four large pueblos in ruins" reported by Luxan in the northern part of the Piro province (Hammond and Rey 1966, 173) may also have resulted from warfare. Alternatively, European diseases introduced by the Coronado or Rodriguez-Chamuscado expedition may have devastated them (Marshall 1987, 125; Marshall 1989,

Table 8.1. Glaze A Piro Settlements Along the Rio Grande

West Side of River				East Side of River		
1581 Name (Houses)	LA No.	Site Name (Rooms)	Km ^a	Site Name (Rooms)	LA No.	1581 Name (Houses)
			6	San Francisco (12)	778	Pueblo Nuevo? (20)
			7	Sevilleta (ca. 165)	774	Ponsitlan (25)
	287	Cerro Indio (117)				
	286	Estancia Acomilla (14)	1			
			4			
			6	Pueblo de Arena (ca. 36)	31717	La Pedrosa (14)
			8	Alamillo Pueblo (?)	?	El Hosso (50)
				not located	—	Elota (14)
	283	El Barro (59)	6			
Pina (85)	791	Pilabó ^b (?)	8			
Piastla (35)	282	unnamed (180)	↔ ^c	Las Cañas (200)	755	San Juan (42)
			1	Al Lado de las Cañas (8)	768	
			1	Upper las Cañas (ca. 25)	31698	

			4		
	31744	Plaza Montoya (200)			
			15		
Santiago (25)	760 ^d	unnamed (?)	↔	Qualacú (100–200)	757 San Miguel (47)
			6		
	19266	Nuestra Señora (ca. 35)			
			7		
	244	Tiffany Pueblo (ca. 40)	↔	San Pascual (ca. 750)	487 San Felipe (45)
			4		(Distance from San Felipe to San Miguel: 2 leagues)
	—	Senecú (?)			
			12		
	597	Milligan Gulch (200–300)			

^aKilometers between adjacent sites.

^bLater called Nuestra Señora de Socorro.

^cSites opposite one another across the river.

^dReported by Mera (1940:8) as a Group A, D, and E pueblo of undetermined size.

Table 8.2. *Glaze E Piro Settlements Along the Rio Grande*

West Side of River			East Side of River	
LA No.	Site Name (Rooms)	Km ^a	Site Name (Rooms)	LA No.
780	Abeytas Pueblo (200–300)	20		
			Sevilleta Pueblo (165)	774
		9		
287	Cerro Indio (117)	15	San Acacia Pueblo (ca. 60)	1999
283	El Barro (59)	6	Pueblito Pueblo (large)	761
(791)	(Pilabó)	7	Pueblo Presilla (ca. 115)	31720
282	unnamed (180)	10	Las Cañas (200 +)	755
31746	Paragas Pueblo (150–200)	8		
			unnamed (100)	758

760 ^b	unnamed (?)	2.5	Qualacú (100–200)	757
		11		
244	Tiffany Pueblo (ca. 40)		San Pasqualito (ca. 37)	756
			San Pasqual (ca. 750)	487
		17		
597	Milligan Gulch (200–300)			
		5		
			unnamed (40–80)	1110

^aKilometers between adjacent sites.

^bReported by Mera (1940:8) as a Group A, D, and E pueblo of undetermined size.

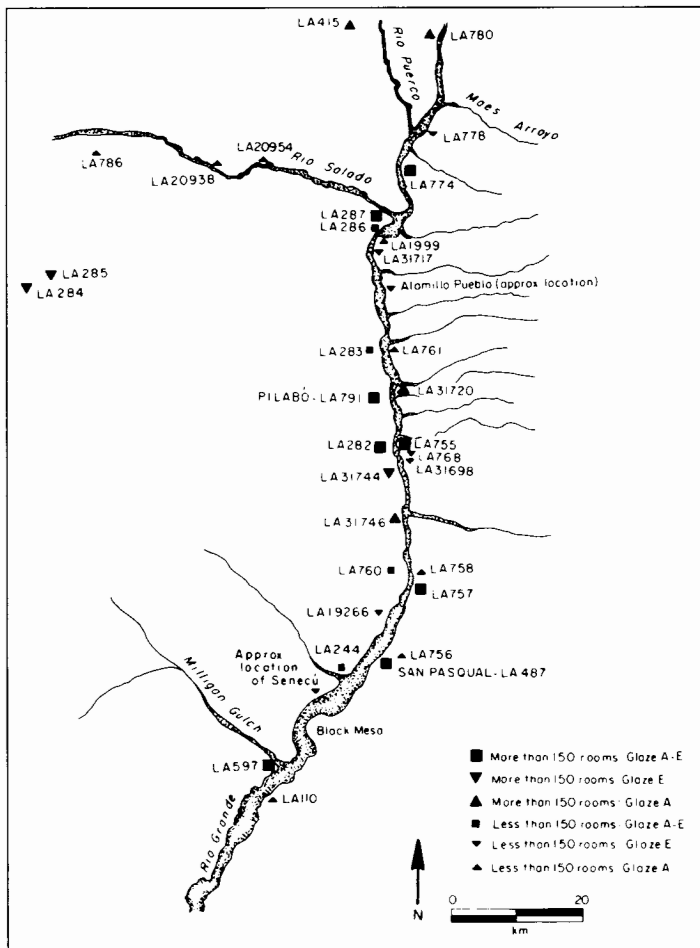


FIGURE 8.2. Piro site distribution (after Marshall and Walt 1984, 136, 140).

