

4. A. REGIONAL SCALES

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Introduction

What was the regional scale of ancient agricultural societies? We have abundant data on the smallest polities: city-states (Nichols and Charlton 1997; Hansen 2000; and for North America, Smith 2008). We have estimates of the geographic extent of great empires (REFS). But we lack data for larger political entities which were bigger than a city-state but smaller than a territorial states or empire (DEFINE). In his essay "Scale and Social Organization" in *The Archaic State*, Gary Feinman (1998) attempted to compile statistics of scale and social organization for early states, and was soon discouraged. Feinman noted: "few archaeologists have ventured to estimate the exact size or full geographic scope of bounded political domains" (Feinman 1998:94). I believe that we can do this with some precision for the ancient Southwest.

Polities can be surprisingly small. In Chapter 3.A., we saw that societies as small as 500 people can support hierarchical political structures which marks many (but not all) early polities. SUMMARIZE CITY-STATE DATA. At the other end of political endeavors, the Aztec empire comprised over 200,000 sq km, incorporating many smaller polities (Smith's "city states"; my altepeme Chapter 4.B). Obviously, agricultural productivity (the intersection of environment and technology) plays a crucial role in the density of settlement and the area of polities (explored in Chapter 5.B.; see also Binford 2001). And much depends, of course, on communication and transportation technologies and infrastructure. A polity with wheels and draft animals is at an advantage over a polity which does its thinking, as it were, on its feet – the "tumpline economy." Riverine or coastal transportation works better still to move mountains of materials. But politics and economy are not always isomorphic. Political power can be negotiated or projected (often violently) far beyond an economic core, out into what we may as well call peripheries. Bulk movement of materials may or may not play a role in political formations.

Whatever Southwestern cases may (or may not) contribute to the larger study of states, the size of Southwestern entities (aka "taxons") is a matter of moment for regional prehistory. Famously, all Southwest is divided into three parts: Anasazi, Hohokam, Mogollon (with a couple of pretenders, east and west: Rio Grande and Patayan). What does a "culture area" actually represent? Or, within a culture area, what was a "district", a "phase", a "focus"? We can define these taxons, but I'm not sure we know what they represent socially, politically, economically, culturally. Thinking about scale may shed some light on these issues – can't hurt, anyway.

I will argue that the Chacoan secondary state (Chapter 4.B.) transformed the northern Southwest – the peoples who would become Pueblos. Prior to A.D. 500, the northern Southwest was split, east-west, into two populations

(biological? linguistic?) with very similar common material cultures (Lekson 2009, LeBlanc REFS). Beginning about A.D. 500, the northern Southwest saw a series of "start up" secondary states, which failed in sequence and which finally "took" around A.D. 850 with Chaco, which dominated the northern Southwest from Chaco until about A.D. 1090, and then (less successfully) from the second capital at Aztec from A.D. 1090 to 1300. After 1300, the Pueblo region balkanized and, after much turmoil and tumult, settled out in the modern ethnically separate Pueblos. Reactions to (and against) a secondary state at Chaco was the catalyst for ethno-genesis – the creation of relatively small, ethnic units, from a previously culturally homogeneous population. It has been suggested by REFS, REFS that "tribalization" (an unfortunate term) was often the predictable response of indigenous, undifferentiated populations to intrusive states (REFS). I will argue (in Chapter 6 B) that ethnic diversity within the Pueblo region resulted from the experiences of polyglot or multi-lingual but broadly similar local populations (i.e., "culture areas") – into tightly defined "ethnicities" defined by mono-lingual "us-them" identities.

After briefly considering "culture areas," I will look in detail at the Chacoan polity, and matters of regional scale.

Culture Areas

UNDER CONSTRUCTION: broad similarities, local differences (phases and foci), and the meaning of large-scale distributions -- absent the state. The Southwestern case: Anasazi, Hohokam & Mogollon.

Regional scale: how big was Chaco?

