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Nested Networks and Semiperipheral Development in the Prehistoric U.S. Southwest:
a Comparative World-Systems Approach

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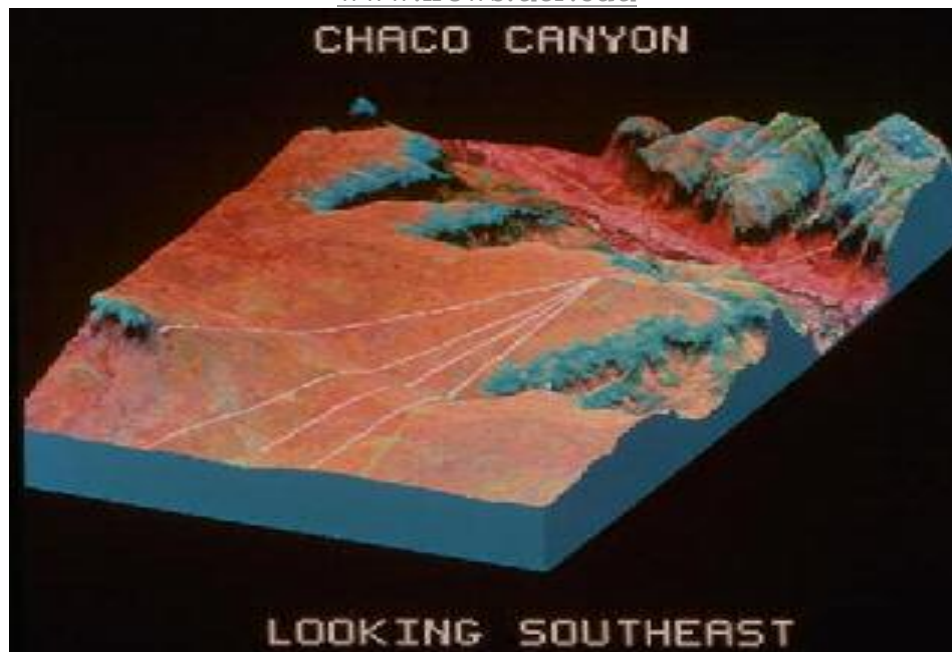
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Abstract: This paper uses a nested interaction networks approach to interpret patterns of social change in the late prehistoric U.S. southwest in comparative and world historical perspective.

Place-centric interaction networks are arguably the best way to bound human systemic processes because approaches that attempt to define regions or areas based on attributes necessarily assume homogenous characteristics, whereas interaction itself often produces differences rather than similarities (Chase-Dunn and Jorgenson 2003). The culture area approach that has become institutionalized in the study of the pre-Columbian Americas is impossible to avoid (as below), but the point needs to be made that important interactions occur across the boundaries of the designated regions and interaction within regions

produces differences as well as similarities. Networks are the best way to bound systems, but since all actors interact with their neighbors, a place-centric (or object-centric) approach that estimates the fall-off of interactional significance is also required.

The comparative world-systems approach (Chase-Dunn and Hall 1997) has adapted the concepts used to study the modern system for the purpose of using world-systems as the unit of analysis in the explanation of human social evolution. Nested networks are used to bound systemic interaction because different kinds of interaction (exchange of bulk goods, fighting and allying, long-distance trade and information flows) have different spatial scales. Core/periphery relations are of great interest but the existence of core/periphery hierarchy is not presumed. Rather the question of exploitation and domination needs to be asked at each of the network levels. Some systems may be based primarily on equal interdependence or equal contests, while others will display hierarchy and power-dependence relations. It should not be assumed that earlier systems are similar to the modern global system in this regard. Rather it should be a question for research on each system.

The comparative world-systems theoretical framework contends that whole world-systems are the best unit of analysis for explaining human sociocultural evolution. One of the strongest supports for this claim is the observation that semiperipheral societies are most often the agents of transformation of culture, technology and forms of power. This is called the hypothesis of "semiperipheral development." Without looking at intersocietal relations it is impossible to see this phenomenon and therefore it is impossible to comprehend a very basic structural feature of socio-cultural evolution.

Studies of premodern interaction networks have observe a recurrent pattern of **pulsation** in which networks expand and contract over time. Expansions of interaction networks occasionally grow greatly in spatial scale to create relatively vast new linkages across previously unconnected spaces. The phenomenon of waves of network integration can be seen in prehistoric Northern California in a system composed of sedentary foragers (Chase-Dunn and Hall 1998). Recent waves of globalization in the nineteenth and twentieth centuries are a continuation of this phenomenon but now on an Earth-wide scale. And another observation derived from comparing world-systems is that all systems that have hierarchies exhibit a pattern of the **rise and fall** of powerful polities. The modern rise and fall of hegemonic core states is thus analytically similar to the rise and fall of empires and the rise and fall of paramount chiefdoms. The anthropological literature on chiefdoms refers to this phenomenon as "cycling" (Anderson 1994).

Chase-Dunn and Hall (1997) propose an explanation of human social evolution that combines transformations of systemic logic across rather different modes of accumulation with an underlying "iteration model" that posits causal relations among population growth, intensification, population pressure, migration, circumscription, conflict and hierarchy formation and technological change. It is an interaction model because the outcomes (hierarchy formation and technological development) have a positive effect on population growth, and so the model predicts a spiral of world-system expansions.

A number of important exogenous variable affect the iteration model. Climate change is mainly an exogenous variable, though local climate may have also been impacted

by societies in the past, and is quite certainly being impacted in the present. Geographical conditions can facilitate or hinder the emergence of larger polities. Zoological and botanical capital can speed up processes of technological development by providing species that are easily domesticated by humans. And natural capital scarcity can also slow down technological change.

The long-distance diffusion of domesticated crops and animals, and of technological and religious ideas from distant systems can have huge exogenous consequences for a local world-system just as being hit by an asteroid has an exogenous impact on biological systems. The idea of a system refers to endogenous processes. We can make a theory of endogenous processes without hypothesizing a completely closed system as long as we have clear ideas about how exogenous impacts work. A world-system is a whole system of human interaction in the sense that interactions are two-way and that encounters occur relatively frequently. Very intermittent incursions or pandemic diseases can impact upon a system from without. These possibilities of exogenous impacts on local and regional systems need to be taken into account in order to fairly test evolutionary causal models of endogenous processes such as the iteration and transformation model proposed below.

It does not make sense to ask **how many** world-systems there were in prehistoric North America if we accept the group-centric approach to bounding world-systems mentioned above. If every group interacts with neighboring peoples then there are no major breaks in interaction across space. Thus there were as many "systemic wholes" as there were groups because each group had a somewhat different set of network connections.

Of course this is not to say that there were not differential densities of interaction. Natural barriers such as deserts, high mountains, and large bodies of water increased the costs of communication and transportation. But ethnographic and archaeological evidence reveals that most of these geographical "barriers" did not eliminate interaction. In California travel across the High Sierra was interrupted by deep snow in the winter. But when the snow thawed in the summer trade across the high passes resumed, linking the people of the Central Valley of California with those of the Great Basin. Natural barriers do affect interaction densities, but in most cases they do not eliminate systemic interaction.