16). The clustering of abandoned sites on province boundaries, however, is not well explained by the disease hypothesis.

On the Piro's southern boundary, a large no-man's-land existed much earlier. During the Late Elmendorf phase (A.D. 1100–1300; Marshall and Walt 1984), ancestral Piro populations were concentrated in highly defensible locations at the northern end of their later territory, just below the confluence of the Rio Salado and the Rio Grande. Survey west of the Rio Grande (Stuart and Gauthier 1981; Lumbach and Kirkpatrick 1985; Roger Anyon, personal communica-

tion, 1989) shows that the Late Elmendorf settlements were but one component in a long east-west boundary that separated the Tularosa Black-on-white populations in the north from populations using El Paso Polychrome or Chihuahua polychromes to the south. The Tularosa populations had close cultural relationships with Zuni, where several 1,400-room sites existed in the late 1200s (Mera 1935; Rinaldo 1964; Kintigh 1985). Later glaze-paint designs evolved out of ceramic concepts and technology developed at Zuni and Acoma (Mera 1935; Wendorf and Reed 1955; Hayes 1981). The east-west boundary zone thus marks what I argue was a major economic and ideological discontinuity between the macroeconomy centered at Paquimé and a post-Chacoan Pueblo interaction sphere centered at Zuni. Supporting this position is a fact reported by Marshall: "The presence of Casas Grandes ceramic material in the Piro District is most unusual. In fact, the two Ramos Polychrome sherds found at Qualacu are the only documented Casas Grandes materials recognized to date in the Piro region" (Marshall 1987, 125).

With the decline of Paquimé and the El Paso Polychrome settlement network in the late 1300s (see below), the Piro expanded southward along the Rio Grande during Glaze A times (A.D. 1325–1475). In general, the Glaze A settlement pattern is characterized by a series of more or less evenly spaced sets of sites that are often paired on either side of the river (Table 8.1 and Fig. 8.2). The Glaze E pattern (Table 8.2 and Fig. 8.2) is similar except that a greater degree of size hierarchy in the paired sets is apparent. The site pairing may be related to irrigation methods. Espejo (Hammond and Rey 1966, 220) reported that the Piro had both irrigated and rainfall-dependent fields, and he noted that "On both sides of the river there are sandy stretches extending for more than a league, *naturally adapted* for the production of abundant corn crops" (Hammond and Rey 1966, 221; emphasis added). New research is needed to describe and explain the geomorphology of Piro settlement locations (Earls 1987).

The settlement data reported by Marshall and Walt (1984) permit a reassessment of the correlations between archaeologically known Glaze E sites and those reported by Gallegos and Pederosa in 1581 (Hammond and Rey 1966, 102–109, 115–120; see Fig. 8.2). In particular, I suggest that the first Piro site visited by the Spaniards, which they called San Felipe, is San Pascual (LA 487), not Milligan Gulch (LA 597), as inferred by Hammond and Rey (1966, 81) and Marshall and Walt (1984, 248). Unlike Milligan Gulch, San Felipe

was on the *east* side of the river, just as was San Pascual (Schroeder 1979, 240), and San Pascual would have been the first large Piro site encountered on the east side by people coming from the south. Most interesting is the fact that Pederosa (Hammond and Rey 1966, 115) infers that San Felipe was the “capitol of the province” (“*cabeza de la provincia*”), while Gallegos (Hammond and Rey 1966, 81) describes it as “an abandoned pueblo that had been inhabited by a large number of people” but whose three-story walls were “crumbled from the rains and seemed to have been abandoned for a long time.” San Pascual, with 750 rooms, fits this description much better than does Milligan Gulch.

If San Pascual was a *cabeza de la provincia*, perhaps analogous to a primate center, this was so during Glaze A rather than Glaze E. By Glaze E times, San Felipe had only 45 houses, while Piña, farther upstream and on the west bank, had 85. These data indicate that the location of the so-called primate center in the Piro settlement system shifted to a more central position between Glaze A and Glaze E times. Piña was probably the site later called Nuestra Señora de Socorro or Pilabó, which Benavides (Ayer 1965, 17) in 1630 regarded as “the principal pueblo” of the Piro province. Archaeologically, this is LA 791, which lies under modern Socorro. Mera’s (1940, 8) collections indicate that it dates primarily to Glaze E and F. New comparative studies to establish the ways in which Piro sites were autonomous or were functionally differentiated are needed.

The correlation of the Gallegos and Pederosa descriptions with the Glaze E Piro sites presents a new opportunity to estimate the size of the 1581 Piro population. The Spaniards give figures for the number of “houses” at each site, but they did not visit all sites (see Table 8.2). The total number of houses reported is 402. Using the room counts for these sites cautiously (and noting the fact that much of San Pascual was abandoned), I infer that the average number of rooms per house was about 4.33. Dividing this figure into the room count of sites not visited in 1581 (581–781 rooms) yields 134 to 180 additional houses, or 534 to 582 altogether in 20 Piro sites (Cerro Indio is not included since it was primarily a Glaze A site; Marshall and Walt 1984, 147). If we then assume a high average household size of 8 persons (see Hammond and Rey 1966, 172–173), the order of magnitude of the Piro population in 1581 apparently was about 4,500 people. This is considerably less than the 12,000 estimated by

Gallegos in 1581 and Espejo in 1582 (Hammond and Rey 1966, 82, 219). Continued archaeological study of this problem is needed.