Chaco Canyon, in northwestern New Mexico, was a major ancestral Pueblo center in the 11th and early 12th centuries. Chaco was the largest, most elaborate settlement of its time. Chaco's principal features were "Great Houses" – geometrically formal, monumentally large structures which were elite residences, not pueblos (Lekson 2006, Neitzel 2000; Wilcox REFS). Great Houses at Chaco Canyon reached sizes of 500 or more rooms. Smaller Great Houses, of about 15 to 20 rooms, here called "outliers," have been found at various distances from Chaco Canyon in southwestern Colorado, southeastern Utah, northeastern Arizona, and northwestern New Mexico (Fowler and Stein REFS; Kantner REFS; REFS). Counts vary, but the number of Chaco-era "outliers" is probably about 150.

The possibility that distant "outlier" Great Houses had significant ties to Chaco was mooted from the earliest days of southwestern archaeology (Morris REFS, Martin REFS, Roberts REF, Jeancon REF). Chaco "influence" was seen at sites, particularly in the northern San Juan, such as Chimney Rock, Aztec Ruins, and Lowry; and to the south, Village of the Great Kivas. These sites were interesting

but odd: what did a dab of Chaco and a dib of Chaco mean? In the late 1980s, the Chaco region got big (e.g. Lekson et al 1988); it bulked up to its present size of 150 outliers, comprising most of the Anasazi (Ancestral Pueblo) region. No more dibs and dabs: the Chaco region is a very strong empirical pattern (Lekson 1991). This distribution of Great House sites came to be known as the “Chaco Regional System” – a more specific title than simple “region” or “district” or “phase” or “horizon”, but still pleasantly indefinite. “System” implied that it all hung together, somehow, but did not clarify how, exactly. Was the “regional system” economic, political, ritual, all of the above, none of the above? How did the “regional system” work, exactly?

Scholars skeptical of Chaco's regional aspirations ask those pointed questions, and answers were not immediately forthcoming. Too often, absence of knowledge is taken as evidence of absence; that is, absent a detailed explanation of how the “system” worked, critics dismiss the empirical pattern itself (Neitzell 2000; Kantner 2003). This seems, to me, akin demanding upon initial discovery of a site all the details of what happened there, and – when details are not forthcoming – denying the site exists. We do have trial reconstructions of how the Chaco Regional System might have worked (Wilcox 2004; Neitzel 2000; Lekson 1999b). I am not interested here in exploring those models here; rather I am concerned with spatial scales and how they work for or against the perception of empirical patterns.

In the late 1990s, the “regional system” began to fragment, split, disintegrate. One is reminded of the USSR, after the fall of the Wall. In something of a rush to judgment, we are dismembering the “regional system” before we’ve had a chance to research it, to understand what it might have been. Symptomatic of the on-going dismemberment of the Chaco region is the current preference for vague “emulation” (effectively localizing Great Houses) over more coherent if equally vague “regional systems.” **DUFF & KINTIGH, VAN DYKE REFS** This is not to say that fragmentation and emulation are wrong, and regional systems are right; rather, in this essay I explore how distance and (more importantly) our perceptions of distance may influence our interpretive preferences, particularly in favor of the local over the distant.

The Chaco regional system is an empirical pattern of remarkable, even alarming geographic scale. Its size is against it. Lynne Sebastian (1992:152) once asked “Can sites halfway across Arizona, hundreds of miles from Chaco Canyon, be considered ‘Chacoan’ in any meaningful sense?” A very reasonable question; and the question explored here. Distance itself was (literally) a world-view of the Chaco polity, and I will argue that the role of distance in Chacoan politics has larger lessons for North American archaeology.

Distances are, indeed, a reasonable reason for doubting big pictures: doubt rises from distance and from our perceptions of its importance. My most recent foray into these matters concerned Chaco and Salmon Ruin; in the early 2000s, there was much murmuring that Salmon Ruin was, somehow, a local “middle San Juan” site with a certain amount of Chaco “influence” This murmuring,

fortunately, never saw print – but it did indeed color thinking and research. It became necessary to prove or demonstrate what (rightly) seemed obvious: Salmon Ruin (and it's pal, Aztec) were Chaco products. One of the sub-texts underwriting those opinions was distance: Chaco and Salmon Ruins were far apart, sufficiently far that it just made sense to consider them separate culture area, or districts, or phases, or foci. 70 km – the distance between the San Juan River to Chaco Canyon – seems, to some of us, a long distance and a reasonable separation between two distinct areas of study (e.g., Reed REFS). We can envision two separate archaeologies of Chaco Canyon and of the northern San Juan, and thus it would be seemly and proper to write different papers or books on “Archaeology of Chaco Canyon” and “Archaeology of the Northern San Juan.” But, I think, the distance between the San Juan and Chaco is not extraordinary. It is not even really *long*, in any useful sense. That is, the distance between Chaco and San Juan is neither notable or exceptional in the context of the ancient Southwestern (and North American) regional dynamics.