The suggestion that "culture areas" -- the culturally similar regions designated by anthropologists (e.g. California, the Pacific Northwest, the Southwest, etc[1].) -- can be equated with world-systems is fallacious from the group-centric point of view because important interactions frequently occurred across the boundaries of these culture areas. Nevertheless it is convenient to follow Stephen Kowalewski's (1996) lead in discussing how the world-systems in these traditional culture areas were similar or different from one another. The literature on trade networks by archaeologists is usually organized into discussions of these culture areas, but there has been more and more study of trade interactions between the different culture areas.[2] This section discusses the U.S. Southwest and those recent adjacent to it that may have been in systemic interaction with the Southwest. Chase-Dunn and Hall (1998) also examine the other describe the world-system aspects of the other "culture areas" in that part of North America that became the United States.

Humans came across the Aleutian land bridge at least thirteen thousand years ago. An encampment of hunter-gatherers near Monte Verde, Chile, complete with chunks of Mastodon meat, has been firmly dated at 12,500 B.P. (10,500 B.C.E) The land route was difficult to pass before about 12,000 years ago because of the large Pleistocene glaciers. But it is possible that maritime-adapted peoples moved along the coasts. Most archaeologists discount the possibility of early voyaging across the open ocean.

In the region that became the United States so-called Paleo-Indian used large distinctively fluted stone spear points known as Clovis points[iii][3] over a wide region of North America. Archaeologists think that the peoples who lived during the epoch they call "Paleo-Indian" (usually from 10,000 B.C.E to 8,000 B.C.E.) were small groups of big game hunting nomads who ranged over wide territories. In the case of the Paleo-Indian archaeologists disagree about whether or not there was trade among groups. Many Clovis points have been found that are made of stone that came great distances. But since it is thought that the nomadic Paleo-Indian ranged widely, it is possible that they procured the materials directly from quarries rather than trading for them.

The general model of social evolution that has most often been applied to North America is that groups migrated to fill the land, then population increased, and trade and complexity emerged. This general sequence is implied in the periodizations that archaeologists have developed to characterize the cultures for which they find evidence in North America. In every region the Paleo-Indian period was followed by the Archaic, a period in which groups became more diversified hunter-gatherers, restricted their migrations to smaller regions and developed distinctive regional lithic styles. Sometimes distinctions are made between the Lower and Upper Archaic. The Archaic lasted longer in some regions than in others. After the Archaic, the periodization terms differ from region to region.

The general picture is one of increasing population density, the development of more complex societies in each region and increasing trade within and between regions. But this general model becomes more complicated when we look more closely. The trends toward greater population density, complexity and trade were broken by cyclical processes of the rise and fall of hierarchies and complexity, changes in the patterns of interaction within and between regions and important differences in the timing and nature of social change across regions.

The notion of widely nomadic populations becoming gradually more sedentary is related to the problem of cultural differences, social identities and territoriality. Archaeologists note that stylistic differences among groups became more pronounced as nomadic circuits became smaller and sedentism developed. This is interpreted as the formation of local cultural identities by which people distinguished their own communities from those of their neighbors.[iv][4] The wide circles of year nomadic treks of the Paleo-Indians with their continentally similar Clovis spear-points were replaced by smaller regional and intersecting circles of migration by groups hunting smaller game species and using regionally distinct projectile points. Thus the spatial nature of nomadic "settlement systems" shrank toward the eventual development of sedentism. A system of moving people to resources was replaced by a system of moving resources to people through trade networks. At first the trade networks were small, but over time they grew larger. It is this latter process of trade network expansion that brought small regional systems into greater interaction with distant peoples. This is analogous to the sequence of network expansions in waves that occurred in Afroeurasia since the emergence of sedentism that began twelve thousand years ago in the Levant.

The Southwest

        Most of the research on the Southwest that explicitly uses world-systems concepts
has focused on relations among societies within the Southwest (e.g. Upham 1982; Spielmann
1991; Baugh 1991; Wilcox 1991, McGuire 1993, 1996), but there has also been an important
literature on the relationship between the Southwest and Mesoamerica (discussed below).
The term "Pueblo" is the generic word that Spanish colonizers applied to sedentary
horticulturists found in what is now New Mexico and Arizona. These groups had only a few
traits in common: they built adobe villages with a central plaza and ceremonial structures, and
they grew corn, beans, and squash. In historical times (i.e. after the arrival of Spanish colonists)
there was no overarching unity among the Pueblo peoples, and warfare occasionally occurred
between different Pueblo villages. The people who occupied these villages spoke languages
from at least three different major linguistic stocks.
        There are several culture areas within the Southwest. The main centers that developed
political complexity based on maize planting about 1100 years ago were the Hohokam in
Arizona, the Anasazi Chacoan polities and a few centuries later, Paquime (Casas Grandes) in
Northern Chihuahua about 200 kilometers south of Chaco Canyon (see Figure 1). Other
important archaeologically known cultures in the region are Mogollon and Mimbres.
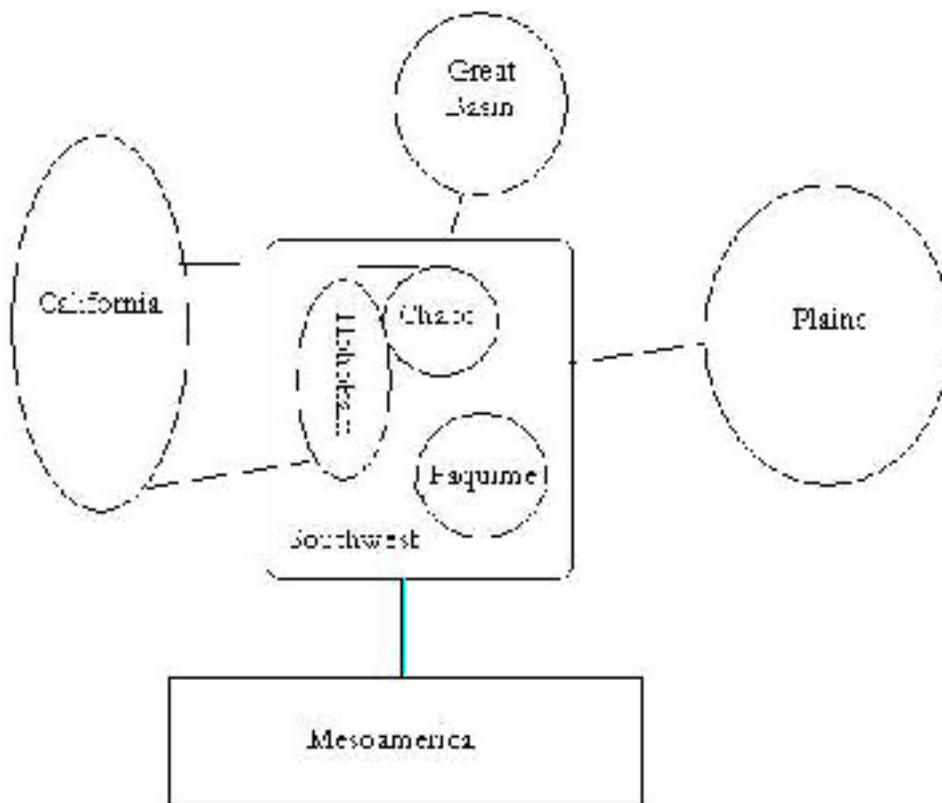
Figure 1: Southwestern macroregion and adjacent regions
The maize-growing ancestors of the historically known Pueblo Indians are called the Anasazi – the "people of old" by the Navaho. At Chaco Canyon a very large center emerged in the tenth and eleventh centuries CE with perhaps more than 10,000 people living in the Chaco core (Vivian 1990). The Chaco culture, recognizable by distinctive pottery and architecture, spread widely in New Mexico and Arizona through the establishment of many "Chaco outliers."