If the Piro population in the late 1500s amounted to nearly 5,000 people and if they were politically integrated, as is argued here, then the proposition that they had a vertically differentiated political decision-making organization is supported (see Lekson 1985). The fact that in both Glaze A and Glaze E times there was one Piro settlement that was twice as large as any other further supports this position. A related proposition that should now be tested is that the Piro were economically integrated and that the sites of San Pascual (in Glaze A) and Piña (in Glaze E–F) had unique functions in the socioeconomic system. We are still a long way from answering these questions, but it has been shown here that the *probability* that such integration and control existed is much greater than some scholars have thought.

Northern Tewa

A well-bounded polity in the northern Rio Grande valley has also been identified. H. P. Mera in 1934 published a fascinating series of maps of Biscuit-ware sites from about A.D. 1400, 1500, and 1600. The sites are nested sets, all being present early, about half in the middle period, and about half of the latter in the last period (Mera 1934, 18–21). These relationships are summarized in Figure 8.3. Mera (1934) also noted that the perimeter of the early settlement system was marked by a series of highly defensible sites: LA 301, 307, 253, 275, 174, 254, 264, 158, 255, 18, 211, 47, and 795. Subsequent excavations documented close similarities between kivas at Te'ewi (LA 252) and the seventeenth-century Northern Tewa site of Cuyamunge (Wendorf 1953, 94–96). As in the Piro case, it seems reasonable to infer that the interaction sphere indicated by a ceramic province is well correlated with a protohistoric ethnic group, in this case the Northern Tewa. Also like the Piro, a distinct settlement hiatus marked the northern Tewa boundary with other Pueblo groups:

With the desertion of the peripheral villages, on the south, before the disappearance of the A group of glazes, there appears to have formed what might be termed a “no-man’s land” between Biscuit and Glaze territories. It is interesting to know that a similar retirement took place along the northern glaze-paint front in the region south of Santa Fe, and after Group C glaze times there existed a zone some twenty miles in width occupied only by the ruins of former villages. (Mera 1934, 19)

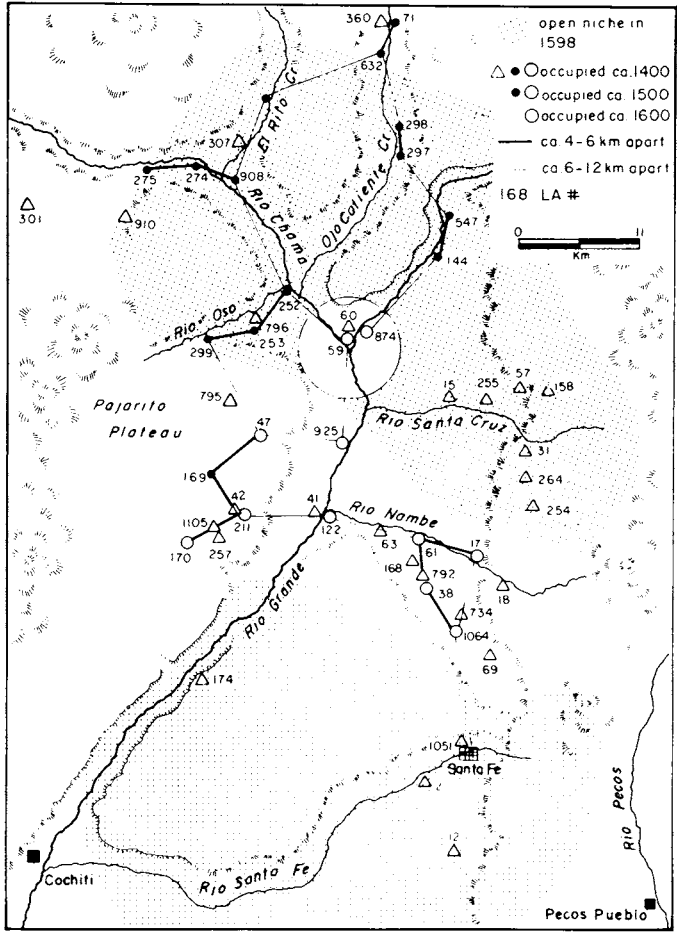


FIGURE 8.3. Northern Tewa sites in the upper Rio Grande valley (after Mera 1934).

Arroyo Hondo (LA 12) was a large early site in this no-man’s-land, and a recent survey in connection with its excavation (Dickson 1975, 1979) has refined the settlement picture in this zone. Large sites like LA 12 were abandoned just as Mera inferred, and a general settlement hiatus did come about, although a few small villages continued to exist in the area during Mera’s latest period (LA 7, 70, 126, 249, 6455; Dickson 1979, 35). They were on the periphery of the Biscuit settlement system, however, and any interpretation of the profound settlement changes in this zone should take this fact into account.

Mera's Biscuit data also bring into focus a fascinating fact about early Spanish settlement patterns in the Rio Grande area. Juan de Oñate established his capital at San Gabriel in Yunque pueblo (LA 59; Hammond and Rey 1953, 17). In 1610 the capitol was moved to Santa Fe (Crouch et al. 1982). The latter is in the abandoned zone bounding the surviving pueblos, and San Gabriel coopted one of two isolated pueblos in a second abandoned zone (Fig. 8.3).