Not “extraordinary,” not “exceptional:” compared to what? I offer here several regional studies, beginning with (1) Chaco and the “northern San Juan,” (2) Chaco and Cibola, (3) the “Pueblo II expansion,” and (4) Export vs emulation. I then contrast Chacoan geography to that of (5) Hohokam, (6) Casas Grandes, (7) Cahokia, and (8) Post Classic Mesoamerica. Not surprisingly, I conclude with (9) conclusions.

(1) Chaco and the “northern San Juan”

I begin with Chimney Rock, a well known “Chacoan outlier” on one of the most spectacular settings of any Southwestern site (Eddy 1977; Todd and Lekson 2011). Chimney Rock is one of the clearest, least ambiguous Chacoan Great Houses in the catalogue, due to two factors: first, the Great House architecture contrasts remarkably with the local architectural traditions of the Piedra Valley (REFS); and, second, Chimney Rock was spared subsequent thirteenth century occupation which obscures so many Chacoan Great Houses in the northern San Juan (REFS). I will not further describe or defend Chimney Rock as Chacoan “outlier” here; I note only that the few weak protests that Chimney Rock represents a local evolutionary development seem, to me, more than misguided. Such claims (and, although minor, they persist) are almost perverse. It is worth noting that Chimney Rock was almost certainly tied to Chaco through a visual communication system, discovered by high school student Katie Freeman, part of a much larger visual communication system originally researched by Tom Windes and Alden Hayes (Freeman et alia REFS; Hayes and Windes 1975). Chimney Rock was the “ultimate outlier” (Malville REFS).

Chimney Rock was 140 -150 km from Chaco – depending on where one holds the “Chaco” end of the tape. That distance, 140 – 150 km, is simply the measure from Chaco to a distant, undeniable outlier: a solid first step. Intriguingly, however, 140-150 km measures Chaco’s distance from two other well known

Great Houses (which, entirely coincidentally, complete the trio I use in lectures as “smoking gun” Chaco sites): Far View Ruin at Mesa Verde and White House at Canyon de Chelly. In both of these cases, I dismiss out-of-hand claims for local origins, although those claims are made with more vigor and authority than Chimney Rock’s. (Those arguments have very much to do with the history of archaeology and professional turf, but almost nothing to do with prehistory.) At both Far View (which probably shares Chimney Rock’s visual connection to Chaco, as unintentionally suggested by its name) and White House, the original structures’ near identity with Chacoan architecture were obvious, even blatant – presumably, intentionally. At both, however, subsequent thirteenth century use obscures (slightly) the earlier Chacoan structures. So sure am I of these three sites, that I deploy here the nuanced discourse of that 1970s paragon of reason, he of mohawk hair and golden chains, Mister T: “I pity the fool who disagrees.” OK, OK – argue about Far View and White House, if you must; but if we can’t agree on Chimney Rock, there’s little point to reading (or writing) this essay.

As we shall see, below, 140 – 150 km corresponds to an actual, observed value in foot-borne transport: to tip my hand (as it were), Nancy Malville (2001) argues that 150 km was about the limits of routine bulk transport in the ancient Southwest. 140 – 150 km was, I believe, the spatial parameters of an active Chacoan polity or “regional system.” But, of course, there were Great House outliers beyond that 140 km radius. Far beyond. Before coming full circle and discussing the importance of the 150 km radius, I will explore those more distant outliers, for they too tell us something about Chaco’s region.