After 1200 Chaco Canyon was nearly abandoned as the region endured a fifty-year drought. Kintigh (1994:138) notes that at the turn of the thirteenth century there was a renewed aggregation of living units into large communities and abandonment of smaller settlements. This suggests the reestablishment of a regional system. This second wave of complexity also collapsed. All this is reminiscent of the cycling, or rise and fall of chiefdoms that Anderson (1994) describes for the prehistoric Southeast.

Stephen Lekson (1999) has formulated an explanation for the rise and fall sequence of the Southwest that focuses on the significance of what he calls the "Chaco Meridian." Lekson sees immense significance in the geographical aspects of the great straight roads that radiated from the ritual center of Chaco Canyon. He notes that after the decline of Chaco the next large central place to emerge in the region, the so-called Aztec Ruin on the Salmon River, is directly to the north of Chaco and that one of the ritual roads goes north from Chaco in the direction of the Aztec Ruin. And after the decline of Aztec a new, larger central place emerged that we know as Paquime (Casas Grandes) in a region that allowed for the building of an elaborate canal-based irrigation system.

Lekson makes much of the observation that Casas Grandes, though 200 kilometers to the south of Chaco, is also exactly on the Chaco Meridian. Lekson's explanation focuses on a hypothetical religious elite that adapted to successive drought crises by moving its center of operation first directly north, and then directly south of its original cult center.

David Wilcox's (1999) interpretation of the hegemonic rise and falls in the Southwest posits a system of competing polities that succeed one another rather than the adaptation of a single cultural group that moves its center of operation. It is, of course, possible that newly emergent groups tried to appropriate the spiritual power and legitimacy of earlier dynasties. This phenomenon is well known from state-based systems. So it is possible that Wilcox's scenario can also account for the phenomenon of the Chaco Meridian.

The debate over the nature of Southwestern complex polities is reminiscent of similar controversies about Mississippian complex chiefdoms. Wilcox points out that chiefdoms may be organized either around a single sacred chief who symbolizes the apex of a polity or they may take a different form that he calls "group-oriented" that is organized around a council of chiefs. Few examples of elite burials are found in the Southwest (though this may partly be a consequence of the existence of cremation rituals). Wilcox contends that the polity that emerged at Chaco Canyon started out as a ritual theocracy in which an ethnic group of rainmakers migrated to the canyon, perhaps at the invitation of the horticulturalists who already lived there. This group of ritual specialists constituted a theocratic polity at first and the cult of the Great House was established in the Chaco outliers to organize the collection of food and raw materials. A new center was established well to north at Aztec Ruin on the San Juan River, but Wilcox believes that this outlier became an independent and competing polity. He sees the emergence of Chaco as stimulating secondary chiefdom formation in adjacent areas and the emergence of "peer polities" that constitute a system of competing and allying polities. In comparative world-system terminology this would be considered an instance of "semiperipheral development." Wilcox contends that

institutionalized coercion eventually became a more important feature of the Chacoan system. He cites evidence of mass burials and cannibalism in the period just before the Chaco collapse. He characterizes the transition from theocracy to institutionalized coercion as the emergence of a tributary state. He thinks that the Chacoan hegemonic state conquered Chuska to the east in order to gain control of timber resources.

But while Wilcox sees the Chacoan phenomenon as involving a core/periphery hierarchy based on tribute-gathering, his characterization of the Hohokam phenomenon in Arizona is quite different. Hohokam settlements emerged in the context of the building of a large system for irrigating maize horticulture in the Phoenix basis and adjacent regions. The big Hohokam capital was a Snaketown. One of the main signatures of the Hohokam religion was the circular ball court used in fertility rituals. The largest of these ball courts was at Snaketown. Wilcox claims the centrality of Snaketown was completely a matter of "ritual suzerainty" and that there was no coercive element in the relationship between Snaketown and the Hohokam outliers.

Kowalewski's (1996) comparison of the Southwest with other U.S. culture areas describes a radical core/periphery identity separation that emerged between closed corporate Pueblo communities of horticulturalists and the more nomadic foragers and raiders that lived around them. The Pueblo peoples live in defensible towns, often atop mesas (flat-topped mountains), where they were able to protect their stores of corn from nomadic raiders. And the dramatic Anasazi cliff dwellings (e.g. Mesa Verde) have obvious defensive advantages.

But Feinman, Nicholas and Upham (1996), in their explicitly world-systemic comparison of Mesoamerica and the Southwest (which ignores the issue of the interaction between these two macroregions), characterize the Southwest as a region in which networks were open and permeable, without strong boundaries between societies. The contrast with Kowalewski's portrayal is vivid. Perhaps the earlier system was open, while the bounded Pueblo communities emerged after the Spanish invasion or after nomads obtained horses. But the existence of the Anasazi cliff dwellings, built hundreds of years before the arrival of Spaniards and horses, looks functionally quite similar to the mesa communities of historically known Pueblos. It is a lot of trouble to build houses into a cliff and carry water up from below. Defense against raiders would be a likely explanation. Defensive communities and conflictive relations are often associated with strong cultural boundaries between the conflicting groups.

In her discussion of Plains/Pueblo interactions Katherine Spielmann (1991a, 1991b, 1991c) delineates two ways in which exchange between what had heretofore been relatively autonomous groups might have developed into systemic exchange (core-periphery differentiation in world-system terms).[v][5] The first, which she favors, is **mutualism,** in which sedentary horticulturalists engage in systematic exchange with nomadic hunters in such a way that the total caloric intake over the necessary variety of food types mutually benefits both groups. The second, favored by Wilcox (1991) and Baugh (1991), is **buffering** in which sedentary agriculturists use exchange with nomadic hunters to supplement food supplies during periods of scarcity.

The issue of pacific vs. conflictive relations between horticulturalists and foragers has been raised in many other contexts. Gregg's (1988) discussion of the expansion of gardening into Europe portrays a symbiotic relationship between farmers and foragers who exchanged complementary goods. Spielmann's (1991) rendering of this relationship in the

Southwest also favors a symbiotic interpretation in which complementary surpluses were exchanged between Pueblos and nomadic foragers. Baugh (1991) uses world-systems concepts to analyze this same relationship. Both he and Wilcox (1991) see elements of a core/periphery hierarchy in which the sedentary groups (Pueblos) were benefiting more than the nomadic foragers from the interaction.

One hypothesis that stems from the iteration model of world-systems evolution (Chase-Dunn and Hall 1997: Chapter 6) is that all systems go through cycles of increase and decrease in the level of conflict among societies. Farmer/forager interactions are more likely to be symbiotic under conditions of low population pressure, but when ecological degradation, climate change or population growth raises the costs of production, conflict among societies is likely to increase. It is during these periods that new institutional solutions are more likely to be invented and implemented. But if new hierarchies or new technologies are not employed, conflict will reduce the population and a period of relative peace will return.

Randall McGuire's (1996) study of core/periphery relations in the Hohokam interaction sphere reveals evidence of the rise of a culturally innovative center near what is now Phoenix, Arizona. Several different surrounding peripheral regions adopted styles from this core. McGuire demonstrates the dangers of applying assumptions based on the modern world-system to stateless systems. He finds that the peripheral Hohokam regions did not culturally converge, but rather they become more different from one another as climate changed and they interacted with other distant core regions. Of course the hypothesis of convergence among peripheral regions is also contradicted for the modern world-system because peripheral areas often experience quite different developmental paths.