Such a location is not unprecedented. The Romans established Lyons on the Rhone in a no-man's-land between the warring tribes of Aedui and Allobroges (East 1965, 41). Is this kind of location generally true of seventeenth-century Spanish settlement in New Mexico? By imposing "peace" on the Pueblo regional system, the Spaniards may have opened access to a large amount of productive land that both the Pueblos and they could productively exploit. Small dispersed sites were founded in the zone west of LA 12 after A.D. 1600 (Dickson 1979, 35–37). New research on this issue is needed.

PLAINS-PUEBLO MACROREGIONAL SYSTEMS

The intent of the preceding discussion was (1) to show that many of the late prehistoric and early protohistoric Pueblos were indeed organized into multisettlement polities, and (2) to suggest certain aspects of their organization. Elsewhere (Wilcox 1984), I have pointed out that Taos, Picuris, Pecos, and Acoma are exceptions to this pattern, being large, isolated pueblos of about 2,000 people each (though Acoma had three small sites nearby). Acoma is a "gateway" (see Hirth 1978) between the Colorado Plateau and the Rio Grande settlement networks. The other three and the Gran Quivira and Galisteo complexes are gateways to the Plains where Querecho (Apache) and Teya hunter-gatherers exchanged bison products for corn, cotton mantas, and turquoise. The cotton was grown along the Rio Grande. A multi-ethnic division of labor was thus involved in the exchange system, and a macroeconomy in Baugh's (1984b) sense is indicated (Wilcox 1984). Cotton mantas went from the Rio Grande to the eastern gateways and then to the dog nomads, and bison hides and meat moved the other way (Hammond and Rey 1966, 83), yet none of these populations controlled the others politically.

Spielmann (1982) and Speth and Spielmann (1983) have shown that the Pueblo's carbohydrates were necessary to the survival of the Plains bison hunters and I have argued that the meat protein was

essential to the survival of the Pueblos (Wilcox 1984). In contrast to Speth (this volume), I argue that the dog nomads visited the eastern gateway pueblos several times a year (Wilcox 1984, 145–146). Green-corn ceremonies during the summer may have been the occasion for regular summer visits (see Snow, this volume) when the meat and fat from June hunts were brought in (see Baugh, this volume). Hammond and Rey (1953, 400) report Vaquero Apache who were observed “*returning from trading with the Picuries and Taos’ in late September 1598*” (emphasis added).

While these ideas contribute to an understanding of the Pueblo–southern Plains macroeconomy, they do not fully specify the parameters of that system or explain how it came into being. My objective in the remainder of this paper is to initiate an inquiry into these areas. In the process I show that participation by the Pueblo polities in macroeconomic systems likely required decision making well beyond the capacities observed in big-man systems.

Alex Krieger (1946) was one of the first archaeologists to evaluate Plains-Pueblo interaction systematically. His findings are a useful point of departure for a survey of current data (see Fig. 8.1):

1. *Late prehistoric period, A.D. 1250–1450.* Two zones of exchange are documented: (1) in the north, the Late Subphase sedentary Antelope Creek sites along the Canadian River in West Texas have Glaze A pottery (Lintz, this volume); and (2) in the south, the Llano Estacado below Portales and in West Texas has ephemeral sites with Jornada brownware, El Paso Polychrome, and Chupadero Black-on-white.

2. *Early protohistoric period, A.D. 1450–1600.* The Antelope Creek sites were abandoned by about A.D. 1500, when Athapaskan populations were intruding into the southern Plains from the north (Wilcox 1981b; Lintz, this volume). Farther east, in eastern Texas and Oklahoma, Fulton Aspect sites of the Caddoan and Wichita confederacies have Pueblo pottery dating as early as Glaze C (Krieger 1946). Interesting similarities in material culture are also present. In particular, Krieger (1946, 221–237) suggests that the shouldered and carinated bowl shapes that first appear in Glaze C and D pottery may derive from a Caddoan stimulus (but see Hayes 1981, 96; Hayes states that prototypes of these forms were present in Rio Grande Black-on-white types). Krieger (1946, 207) also notes that the Spaniard Moscoso observed in 1542 that the Hasinai (Caddoans) possessed cotton mantas and turquoise obtained from the Pueblos.

3. *Late protohistoric period, A.D. 1600–1700.* While the Pueblo–southern Plains–Wichita–Caddoan macroeconomy continued, in the far southern Plains a new east-west network emerged following the establishment of silver mining settlements in Durango and Chihuahua in the mid to late 1500s. The Plains Jumano were middlemen in this system, and their annual trade fairs with the Caddoans on central Texas rivers may have served to transfer European trade goods into eastern Texas as early as 1600 (Krieger 1946, 208–211). J. Charles Kelley (1952, 1955, 1986) has discussed aspects of this system in great detail, including the marvelous travels of Juan Sabeata. Neither Krieger (1946) nor Kelley (1986, 44) see any evidence that it existed much before 1600.