North of the San Juan, the Great House most distant from Chaco of which I am aware is 42 SA 24584, called here “Owen’s Great House.”. Discovered by Owen Severance and later recorded by Winston Hurst (IMACS form 9/5/99) and R.G. Matson (p.c. 2011), Owen’s Great House is approximately 240 km northwest of Chaco Canyon, near the head of Grand Gulch in southeastern Utah. The site includes a full suite of Great House features, including Great Kivas and roads, and dates to the late Pueblo II to early Pueblo III periods.

In the zone between the 140 km and 240 km radii, there are scores of known Great Houses from the northern San Juan and southeastern Utah to the Zuni/Acoma region. Which leads us down the road to Cibola.

(2) Chaco and Cibola

“Cibola” is used here as by LeBlanc (1989): a broad area of west-central New Mexico and east-central Arizona around Zuni, between the south edge of the San Juan Basin (to the north) and the Mogollon highlands (to the south).

Intriguingly, the 140 km radius from Chaco, extended to the Cibola region of central New Mexico, falls almost exactly on the modern Pueblo of Zuni (and Village of the Great Kivas, another slam-dunk outlier). And it passes close to the

Pueblo of Acoma. Great House sites essentially identical in plan and architecture to Owen's Great House are well-known from the 140 km to 240 km ring or zone within the Cibola region, for example, sites like Cox Ranch and Kin Cheops near Quemado NM (Fowler, Stein, and Anyon 1987; Duff REFS). I discuss one of these Great Houses here, because it appears to be the southernmost candidate Great House: Aragon, a site near Reserve NM.

Aragon was first described by Hough (1907), noted during the "outlier hunts" of the late 1970s by Lekson (n.d.), and formally nominated as Chacoan by LeBlanc (REFS). A brief description in Wendorf (1954) notes a [-shaped pueblo of three stories with Pueblo II ceramics (Reserve B/W, Wingate B/R), near a deep, round, masonry-walled Great Kiva. Photos in Hough (1907) show massive (perhaps core and veneer) carefully coursed walls at the pueblo and the round masonry walled Great Kiva. (The site was bull-dozed in the 1970s.) Aragon is about 245 km from Chaco, a distance close to that from Chaco to Owen's Great House.

Aragon, if correctly interpreted, extends Chaco's region beyond the Cibola area into the Mogollon highlands, to which we now turn in a consideration of the "Pueblo II Expansion."

(3) "The Pueblo II Expansion"

I set "Pueblo II Expansion" in quotes because it was a phrase current in Southwestern archaeology around mid-20th century, referring to the general perception, codified in text books (McGregor 1941), that the Pueblo world expanded greatly during the late Pueblo II period (A.D. 1000 to 1150). That understanding is today seen as dated; but maybe there's something to the Pueblo II Expansion after all. Chaco, recall, is solidly Pueblo II.

What was the Pueblo II Expansion? The appearance of stone pueblos, painted pottery and corrugated pottery during the 11th century in areas seemingly peripheral to the Anasazi core. While limited earlier (and in few cases, later) occupations are known in some of the areas considered here, the Pueblo II period was remarkable for the appearance of stone pueblos, black-on-white or black-on-gray pottery, and other Puebloan features over a huge area. Pueblo II, in some form, extended west to Las Vegas NV (Lyneis 1996), north to Wyoming (REFS), and east into the Rio Grande (despite local archaeologists' staunch defense of their valley; REFS). This much of the "Pueblo II expansion" is familiar from old text books. There is, of course, much debate on the nature of this "expansion" (people? ideas? styles?), falling along predictable lines of turf NIMBYism and intellectual history. But in fact there really is (was) a sizable "Pueblo II" penumbra (more properly, corona – but that sounds like beer) around the northern, western and (to at least some degree) eastern circumference of the Chacoan region. Like the Chaco regional system, the Pueblo II penumbra is a strong empirical pattern, not to be ignored. Two new developments within the

“Pueblo II expansion” deserve note, to the near north (Four Corners) and to the deep south (Mogollon).

To the near north, it is the opinion of researchers affiliated with Crow Canyon Archaeological Center that large portions of the “northern San Juan” were significantly depopulated in late Pueblo I (Wilshusen REFS; REFS). That is, just prior to the Chacoan era, much of the “northern San Juan” saw deeply reduced population quantities and densities. This is particularly intriguing in the context of the larger “Pueblo II expansion”: not only was the “expansion” west to Nevada and north to Wyoming, but (presumably before those larger development) the “expansion” also re-populated the Anasazi heartland, around the Four Corners!