Little is known archaeologically about nomad-nomad relations in the Southwest. Some of the nomadic groups may have been recent arrivals (Wilcox 1981a). Baugh (1991) and Wilcox (1991) suggest that trade among nomadic foragers was an alternative to centralization in stabilizing volatile food supplies. The arrival of Spaniards (from 1530s on) vastly disrupted intergroup relations (see Hall 1989). The alliances that some of the nomadic groups made with the Spanish (e.g. the Comanches) may have had prehistoric analogues in which nomadic groups allied with particular Pueblo core societies to provide protection against other nomadic groups, and possibly to serve as allies in disputes among Pueblo societies.

The nested network approach to bounding world-systems is helpful for understanding the ways in which precontact North American societies were linked to one another and the relevance of these links for processes of development. As with state-based systems, bulk goods, political-military interactions, prestige goods networks and information networks formed a set of nested nets of increasing spatial scale. Some of the earliest explicit usage of world-systems concepts by archaeologists (Whitecotton and Pailes 1986; Weigand and Harbottle 1977) were arguments that the Southwest constituted a periphery of the Mesoamerican world-system.

There has been a huge controversy about the importance or unimportance of links between the U.S. Southwest and Mesoamerica (Mathien and McGuire 1986; Cobb Maymon and McGuire 1999)). An early advocate of the importance of these linkages was Charles Dipeso (1974) who argued that the great houses at Chaco Canyon were erected as warehouses and dwellings for a small group of Toltec traders, the *pochteca*[vi][6]. DiPeso contended that it was the withdrawal of the Toltec *pochteca* in the twelfth century that prompted the rapid decline of the Chaco Canyon polity.

That there were at least some connections between the Greater Southwest and Mesoamerica is now widely accepted. However, their importance for local development is still

the subject of considerable dispute. Weigand and Harbottle (1993) continue to argue that the Southwest was a periphery of Mesoamerica based on the proven fact that turquoise from the Cerrillos Hills just south of Santa Fe was mined and exported to the states in the Valley of Mexico (where Mexico City now is). They claim that turquoise played an important role in the overall structure of trade between these two regions and that the demand for turquoise was an important factor in the rise of complex societies in the Southwest. Other features of societies in the Southwest, such ball-courts, ceremonial mounds and scarlet macaws kept as pets, also suggest influences from Mesoamerica. Striking similarities in Southwestern and Mayan mythology (spider woman, warrior twins, etc.) are downplayed by Cobb, Maymon and McGuire (1999). They suggest that the feather-serpent motif associated with Quetzecoatl may have been part of an ancestral mythology common to all the Native Americans. Cobb, Maymon and McGuire also contend that important large settlements in Western Mexico linked to the states of the Valley of Mexico are relatively recent phenomenon, and that before that the huge region of northern Mexico was inhabited only by nomadic foragers.

Late Mississippian chiefdoms such as that at Etowah in Georgia have been found to have produced iconography that employs design elements and symbolic content that is strikingly similar to the icons of Mesoamerican states. (e.g. Anderson (1994:83). Archaeologists refer to the cultural complex that produced this iconography as the "Southern Cult" (Galloway 1989). Most archaeologists contend that influences from Mesoamerica were unimportant to the processes of development that occurred in the Southwest and other areas of what is now the United States. Some argue that these cultural resemblances are due to parallel evolution, not interaction (e.g. Fagan 1991).

The evidence of turquoise sourcing shows that there was definitely trade between highland Mesoamerica and the Southwest. Certainly there was down-the-line trade, but there could have also been at least a few long-distance trade expeditions undertaken by *pochteca* from the Mexican highlands or from Western Mexico. It is hard to imagine how down-the-line trade could have transmitted the ideologies behind the iconographs of the Southern Cult, though the predominant consensus among both Southwestern and Southeastern archaeologists (e.g. Webb 1989; Cobb, Maymon and McGuire 1999) is that direct influence was slight. The predominant opinion among archaeologists after a several decades of dispute is that local and regional processes were much more important determinants of development in the Southwest and the Southeast than were the long-distance connections with Mesoamerica.

The Plains

The Plains Indians are best known in the ethnographic literature for large bands of horsemen who hunted buffalo and made war. But horses were introduced by Spaniards in the sixteenth century and rapidly adopted by nomadic groups on the Plains. The coming of the horse had a revolutionary effect on the societies of the Plains because of increased mobility and increased efficiency of the hunt. Groups that formerly needed to disperse to find food could now come together to form larger polities and alliances. These developments had important affects on adjacent regions where peoples both adopted Plains features and organized to defend against the military power of the Plains peoples.

But an earlier story is less well known. Contemporaneous with the emergence of the Mississippian interaction sphere was the florescence on the southern Plains of a mound-building culture that had important trade and cultural links with both the Mississippian heartland, especially Spiro, and with the Southwest (Vehik and Baugh 1994). This is known as Caddoan culture. The Caddoans built large mounds and villages and planted corn, but they were culturally somewhat different from similarly complex societies to the east and west. This cultural distinction might be interpreted as only marginal differentiation if we did not also know that the Caddoans cut themselves of from trading beyond the Plains and constructed a network centered on the Caddoan heartland (Vehik and Baugh 1994). This was an instance of a semiperipheral region turning itself into a core by means of delinking from other distant cores. Around 1200 C.E. Caddoan trade with the Mississippian societies collapsed. This caused societies on the eastern Plains (on the border between the Plains and the Mississippian interaction sphere) to decrease in complexity. It also created a Plains trade network centered in the Caddoan heartland that was largely separated from both the Southwest and the Mississippian networks. Later the Caddoan core declined at about the same time as the Cahokian core chiefdoms. And this was contemporaneous with declines in the Southwest. A fascinating instance of synchronous growth/decline phases of cities and empires in East and West Asia from 650 BCE to 1500 CE (Chase-Dunn, Manning and Hall 2000) suggests the possibility of similar synchronies in the growth/decline sequences in the Americas.

The Great Basin

In what are now the states of Utah, Nevada and eastern California is a region of high desert in which water does not flow to the seas, but rather into large land-locked basins. Some rather large rivers run for hundreds of miles and disappear into the sand. It is an ecologically sparse environment that is punctuated by small areas where water, game and plant life are more abundant. In addition to the lack of rainfall in most areas, the distribution of rainfall varies greatly from year to year. This ecologically coarse environment was the home of nomadic foragers, known ethnohistorically as the Paiute, the Western Shoshone and the Ute, who adapted to the desert environment by moving to where food was most available. This region was also the inspiration of the theory of social evolution known as cultural ecology that emphasizes the importance of social adaptations to the local environment. Julian Steward, a major figure in the development of cultural ecology (1938; 1955), did important ethnographic surveys in which he charted population densities across the entire Great Basin region and analyzed why there were important organizational and cultural differences among the ethnohistorically known groups in this large region. The ecological constraints on human societies are dramatic in the basin and range geography studied by Stewart.

As the debate about whether or not the Southwest was a periphery of Mesoamerica has raged, there has been an analogous controversy over whether or not the Great Basin was a periphery to the Southwest. The early peoples who moved into the Great Basin occupied the few locations where there were good supplies of game and food plants. Subsequent population growth and more recent arrivals led groups to occupy more marginal regions. What emerged was a mosaic of social structures that mapped the ecological geography almost perfectly. The desert mosaic was composed of small settled groups near isolated food resources (e.g. near rivers and lakes) surrounded by more nomadic groups who

were following the yearly variation in food availability. This desert mosaic was impinged upon by outside influences from California, the Plains and the Southwest, but despite these factors and changes in climate, the basic mosaic pattern still existed when the Euroamericans came to explore this region in the 1840s.