Current data indicate that Plains-Pueblo interaction between sedentary villagers and hunter-gatherers may have begun during the late prehistoric period in the far southern Plains. Sites on the Llano Estacado may have resulted from Pueblo hunting parties venturing east for bison or other game (Krieger 1946), but it seems more likely that they indicate the activities of Plains hunter-gatherers (Collins 1971). Kelley (1986, 109–110) includes many of these sites in his Livermore Focus. Those populations may be in part antecedent to the people later called Jumanos. In any case, they may already have been exchanging bison products for corn with pueblo-dwelling people who lived along the Hondo River near Roswell, New Mexico (see Fig. 8.1 and Speth, this volume).

Bloom Mound (J. H. Kelley 1984, 455–496), Rocky Arroyo (Wiseman 1985), and the Henderson Site (Rocek and Speth 1986) all have considerable quantities of bison bone, although Speth (this volume) suggests that the Pueblos may have been doing their own hunting. Comparative studies of faunal assemblages from these sites with those from protohistoric pueblos in which dog nomads brought in most of the bison may clarify this issue. As Spielmann (this volume) notes, if the Pueblos were hunting bison, transporting the meat and hides any distance would have been a significant problem because they lacked large dogs. Quite possibly this would result in different butchering practices from those used by dog nomads, and this might show up in the faunal assemblages.

El Paso Polychrome is the predominant painted pottery at Bloom Mound (Kelley 1984, 476–477). Jane Kelley (1984) classifies these sites in her Lincoln Phase, which has close cultural connections with sites farther northwest near Chupadera Mesa (see Mera 1940,

1943; Hayes 1981). Also present in Lincoln phase sites, however, are copper bells and a few Chihuahuan polychrome ceramics (Kelley 1984, 472, 475), which indicate interaction with the hypothetical macroeconomy centered at Paquimé in northwestern Chihuahua (Di Peso 1974; see below). Seventeen sherds of Ramos Polychrome are also reported from the Greenbelt site in the Texas Panhandle (T. Campbell 1983, 67). With the abandonment of the Lincoln phase sites in about A.D. 1450, Gran Quivira became the principal southern gateway to the Plains.

The early protohistoric Pueblo–southern Plains macroeconomy replaced the system of interaction that had existed between late prehistoric Pueblos and the early Antelope Creek subphase. Antelope Creek populations became more mobile, their interactions with the Pueblos intensified, and the level of conflict increased (Lintz, this volume). Interestingly, Fulton Aspect populations on the eastern edge of the Plains were also incorporated into this system, but the earlier one did not involve the Gibson Aspect populations, such as those centered at Spiro or Sanders (Krieger 1946; Wyckoff 1980; Lintz, this volume).

Only one possible cotton textile fragment has been found at Spiro (King and Gardner 1981, 137). Plains connections for Spiro have been suggested (Phillips and Brown 1978, 20, 22) on the basis of bison-hair textiles, but they are rare. The issue of how much bison bone is associated with Spiro phase sites is controversial (Rohrbaugh 1984, 278). Wyckoff (1980, 487–507) shows that bison could have been procured in eastern Oklahoma and reports that the amounts of bison bone are far greater in Fulton Aspect sites than in Gibson ones. On the other hand, Caddoan sherds have been found in central and southern Plains sites as far west as western Oklahoma and the Texas Panhandle (Bell 1984; Drass and Moore 1987; Don Wyckoff, personal communication 1988; Lintz, this volume).

Spiro apparently was a gateway that linked the Mississippian macroeconomy both to eastern Oklahoma and, in some sense, to the Plains beyond (Phillips and Brown 1978; see also Story 1981). The transition between the Gibson and Fulton aspects apparently involved a disengagement with the Mississippian macroeconomy (Rohrbaugh 1984, 277). A new alignment with Plains groups to the west also came about. This soon led to the emergence *for the first time* of a macroeconomy that linked the Wichita and Caddoans with

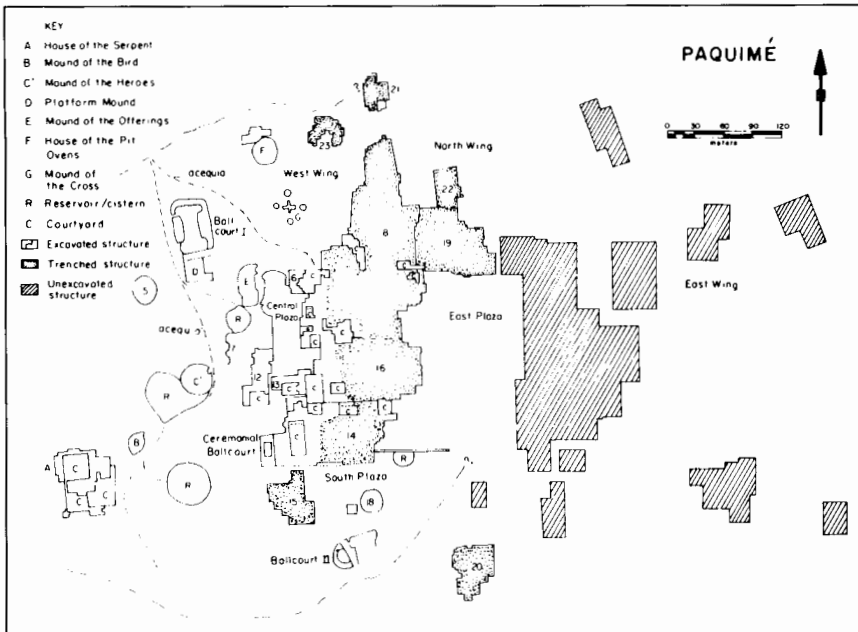


FIGURE 8.4. The site of Paquimé, Casas Grandes, Chihuahua (after Di Peso 1974, fig. 451-2, and Di Peso et al. 1974, fig. 215-5).

the Pueblos. The entry of Athapaskan populations from the north, however, apparently squeezed out the Antelope Creek populations by A.D. 1500 (Lintz, this volume).