The situation in the deep south is less clear, but also instructive. By deep south, I mean the Mogollon highlands and, beyond them, the Mimbres region. Early researchers, such as Emil Haury (1986), posited “Anasazi swamping” as an explanation of the remarkable changes evident about A.D. 1000, in the Mimbres and Mogollon highland regions. According to Haury, at about A.D. 1000, these groups shifted from pithouse villages with red-on-brown (and related) pottery to settlements of masonry pueblos with kivas, Great Kivas, black-on-white and corrugated pottery (e.g. Haury REFS.) That cultural historical explanation was rejected during the era of New Archaeology, in favor of smaller scale, local evolutionary developments (Anyon et alia REFS; LeBlanc 1986), and subsequent research continues to deny any meaningful connection between Mimbres and Anasazi (e.g. Shafer 2004).

Recent archaeology in the Mogollon highlands of Arizona (Herr REFS) and New Mexico (Oakes and Zamora 1999) revives, for me, the idea of “Anasazi swamping” (or failing that maybe “Anasazi oozing”). Their research demonstrates convincingly that major population movements from the north (i.e. Anasazi) came into the Mogollon highlands occurred about A.D. 1000. Apparently there was a substantial demographic “Pueblo II expansion” south of Cibola into the Mogollon highlands, to match the early Pueblo II repopulation of the Four Corners and the “penumbra” of Pueblo II Fremont, Virgin Anasazi and early Developmental Rio Grande.

If it reached the Mogollon highlands, how much farther south did the “Pueblo II expansion” extend? As noted above, the Mimbres area was once included within the “Pueblo II expansion” (Haury REFS; McGregor REFS) but today the suggestion of connections between Mimbres and Anasazi provoke objections verging on outrage. It may be time to re-examine Haury’s original ideas. Without going into detail, it is quite possible to read the same record today defended as separate-but-equal to Anasazi in much the same way as it was seen by Emil Haury, long ago: a remarkable parallel with Anasazi patterns in Pueblo II which demands explanation (Lekson 2006, REFS). Independently, recent demographic analyses suggest a significant disjuncture between the lower populations in the Late Pithouse Period (A.D. 650-950) and much higher populations in the Mimbres phase (A.D. 950-1150). Several archaeologists suggest significant immigration at this time (Swanson REFS, Lekson REFS; but see Diehl and LeBlanc

2001), perhaps most importantly including Harry Shafer (2004), who sees the need for in-migration but who has no interest in Anasazi swamping. If these demographic reconstructions are correct, large numbers of people entered the Mimbres valley about A.D. 1000, much as has been suggested for the Mogollon highlands just north of the Mimbres area. I suggest the "Pueblo II expansion" reached the Chihuahuan deserts, in geometric (if not geographic) symmetry to Fremont's excursions into the wind swept plains of Wyoming.

Fremont provides a useful point of entry into the "penumbra," particularly in counterpoise with Mimbres. Fremont was originally understood as a periphery of Anasazi (e.g., Gunerson 1969; Morss 1931; and honored in the breach: Wormington 1955). That suggestion, initially persuasive, is today not popular. A leitmotif of recent Fremont studies is NO: Fremont was no stinkin' periphery!

That reaction may have as much to do with professional structure and personality as data. Nobody wants to work in a periphery. The term itself seems impolite. But we do need these concepts, cores and peripheries; they or something like them are central to history. Not every historical development evinces cores and peripheries, but many do.

Take Mimbres, for example. The archaeology of this ancient society in southwestern New Mexico (e.g., Anyon and LeBlanc 1984; LeBlanc 1983; Lekson 2006; Shafer 2003) exemplifies the role of personality and place (to borrow the title and insights of Reid and Whittlesey 2010) in perceptions of the past, with some obvious (even heavy-handed) implications for Fremont. Mimbres offers useful parallels or parables for thinking about Fremont, and for the remainder of this essay I will spin off from Utah, 500 km south to southwestern New Mexico.