Southwestern-type village-living horticulturalists and pot-makers, called the Fremont culture, emerged in the southern Great Basin in about 400 C.E. Upham (1994) has argued that Great Basin peoples alternated back and forth from settled versus nomadic strategies depending on climatic, ecological and interactional shifts. Trade networks that are visible in the potsherd evidence (broken pieces of pots with distinctive designs) indicate that the settled groups used trade networks to insure against local food shortages (McDonald 1994). Between 1250 and 1350 C.E. the Fremont peoples abandoned the Great Basin, probably because of the droughts of the Little Ice Age. It was this same climatic change that probably caused the abandonment of the Anasazi regions on the Colorado plateau to the south. New groups of people, presumably the ancestors of the Shoshoni, may have moved into the region at this time (Madsen and Rhode 1994).

Julian Steward's (1938) analysis shows that the local sedentary core groups developed religious rituals, collective property rights, and political organization at the village level, whereas their more nomadic neighbors existed primarily with only family-level organization. Steward does not discuss the interactions among these groups. Indeed he claims that there was little trade and little interaction. But the groups occupying prime sites would have needed to protect their resources from intruders. They developed political organization to regulate internal access, but also to protect from external appropriation. Steward argues that warfare was not an important emphasis for any of these groups, except those few who adopted some of the cultural trappings from neighboring societies on the Great Plains. Nevertheless the development of bounded territories and the enforcement of legitimate claims to resources by means of coercion – even if only yelling and stone-throwing – represented an institutional response to a core/periphery differentiation in which some groups needed to protect their ecological resources from other groups.

As for the peripheral peoples, their culture, as Steward (1938) says, was primarily "gastric" -- focused on food. In order to not starve they needed to cache enough food to survive through the winter. The key food for this purpose was the nut from the cone of the Pinion pine. These were available for harvest in the fall. Pinion nut crops varied greatly from location to location and from year to year, and when they were plentiful in one location there was usually enough for all those who had the ability to harvest and process them. This set of characteristics was not propitious for the development of property rights, and so groups did not try to control particular Pinion stands.

This was a rather elemental form of a local core/periphery structure. There was no core/periphery hierarchy in which core societies exploited the labor or resources of peripheral societies. What the core societies did was to protect their assets from potential peripheral intruders. And for their part the peripheral peoples were disorganized by the ecological circumstances, in which "optimal foraging strategy" dictated that they remain spread out in very small groups. Thus when hunger gripped them they had not the ability to attack the stores of the core societies. Rather they simply starved.

Contrary to Steward's claim that Great Basin peoples did not trade, there is ample archaeological evidence that they did participate in long distance trade networks. Bennyhoff and Hughes (1987) show that an olivella shell-based trade network that linked the Western Great Basin to the coast of Northern California expanded from 2000 B.C.E. to 200 B.C.E. and then contracted from 200 B.C.E. to 700 C.E. and then expanded again from 700

C.E. to 1500 C.E. After 1500 C.E. there was a major expansion within California based on a different kind of shells (clam disk beads), but this network did not extend into the Great Basin. Hughes (1994) shows that two cave dwellings in the Western Great Basin that are rather close to one another, were parts of very different obsidian exchange networks, but were linked into the same shell network. This cautions us against assuming that all sorts of trade items fit into the same exchange networks.

California

This section considers the whole California culture area in comparative perspective. In California only a few societies had clans and moieties,[vii][7] and there were no hierarchical kinship systems. In the area of Northern California that was studied by Chase-Dunn and Mann (1998) (see also Chase-Dunn and Hall 1997: Chapter 7) the largest polity was the tribelet, a very small unit consisting of a few villages. Larger political entities did not exist except in the San Joaquin Valley (Yokuts) and in Santa Barbara (Chumash). Though California has been characterized as a culture area based on social structural and artifactual similarities, there were enormous differences within California as well. Linguistic differences are the most obvious. Linguists contend that six major linguistic stocks were present in indigenous California. Whereas clay pots were not used by most of the indigenous peoples of California, the Western Mono, Paiute and some of the Yokuts peoples made pottery in southeastern California. The only maize horticulturalists in California lived along the Colorado River on the border between California and Arizona, although nearly all groups in California planted small amounts of tobacco.

We have already mentioned the studies of trade linkages between California and the Great Basin. These show that the expansion and contraction of trade networks is a feature of intersocietal relations even when the constituent societies are very egalitarian. Shell and shell artifacts from the Pacific were traded with the Southwest. Wilcox (1999) emphasizes the notion that the Chumash traded abalone shell and shell fishhooks with the Chacoans.

Interaction Nets over the Long Run

Rather than a simple model of interaction nets getting larger, the sequence found in several North American regions shows a more complicated pattern. The "settlement systems" of nomads were spatially huge as they ranged over great territories. As population density increased these nomadic ranges became smaller until the transition to sedentism emerged. The first sedentary societies had very small interaction nets, but these got larger and then smaller again, and then once again larger. This is network pulsation.

The early Paleo-Indians were explorers and colonizers of land that was yet uninhabited. They chased herds of big game, and they also tended to concentrate in areas that had greater amounts of game and other foods (Anderson 1995). As has been the case in other colonization sequences (e.g. the Pacific), the first arrivals probably took the best locations and then tried to hang on to them. Population density was so low at first that there were plenty of good new locations, and so interactions among groups were mainly friendly. But as the best locations became utilized and the megafauna became scarce, more competition emerged. Some groups developed seasonal migration rounds in particular territories and tried to defend the best camping sites against new arrivals. The small bands always needed to gather with other bands seasonally to trade and exchange marriage

partners. But the sizes of these seasonal gatherings were limited by the availability of food stocks at the meeting place.

A kind of territoriality emerged among nomads, but it was probably not well institutionalized. We do not know whether or not the Paleo-Indian pioneers brought with them a cultural apparatus for claiming and defending collective territory. The Polynesian pioneers of the Pacific brought with them an ancestral culture that included the concepts of *mana* an *tapu* [viii][8]that were the basis of sacred chiefdoms. The Polynesians temporarily abandoned ceremony and hierarchy and to become egalitarian hunter-gatherers when they landed on islands populated by large and delicious flightless megabirds (e.g. New Zealand). But when the birds were all eaten, the Polynesians reconstructed class societies and territoriality using the linguistic and ideological equipment that was embedded in their ancestral culture.

Very likely the immigrants to North America did not have such a hierarchical cultural heritage because the Asian societies from whence they came had not yet developed ideas and kin relations appropriate to the symbolization of the linkage between place and blood. This means that the original America pioneers had to invent these institutions as they came to need them.

The Paleo-Indian interaction networks were large, especially for exchanging fine and useful objects such as Clovis points and exotic lithic blanks. Cultural styles were widely shared across macroregions. And the territories exploited by human groups were huge, though the numbers of people in each macroband were small. As bands became somewhat less mobile they developed more differentiated tool-kits depending in part on the nature of the territories they inhabited, but also as a way of symbolizing alliances with friends and differences with foes.