THE PAQUIMÉ MACROECONOMY

The late prehistoric period in the southern half of the Southwest was profoundly influenced by the rise of a major center at Casas Grandes, Chihuahua. Francisco Ibarra, who saw it in ruins in 1565, called this site Paquimé (Fig. 8.4). Excavations by Charles Di Peso (1974) showed that it was occupied during what he called the Medio period, which he dated from A.D. 1060 to 1340. However, Di Peso's dating depends on the assumption that few rings are missing from his 53 tree-ring-dated samples (see Wilcox and Shenk 1977, 65). Recent reexamination of these specimens by Jeffrey S. Dean (Ravesloot et al. 1986) has shown that no sapwood remains on most of them; hence many rings are certainly missing. It is highly likely that occupation

at Paquimé began after A.D. 1150, that it was at its height in about 1300–1350; and that it was abandoned by A.D. 1450 (see LeBlanc 1980; Carlson 1982; Lekson 1984; Wilcox 1986a, 26–29).

Paquimé grew to become a site with more than 2,300 rooms, of which about 47,000 m² was domestic space (Di Peso 1974, 4:206–207 and Fig. 134-4). Its population was perhaps 4,700 people (Di Peso et al. 1974, 4:207). If Kintigh's (1985) procedure of multiplying the number of rooms by 65 percent to account for abandonment is followed, the Paquimé population still may have exceeded 3,000 people. That appears to make it larger than any other single village in the prehistoric or protohistoric Southwest.

Paquimé also had numerous and diverse platform mounds, waterworks, large plazas, and three ballcourts (Fig. 8.4). This diversity of ceremonial facilities is unparalleled in the American Southwest, making Paquimé the most complex site known in the area. The significance of this architectural fact is multiplied by the evidence for human sacrifice and craft specialization, and the enormous quantities of valuables (shell, pottery, copper, and macaws and turkeys [for feathers]) that were found there (Di Peso et al. 1974). Indeed, Phil Weigand (personal communication, 1988) notes that the mineralogical collection documented at Paquimé is one of the most impressive "ever excavated anywhere."

The evidence at Paquimé is so unusual that Di Peso (1974) postulated the direct intervention of Mesoamerican *pochteca* in an effort to explain what he found. So drastic a hypothesis may be unwarranted, although some kind of Mesoamerican connection and probably ideological influence are indicated (see McGuire 1980; Mathien and McGuire 1986), and the profound implications of the presence of a center like Paquimé must be addressed.

Southwestern archaeologists have only begun to seek a reconciliation of their explanatory models with the remarkable facts documented at Paquimé (see Schaafsma 1979; LeBlanc 1983, 1986; Minnis 1984, 1989; Wilcox 1986b, 1988). My own working sketch (Wilcox 1988) is as follows (see Fig. 8.1): Well over twice as large as any site within 100 kilometers of it (Brand 1943), Paquimé by the Paquimé phase (A.D. 1300–1350) was the primate center of a local system in which other villages with similar architecture, I-shaped ballcourts, and craft specialization occurred (Di Peso 1974; Minnis 1984; Naylor 1985; Steven LeBlanc, personal communication, 1985). A second zone, extending as much as 300 kilometers from Paquimé, contains

sites whose predominant painted pottery consists of Chihuahuan polychromes or copies of them (like Babocomari Polychrome). This zone may have been integrated as a regional system centered on Paquimé. One mechanism of such integration is indicated by the ballcourts reported from several sites in this zone (R. Kelly 1963; Pales 1980; Wilcox and Sternberg 1983; Steven Lekson, personal communication, 1987; Braniff 1988; Curtis Schaafsma, personal communication, 1988; Paul Minnis, personal communication, 1989), although some of these cases are questionable.

A third zone of interaction is also apparent. After the Chihuahuan polychromes, the two most plentiful painted ceramics at Paquimé are Gila Polychrome and El Paso Polychrome (Di Peso et al. 1974). Thousands of sherds of each are present, yet the center of distribution of these types is in southern and central Arizona for the former and south central New Mexico and West Texas for the latter. Curtis Schaafsma (1974, 1979) has summarized many of the arguments for interpreting the Doña Ana and El Paso phases as influenced by the rise of Paquimé. Similarly, I have analyzed the relationship of the Gila Polychrome zone to Paquimé (Wilcox 1988). Much of the Gila Polychrome at Paquimé was made on a local paste (Gloria Fenner, personal communication 1988), documenting the inhabitants' direct involvement with the iconography of that pottery. Interestingly, virtually no Rio Grande pottery of comparable age is present at Paquimé, and little or no Chihuahuan polychrome is found in the Rio Grande valley above San Pascual (Di Peso et al. 1974, vol. 8, Fig. 397-8; Marshall 1987, 125).