The question of systemic versus conjunctural or intermittent relations among macro-regions in prehistoric North America remains. The consensus among archaeologists is that the patterns of network development, complexity and hierarchy seen in the Southwest were predominantly endogenously caused, though exogenous impacts from climate change obviously were important. The notion that Toltec *pochtecas* from Mesoamerica were major players in the emergence of large polities in the southwest has been largely dismissed and no direct evidence in support of this idea has been found. The idea that the export of turquoise to the South had an important impact on developments in the Southwest is plausible, but the mechanisms by which this may have worked have not been investigated. Did the mining and trading of turquoise play an important role in the development of the Chacoan polity? The turquoise trade constitutes a prestige good connection with Mesoamerica, but how important was it in terms of volume and what role did it play in Southwestern social change? These questions have not been answered by those who point to the turquoise connection as evidence that the Southwest was a periphery of Mesoamerica.

References

Anderson, David G. 1994. *The Savannah River Chiefdoms: Political Change in the Late Prehistoric Southeast.* Tuscaloosa, AL: University of Alabama Press.

Baugh, Timothy. 1984. "Southern Plains Societies and Eastern Frontier Pueblo Exchange during the Protohistoric Period." Pp. 156-67 in *Papers of the Archaeological Society of New Mexico*, Volume 9. Albuquerque: Archaeological Society Press.

_____. 1991. "Ecology and Exchange: The Dynamics of Plains-Pueblo Interaction." Pp. 102-107 in *Farmers, Hunters, and Colonists: Interaction Between the Southwest and the Southern Plains*, edited by Katherine A. Spielmann. Tucson: University of Arizona Press.

_____. 1992. "Regional Polities and Socioeconomic Exchange: Caddoan and Puebloan Interaction." Paper presented at Southeast Archaeological Conference, Little Rock, AR.

Baugh, Timothy G. and Jonathan E. Ericson (eds.) *Prehistoric Exchange Systems in North America*. New York: Plenum Press.

Bennyhoff, J.A. and R.E. Hughes 1987 "Shell bead and ornament exchange networks between California and the Great Basin" *Anthropological Papers of the American Museum of Natural History* 64,2.

Blanton, Richard, Stephen Kowalewski and Gary Feinman 1992 "The Mesoamerican world-system" *Review* 15,3:419-426.

Brandt, Elizabeth A. 1994. "Egalitarianism, Hierarchy, and Centralization in the Pueblos." Pp. 9-23 in *The Ancient Southwestern Community: Models and Methods for the Study of Prehistoric Social Organization*. Albuquerque: University of New Mexico Press.

Brose, David S. 1994 "Trade and exchange in the Midwestern United States," in Baugh and Ericson.
Caldwell, Joseph R. 1964 "Interaction spheres in prehistory." *Hopewellian Studies* 12,6:133-156 Springfield,IL.: Illinois State Museum Scientific Papers

Chase-Dunn, Christopher and Thomas D. Hall 1997 *Rise and Demise: Comparing World-Systems* Boulder, CO.: Westview Press.

Christopher Chase-Dunn and Thomas D. Hall, 1998 "World-Systems in North America: Networks, Rise and Fall and Pulsations of Trade in Stateless Systems," *American Indian Culture and Research Journal* 22,1:23-72.
http://wsarch.ucr.edu/archive/papers/c-d&hall/isa97.htm

Christopher Chase-Dunn and Andrew K. Jorgenson, "Regions and Interaction Networks: an institutional materialist perspective," 2003 *International Journal of Comparative Sociology* 44,1:433-450.

Chase-Dunn, Christopher and Kelly M. Mann 1998 *The Wintu and Their Neighbors: A Very Small World-System in Northern California*. University of Arizona Press.
Chase-Dunn, C., Susan Manning and Thomas D. Hall 2000 "Rise and fall: East-West synchrony and Indic exceptionalism reexamined," *Social Science History* 24,4:727-754.

Cobb, Charles R. Jeffrey Maymon and Randall McGuire 1999 "Feathered, horned and
    antlered serpents: Mesoamerican connections with the Southwest and the Southeast"
    Pp. 165-182 in Neitzel.

Collins, Randall 1992 "The geographical and economic world-systems of kinship-based and
    agrarian-coercive societies." *Review* 15,3:373-88 (Summer). Westport, CT.:
    Greenwood Press.

Dean, Jeffrey S., George J. Gumerman, Joshua M. Epstein, Robert L. Axtell, Alan C.
    Swedlund, Miles T. Parker and Stephen McCarroll 2000 "Understanding Anasazi
    culture change through agent-based modeling," Pp. 179-206 in Kohler and
    Gumerman.

Dozier, Edward P. 1970. *The Pueblo Indians of North America*. New York: Holt,
    Rinehart and Winston.

Ericson, Jonathan and Timothy Baugh (eds.) 1993 *The American Southwest and Mesoamerica:
Systems of Prehistoric Change*. New York: Plenum.
_____1994 "Systematics of the study of prehistoric
regional exchange in North America," Pp. 3-16 In Timothy Baugh and Jonathan E. Ericson
(eds.) *Prehistoric Exchange Systems in North America*. New York: Plenum Press.

Fagan, M. Brian 1991 Ancient North America: The Archaeology of a Continent. London:
    Thames and Hudson.

Feinman, Gary. M. 1996. "The Changing Structure of Macroregional Mesoamerica." *Journal
of World-Systems Research* 2:7.

Feinman, Gary, Linda Nicholas and Steadman Upham 1996 "A macroregional
comparison of the American Southwest and Highland Mesoamerica in pre-Columbian times:
preliminary thoughts and implications" PP. 65-76 in Peregrine and Feinman.

Feinman, Gary and Jill Neitzel 1984 "Too many types: an overview of sedentary prestate
societies in the Americas" Pp. 39-102 in M. B. Schiffer (ed.) *Advances in Archaeological Method
and Theory, Volume 7*. New York: Academic Press.

Ford, Richard I. (19xx) "Inter-indian exchange in the Southwest," Pp. 711-722 in Alfonso
    Ortiz (ed.) *Handbook of North American Indians, Vol. 10, Southwest*. Washington DC:
    Smithsonian Press.

Foster, Michael S. 1986. "The Mesoamerican Connection: A View from the South." Pp. 55-
    69 in *Ripples in the Chichimec Sea: New Considerations of Southwestern-Mesoamerican
    Interactions*, edited by Frances Mathien and Randall McGuire. Carbondale, IL:
    Southern Illinois University Press.

Gregg, Susan A. 1988 *Foragers and Farmers: Population Interaction and Agricultural Expansion in
Prehistoric Europe*. Chicago: University of Chicago Press.
_____(ed.) 1991 *Between Bands and States*. Center for Archaeological Investigations,
Occasional Paper #9, Carbondale, IL.: Soutehern Illinois University.

Habicht-Mauche, Judith A. 1991. "Evidence for the Manufacture of Southwestern-style
    Culinary Ceramics on the Southern Plains." Pp. 51-70 in *Farmers, Hunters, and
    Colonists: Interaction Between the Southwest and the Southern Plains*, edited by Katherine A.
    Spielmann. Tucson: University of Arizona Press.

Hall, Thomas D. 1989. *Social Change in the Southwest, 1350-1880*. Lawrence, KS:
    University Press of Kansas.
_____. 1991 "Nomadic peripheries" in C. Chase-Dunn and T.D. Hall (eds.)
    Core/Periphery Relations in Precapitalist Worlds. Boulder, CO.: Westview.

Hughes, Richard E. 1994 "Mosaic patterning in prehistoric California-Great Basin

exchange," Pp. 363-384 in Baugh and Ericson.

Johnson, Gregory A. 1989. "Dynamics of Southwestern Prehistory: Far Outside--Looking In." Pp. 371-389 in *Dynamics of Southwest Prehistory*, edited by Linda S. Cordell and George J. Gumerman. Washington, D.C.: Smithsonian Institution Press.

Johnson, Jay K. "Prehistoric exchange in the Southeast," Pp. 99-126 in Baugh and Ericson.

Kohler, Timothy A, Sarah Cole and Stanca M. Ciupe 2006 "Population and warfare: a test of the Turchin model in Puebloan societies"

http://www.santafe.edu/research/publications/workingpapers/06-06-018.pdf

Kintigh, Keith W. 1994. "Chaco, Communal Architecture,and Cibolan Aggregation."
Pp, 131-140 in *The Ancient Southwestern Community: Models and Methods for the Study of Prehistoric Social Organization*. Albuquerque: University of New Mexico Press.

Kirch, Patrick V. 1984 *The Evolution of Polynesian Chiefdoms*. Cambridge: Cambridge University Press.

Lafferty, Robert H. III 1994 "Prehistoric exchange in the Lower Mississippi valley," Pp. 177-214 in Baugh and Ericson.

Leckson, Stephen H. 1999 *The Chaco Meridian: Centers of Political Power in the Ancient Southwest*. Walnut Creek, CA; Altamira Press.

Levine, Francis. 1991. "Economic Perspectives on the Comanchero Trade." Pp. 155-169
in *Farmers, Hunters, and Colonists: Interaction Between the Southwest and the Southern Plains*, edited by Katherine A. Spielmann. Tucson: University of Arizona Press.

Lintz, Christopher. 1991. "Texas Panhandle-Pueblo Interactions from the Thirteenth Through the Sixteenth Century." Pp. 89-106 in *Farmers, Hunters, and Colonists: Interaction Between the Southwest and the Southern Plains*, edited by Katherine A. Spielmann. Tucson: University of Arizona Press.

Madsen, David B. and David Rhode (eds) 1994 *Across the West: Human Population Movement and Expansion of the Numa*. Salt Lake City: University of Utah Press

Mathien, Frances. 1986. "External Contacts and the Chaco Anasazi." Pp. 220-242 in *Ripples in the Chichimec Sea: New Considerations of Southwestern-Mesoamerican Interactions*, edited by Frances Mathien and Randall McGuire. Carbondale, IL: Southern Illinois University Press.

Mathien, Frances Joan and Randall McGuire, eds. 1986. *Ripples in the Chichimec Sea: Consideration of Southwestern-Mesoamerican Interactions*. Carbondale, IL: Southern Illinois University Press.

McDonald, E. K 1994 *Spatial and Temporal Examinations of Prehistoric Interaction in the Eastern Great Basin and on the Northern Colorado Plateau*. PhD Dissertation, Department of Anthropology, University of Colorado-Boulder.

McGuire, Randall H. 1980. "The Mesoamerican Connection in the Southwest." *Kiva* 46:1-2:3-38.

_____. 1983. "Prestige Economies in the Prehistoric Southwestern Periphery." Paper presented at Society for American Archaeology, Pittsburgh.

_____. 1986. "Economies and Modes of Production in the Prehistoric Southwestern Periphery." Pp. 243-269 in *Ripples in the Chichimec Sea: New Considerations of Southwestern-Mesoamerican Interactions*, edited by Frances Mathien and Randall McGuire. Carbondale, IL: Southern Illinois University Press.

_____. 1989. "The Greater Southwest as a Periphery of Mesoamerica. Pp. 40-66 in *Centre and Periphery: Comparative Studies in Archeology*, edited by Timothy Champion. London: Unwin.

_____. 1992. *A Marxist Archaeology*. New York: Academic.

_____. 1996. "The Limits of World-Systems Theory for the Study of Prehistory." Pp. 51-

64 in *Pre-Columbian World-Systems*, edited by Peter N. Peregrine and Gary M. Feinman. (Monographs in World Archaeology No. 26) Madison, WI: Prehistory Press, 1996.

Neitzel, Jill E. 1994. "Boundary Dynamics in the Chacoan Region System." Pp. 209-240 in *TheAncient Southwestern Community: Models and Methods for the Study of Prehistoric Social Organization*. Albuquerque: University of New Mexico Press.

Neitzel, Jill E. (ed.) *Great towns and regional polities in the prehistoric American southwest and southeast*. Albuquerque: University of New Mexico Press.

O'Brien, Patricia 1992 "The world-system" of Cahokia within the middle Mississippian tradition," *Review* 15,3:389-418 (Summer).

Pailes, Richard A. and Joseph W. Whitecotton. 1975. "Greater Southwest and Mesoamerican World-Systems." Paper presented at the Southwestern Anthropological Association meeting, Santa Fe, NM, March. Revised version published 1979. [This is the first application of world-system theory to precapitalist settings]

_____. 1979. "The Greater Southwest and Mesoamerican "World" System: an Exploratory Model of Frontier Relationships." Pp. 105-121 in *The Frontier: Comparative Studies*, Vol. 2, edited by W. W. Savage and S. I. Thompson. Norman: University of Oklahoma Press.

Patterson, Orlando. 1982. *Slavery and Social Death: A Comparative Study*. Cambridge, MA: Harvard University Press.

Peregrine, Peter. 1991. "Prehistoric Chiefdoms on the American Mid-contentinent: A World-system Based on Prestige Goods." Pp. 193-211 in *Core/Periphery Relations in Precapitalist Worlds*, edited by Christopher Chase-Dunn and Thomas D. Hall. Boulder, CO: Westview Press.

_____. 1992. *Mississippian Evolution: A World-System Perspective*. Monographs in World Archaeology No. 9. Prehistory Press, Madison, WI.

_____. 1995. "Networks of Power: The Mississippian World-System." Pp. 132-143 in *Native American Interactions*, edited by M. Nassaney and K. Sassaman. Knoxville, TN: University of Tennessee Press.

_____. 1996a. "Archaeology and World-Systems Theory." *Sociological Inquiry*.

_____1996b "Hyperopia or Hyperbole?: the Mississippian World-System" Pp.39-50 in Peter N. Peregrine and Gary M. Feinman (eds.) *Pre-Columbian World Systems*. Madison: Prehistory Press.

Peregrine, Peter N. and Gary M. Feinman. 1996. *PreColumbian World Systems*. (Monographs in World Archaeology No. 26) Madison, WI: Prehistory Press.

Price, T. Douglas and James A. Brown (eds.) 1985. <u>Prehistoric Hunter-Gatherers: The Emergence of Cultural Complexity</u>. New York: Academic Press.

Spielmann, Katherine A. 1989. "Colonists, Hunters, Farmers: Plains-Pueblo Interaction the Seventeenth Century." Pp. 101-113 in *Columbian Consequences*. Volume 1: *Archaeological and Historical Perspectives on the Spanish Borderlands*, edited by David Hurst Thomas. Washington, D. C.: Smithsonian Institution Press.

_____, ed. 1991a. *Farmers, Hunters, and Colonists: Interaction Between the Southwest and the Southern Plains*. Tucson: University of Arizona Press.

_____. 1991b. "Interaction Among Nonhierarchical Societies." Pp. 1-17 in in *Farmers, Hunters, and Colonists: Interaction Between the Southwest and the Southern Plains*, edited by Katherine A. Spielmann. Tucson: University of Arizona Press.

_____. 1991c. "Coercion or Cooperation? Plains-Pueblo Interaction in the Protohistoric Period." Pp. 36-50 in *Farmers, Hunters, and Colonists: Interaction Between the Southwest and the Southern Plains*, edited by Katherine A. Spielmann. Tucson: University of Arizona Press.