The craft specialization in copper artifacts, feathers, pottery, and agave (and quite possibly other valuables such as textiles) must have acted like a powerful magnet at Paquimé, drawing in goods and spouses from a hierarchical series of zones whose total extent may have exceeded a radius of 500 kilometers (see Fig. 8.1). Copper bells, macaws, pottery, and probably feathers and the material found in ritual caches (Brooks 1985) went out of Paquimé and serve to define the limits of the Paquimé macroeconomy. They are found throughout the Gila and El Paso polychrome zones, but interestingly, few copper bells or other Paquimé valuables are known for the Pueblo IV sites on the Colorado Plateau or in the upper Rio Grande (Sprague and Signori 1963; one bell was recovered from Pottery Mound [Linda Cordell, personal communication, 1989]). A few macaws are reported from Rio Grande sites (Hargrave 1970), but none of them clearly

came from Paquimé. All of them could have reached those sites long after Paquimé was abandoned. Pueblos were also able to acquire shell independently from Paquimé due to the development of an access route to the Pacific Coast via the Mohave River after A.D. 1250 (Warren 1984). A major systemic boundary between the Paquimé macroeconomy and the Pueblo IV regional system is thus indicated. In New Mexico this boundary is marked by an extensive no-man's-land, as discussed above. In Arizona the boundary lies along the Mogollon Rim, but much interaction across that boundary has been documented (e.g., Graves 1982).

Along the middle Rio Grande below Hatch, New Mexico, the development of the Paquimé attractive forces is coincident with the aggregation of Doña Ana and El Paso phase populations into networks of small villages of 25 to 100 rooms and the spread of their El Paso Polychrome pottery far into the plains of West Texas and the Llano Estacado (Krieger 1946; Lehmer 1948; Honea 1973; Marshall 1973; Phelps 1974). The ideological innovations and iconography that excited the populations making El Paso Polychrome are also reflected in the Jornada style of rock art (Schaafsma 1980).

One outcome of these systemic changes may have been the emergence of a mutualistic exchange between Lincoln phase Pueblos and Plains bison hunters (see above). Some of these bison products may have reached Paquimé, where faunal evidence for as many as 29 to 48 individual bison was found; Di Peso et al. (1974, 8:242–243), however, show that those bison may have been hunted locally near Casas Grandes. Alternatively, bison meat may have arrived there via the macroeconomic network from the western Plains.

Paquimé experienced a period of decline in the late fourteenth century (the Diablo phase) and was apparently violently destroyed (Di Peso 1974) before A.D. 1450. Coincident with this, the village networks characterized by Gila Polychrome were abandoned, and those with El Paso Polychrome declined in scale. Two centuries later, the latter areas were occupied by Sumas in the El Paso area (Gerald 1973) and Patarabueyes around the Rio Conchos junction (Kelley 1986). These small-scale villagers still engaged in exchanges with Jumano groups who lived on the Plains in southern Texas (Kelley 1952, 1986). But this system appears to have been independent of the new macroeconomy that emerged in northern New Mexico and the northern half of the southern Plains in the fifteenth century.

POLITICAL IMPLICATIONS OF THE PUEBLO—SOUTHERN PLAINS MACROECONOMY

Like the Valley of Mexico in the thirteenth century, the Rio Grande valley was a relatively vacant area that rapidly filled up with people in that same century (Wendorf and Reed 1955; Sanders et al. 1979, 146–153; Calnek 1982). By 1350, when the power of Paquimé was receding, the Rio Grande populations and Acoma, the Zuni, and the Hopi to the west began to flourish. Pueblos of 1,000 to 2,000 rooms were built, and some of them were occupied by 500 or more families (Hammond and Rey 1966, 105).

In a post-Chacoan world, new forms of organization emerged, and with them new ideological schemata. The development of a large, multivillage polity at Zuni in the late thirteenth century—perhaps a reaction, in part, to the rise of Paquimé—led to the emergence of a new ideology, expressed initially, I suggest, in St. John's and Hesho-tauthla polychromes and later in the Rio Grande Glaze series. The Rio Grande style of rock art (Schaafsma 1980) and Pueblo IV kiva mural art are other expressions of this new ideology (W. Smith 1952; Dutton 1963; Hibben 1975). One dimension of these beliefs was the Kachina cult, which cross-cut the earlier kinship and sodality groupings (Schaafsma and Schaafsma 1974). Medicine and war societies similarly integrated the separate interest groups, not only within individual villages but also within village clusters (see Wilcox 1984).

Once village clusters were organized into political units, partitioning the more ancient polythetic interaction networks into discrete units, a hierarchical integration of these units into larger and larger political entities became possible. That is exactly what began to happen in the Valley of Mexico (Calnek 1982), and it happened earlier in China in the Chou to Warring States periods (Granet 1958). I suggest that something similar *began* to happen in the Rio Grande valley in the fifteenth century. The difference is that in the Rio Grande the larger political entities were highly unstable, and the Spaniards intervened before the process had gone very far.

The Galisteo Basin villages, in particular, through the monopoly of critical resources such as turquoise and the lead ore used to make glazeware (Warren 1969; Warren and Mathien 1985), grew in wealth and influence. Shepard's (1942, 1965) analysis of glazeware distributions first revealed the pattern of Galisteo "dominance" in the

fifteenth century that I am interpreting here in political terms. Pecos Pueblo, however, and others, including the Zia, I suggest, resisted and then began to compete with the Galisteo polities (see Shepard 1942). Pecos began especially to compete with the Galisteo polities for control of the Plains trade. Control of agricultural land may have been another issue in Pueblo conflicts. The Pecos Indians reportedly said this to Coronado (Riley 1982, 22).

Initially, early in the fifteenth century, Plains trade apparently involved the late subphase Antelope Creek populations, but later they were replaced by Athapaskans and Teya (Lintz, this volume). Hernán Gallegos (Hammond and Rey 1966, 87) reports that as late as 1581 the Galisteo Indians were still actively engaged in the Plains trade, but they regarded the Plainsmen as dangerous. With good reason: in 1541 Castañeda (Hammond and Rey 1940, 257–258) was told that the Plains Teya had attacked the Galisteo sites in the 1520s, causing considerable damage. Confirming this are ceramic studies suggesting that many Galisteo sites were abandoned on the eve of Glaze E times, in about A.D. 1525 (Schroeder 1979). The fact that in 1541 Plains Teya were wintering “under the eaves” of Pecos Pueblo supports the view that they were allied with the Pecos.

It is by no means unlikely that Pecos participated in the attack on their rivals, the Galisteo. Castañeda reported that the Pecos Indians “pride themselves because no one has been able to subjugate them, while *they dominate the pueblos they wish*” (Hammond and Rey 1940, 257; emphasis added). This attitude is consistent with the hypothesis of competition between these polities. The decline of the influence of the Galisteo (Shepard 1942, 1965) following a period of open warfare in the 1520s is thereby clarified. Future studies of the Galisteo sites and related data are needed to test this hypothesis.

The Pecos-Quivira Connection

The above sketch of the political economy of the Rio Grande side of the Pueblo–southern Plains macroeconomy may also help to explain why there were two Wichita Indians at Pecos in 1541. If, as I have argued, Pecos Pueblo was competing with the Tano of the Galisteo Basin for control of the Plains trade and perhaps for land, and if they were engaging in active military alliances with Plains groups, information about the volatile and violent conditions on the Plains, its political vicissitudes, who was who, and what they wanted would

have been extremely important. The medieval Rus at Kiev were in a similar situation vis-à-vis the Polovtsy on the Steppes:

The Kievans needed an enormous amount of knowledge about the steppe and its people, whether they were fighting groups of Polovtsy or one another. To create alliances with nomads, the Kievans had first of all to know what the current alliances and hostilities were among the clans of Polovtsy. Then they had to be able to find their prospective allies, which required knowledge of their summer and winter pastures. In negotiations, there were diplomatic courtesies to be observed and elaborate ancestries to be praised. The Kievans had to be sure that the gifts they brought symbolized alliance rather than vassalage or slavery, which might have been fatal. The new allies had to have a clear understanding of each other's military capabilities to coordinate effective strategies. In short, military survival for the Kievans depended on exhaustive knowledge of steppe geography and the nomad's annual migrations, customs, taboos, genealogies, and language. (Halperin 1985, 17)

Turco, whom Mildred Wedel (1982) has brilliantly shown was a Wichita Indian from Quivira, could have supplied precisely this kind of information to the leaders of Pecos. He was probably a priest, as a Spanish soldier accused him of being a magician, claiming that he had seen him "talking to the devil in an olla filled with water" (Hammond and Rey 1940, 234). Ollas filled with liquid were important elements in Southeastern and Huasteca iconography (Stresser-Pean 1971; Phillips and Brown 1978; Wilkerson 1985), and the soldier may well have discovered Turco in a ceremonial act.

Quite possibly Turco was a Wichita ambassador at Pecos. That non-state-level polities were capable of negotiating with "ambassadors" is documented by Father Anastasius Douay, who accompanied LaSalle on this 1686 trip to the Caddoan Hasinai. He reported that "They have intercourse with the Spaniards through the Choumans [Jumanos] their allies, who are always at war with New Spain. . . . There were then some Chouman ambassadors among them who came to visit us" (Krieger 1946, 210). Turco was capable of carrying out political assignments; he allegedly attempted on behalf of the leaders at Pecos to lose Coronado and his party in the Plains (Hammond and Rey 1940; Riley 1982). Although he failed in his assignment and was garroted, the Pueblos did eventually succeed in their political objectives, and Coronado abandoned New Mexico. Two generations were to pass before a new Spanish colony was established there in 1598 (Hammond and Rey 1953).

Just as there were Wichita ambassadors at Pecos, so too there may have been Pueblo ambassadors in the Plains (Wyckoff 1980, 402):

In Major County, Oklahoma, some 250 km west of the Moore site [near Spiro, where Cerrillos turquoise has been found; Weigand et al. 1977, 31], 310 similar looking turquoise beads, a turquoise pendant, and 210 Olivella shell beads accompanied the burial of a suspected Puebloan, perhaps one of the traders [or ambassadors?] who periodically visited the Southern Plains between A.D. 1400 and 1600 (Howard and Brown 1973, 216; Riley 1978, 57).

The activities of these individuals, which are only hinted at here, suggest the operation of a much more complex and sophisticated political system than the hypothesis of egalitarian Pueblos would allow. They also suggest that the concept of mutualistic exchange (Spielmann 1982) needs to be reevaluated in the larger context of a Pueblo–southern Plains macroeconomy (Baugh 1982, 1984b, 1986; Wilcox 1984) that was far from static. Many new perspectives for studying protohistoric Pueblo and Plains political organization are thus suggested.

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