Stark, Barbara. 1986. "Perspectives on the Peripheries of Mesoamerica." Pp. 270-290 in *Ripples in the Chichimec Sea: New Considerations of Southwestern-Mesoamerican Interactions*, edited by Frances Mathien and Randall McGuire. Carbondale, IL: Southern Illinois University Press.

Steward, Julian 1938 Basin-Plateau Aboriginal Sociopolitical Groups. Bureau of American Ethnology, Bulletin 120 Washington, DC: Smithsonian Institution

Tainter, Joseph A. 1988. *The Collapse of Complex Societies*. Cambridge: Cambridge University Press.

Upham, Steadman. 1982. *Polities and Power: An Economic and Political History of the Western Pueblo*. New York: Academic Press.

_____. 1986. "Imperialists, Isolationists, World Systems and Political Realities: Perspectives on Mesoamerican-Southwestern Interaction." Pp. 205-219 in *Ripples in the Chichimec Sea: New Considerations of Southwestern-Mesoamerican Interactions*, edited by Frances Mathien and Randall McGuire. Carbondale, IL: Southern Illinois University Press.

_____. 1990. *The Evolution of Political Systems: Sociopolitics in Small-Scale Sedentary Societies*. Cambridge: Cambridge University Press.

_____. 1992. "Interaction and Isolation: The Empty Spaces in Panregional Political and Economic Systems." Pp 139-152 in *Resources, Power, and Interregional Interaction*, edited by Edward Schortman and Patricia Urban. New York: Plenum Press.

Upham, Steadman, Gary Feinman and Linda Nicholas. 1992. "New Perspectives on the Southwest and Highland Mesoamerica: A Macroregional Approach." *Review* 15:3(Sum.):427-451.

Upham, Steadman, Kent G. Lightfoot, and Roberta A. Jewett, eds. 1989. *The Sociopolitical Structure of Prehistoric Southwestern Societies*. Boulder, CO: Westview Press.

Vehik, Susan C. and Timothy G. Baugh 1994 "Prehistoric Plains trade," Pp. 249-274 in Baugh and Ericson.

Weigand, Phil C. 1992. "Central Mexico's Influences in Jalisco and Nayarit During the Classic Period. Pp. 221-232 in *Resources, Power, and Interregional Interaction*, edited by Edward Schortman and Patricia Urban. New York: Plenum Press.

Weigand, Phil C., Garman Harbottle and Edward V. Sayre
1977 "Turquoise sources and source analysis: Mesoamerica and the Southwestern U.S.A." Pp. 1534 in T. K. Earle and J. E. Ericson (eds.) Exchange Systems in Prehistory. New York: Academic Press

Weigand, Phil C. and Garman Harbottle 1993 "The role of turquoises in the ancient Mesoamerican trade structure," Pp. 159-178 in Ericson and Baugh.

Whitecotton, Joseph W. and Richard A. Pailes. 1979. "Mesoamerica as an Historical Unit: A World-System Model." Paper presented to XLIII International Congress of Americanists, Vancouver.

_____. 1983. "Pre-Columbian New World Systems." Paper presented at Society for American Archaeology, Pittsburgh.

_____. 1986. "New World Precolumbian World Systems." Pp. 183-204 in *Ripples in the Chichimec Sea: New Considerations of Southwestern-Mesoamerican Interactions*, edited by Frances Mathien and Randall McGuire. Carbondale, IL: Southern Illinois University Press

Wilcox, David R. 1984 "Multi-Ethnic Division of Labor in the Protohistoric Southwest During the Protohistoric Period." Pp. 141-154 in *Papers of the Archaeological Society of New Mexico* 9. Albuquerque: Archaeological Society Press.

_____ 1986a. "A Historical Analysis of the Problem of Southwestern-Mesoamerican Connections." Pp. 9-44 in *Ripples in the Chichimec Sea: New Considerations of Southwestern-*

Mesoamerican Interactions, edited by Frances Mathien and Randall McGuire. Carbondale, IL: Southern Illinois University Press.

_____. 1986b. "The Tepiman Connection: A Model of Mesoamerican-Southwestern Interaction. Pp. 135-154 in *Ripples in the Chichimec Sea: New Considerations of Southwestern-Mesoamerican Interactions*, edited by Frances Mathien and Randall McGuire. Carbondale, IL: Southern Illinois University Press.

_____. 1991. "Changing Contexts of Pueblo Adaptations, A.D. 1250-1600." Pp. 128-154 in *Farmers, Hunters, and Colonists: Interaction Between the Southwest and the Southern Plains*, edited by Katherine A. Spielmann. Tucson: University of Arizona Press.

_____. 1993. "The Evolution of the Chacoan Polity." Pp. 76-90 in *Chimney Rock Achaeological Symposium*, edited by J. McKim Malville and Gary Matlock. USDA Forest Service General Technical Report RM-227. Fort Collins, CO: USDA Forest Service.

Wilcox, David R. 1999 "A Peregrine view of macroregional systems in the North American Southwest," Pp. 115-142 in Jill E. Neitzel (ed.) *Great Towns and Regional Polities in the Prehistoric Southwest and Southeast*. Albuquerque: University of New Mexico Press.

Wills, W. H. and Robert D. Leonard, eds. 1994. *The Ancient Southwestern Community: Models and Methods for the Study of Prehistoric Social Organization*. Albuquerque: University of New Mexico Press.

Wilkinson, David 1991 "Cores, peripheries and civilizations" Pp. 113-166 in C. Chase- Dunn and T.D. Hall (eds.) *Core/Periphery Relations in Precapitalist Worlds* Boulder,CO.: Westview.

Wissler, Clark. 1927. "The Culture Area Concept in Social Anthropology." *American Journal of Sociology* 32:6(May):881-891.

Endnotes

[i][1] The culture areas for which there are volumes of the Smithsonian *Handbook of North American Indians* are: Arctic, Subarctic, Northwest Coast, California, Southwest (2 volumes), Great Basin, Plateau, Plains, Southeast, and Northeast.

[ii][2] Multiscalar and multitemporal spatial analyses have been applied to the Southeast and the Midwest by the studies contained in Nassaney and Sassaman (1995) and this approach has been applied in several of the essays included in Neitzel (1999).

[iii][3] The first Clovis points found near Clovis, New Mexico have been dated as 11,200 B.P (9,200 BCE).

[iv][4] Ericson and Baugh (1993) and Baugh and Ericson (1994) helpfully summarize the archaeological evidence and interpretations of the relationship between changing trade networks and the rise and fall of societal complexity in North America.

[v][5] Other sources on Plains - Pueblo interaction are Baugh (1984), Habicht-Mauche (1991), Spielmann (1989), Wilcox (1984), Wilcox and Masse (1981).

[vi][6] In the Aztec empire *pochteca* were important agents of the king who were sent on distant missions to trade and to obtain political and military intelligence. It is thought that earlier Mesoamerican states such as the Toltecs also had long-distance specialists of this kind. The most plausible explanation for Kaminaljuju, a city in Guatemala built in the style of

Teotihuacan (in the valley of Mexico) is that trader priests converted the local Mayans to the Mexican religion.

[vii][7] Moieties are kinship groups organized as dualities. For example, the people of each village are divided into two kin-based groups.

[viii][8] *Mana* is the powers of the universe as controlled and directed by the sacred chiefs. *Kapu* refers to the prohibitions (taboos) that protect sacredness. These important elements of ancestral Polynesian culture can be seen throughout the regions of the Pacific that became inhabited by Polynesians.