Mimbres is both place and phenomenon: the southwest corner of New Mexico, and a remarkable cultural development (an event) of the 10th through 12th centuries. Thus Mimbres (the event) was roughly contemporary with the most Fremonty of Fremont; that is, with Fremont the phenomenon/event. And Mimbres trod a parallel path. For centuries, Mimbres people apparently were happy living in pit-houses, hunting, gathering, and growing a bit of corn when the fancy took them. Then one day sometime after AD 900, they woke up and said: let's build pueblos, paint black on white pottery, and really commit to corn! And the rest is history – mostly art history.

What's up with Mimbres? Where did it come from? What was its history? I consider myself a Mimbres archaeologist, although the Membership Committee may soon expel me from the club. In part because I think Mimbres was a periphery, first to Hohokam, and then (after A.D. 950) to Chaco Anasazi. The suggestion of Hohokam interests in Mimbres prior to A.D. 950 is fairly recent (Creel 1989; Lekson 1993). Emil Haury and Joe Ben Wheat long ago espoused "Anasazi swamping" of Mimbres after A.D. 1000 (Haury 1986; Wheat 1955).

Mimbres, in my view (Lekson 2006, 2009), was a weathervane pointing towards the Southwest's maximum bluster: Hohokam until A.D. 1000, Chaco thereafter.

These views, of course, are not shared by many modern Mimbres archaeologists (e.g., Hegmon and Nelson 2007 on Hohokam; LeBlanc 1983, 1986 on Anasazi; see also Shafer 2003). Just as Fremont archaeologists of the 1960s and 1970s rejected peripheral status, so too did the Mimbres archaeologists of those decades (e.g. LeBlanc 1986). Mimbres was local! No periphery, no swamping! Mainstream Mimbres archaeologists have long considered and remain convinced that Mimbres was first and foremost a local process. Of course (in part) they are correct: there's a lot that's local about Mimbres (and Fremont) – how could there not be? I insist, however, that many key Mimbres (and Fremont) elements -- objects, events, developments both major and minor -- can only be understood in the context of regional histories. Mimbres was indeed peripheral ... but "peripheral" in the best possible way!

Consider Mimbres and Anasazi. If we were to stereotype Anasazi about 1000 when Mimbres was really picking up speed (that is, painting its pottery and building its pueblos), Anasazi would be: unit pueblos, black on white and corrugated pottery. If you look at the distribution of those things, they slide south, curiously, right into Mimbres. Mimbres built unit pueblos, painted black on white pottery, and indented their corrugated pottery. Before AD 1000, they didn't.

Something happened. What happened, I think, was Chaco. Mimbres had its own story of course, but before AD 950 or 1000 – that is, before Chaco – Mimbres paid much closer attention to Hohokam, to the west (Lekson 2009, contra Hegmon and Nelson 2007). Hohokam (as noted above) exploded outward around AD 700, peaked around AD 1050 and, by AD 1150, Hohokam shrank back into the Phoenix Basin. Mimbres dropped Hohokam like it's hot, dropped it like a bad habit – and turned their attention north towards the explosion that was 11th century Chaco.

The result for Mimbres was a string of large, very interesting pueblo-like towns along the interface of the outermost Mogollon Rim – the southern edge of the Colorado Plateau, at least biotically – and the Chihuahua desert. An ecotone which mattered! Big sites popped up where the steady streams of the Mogollon highlands flowed out into the Chihuahuan desert. An ideal setting: mountains at your back, lots of water, and plenty of sunshine. Rather like the ecotone between the Plateau and the Great Basin, slicing down the middle of Utah.

Starting about that same time in Fremont, a string of large, very interesting pueblo-like towns popped up along the interface of Wasatch ranges – the west edge of the Colorado Plateau, at least biotically – and the Great Basin. An odd coincidence? Probably not. They shared the same motors: a nice wet period but more importantly a political explosion at Chaco, radiating out in all directions.

Chaco was the key context for both Fremont and Mimbres: the regional pattern long-ago noted as "Pueblo II expansion."

Are there comparable regions or "regional systems" in the Southwest to which Chaco can be compared? Two obvious examples are Hohokam and Casas Grandes. Hohokam was Chaco's approximate contemporary; Casas Grandes was rather later.

(4) Emulation and Export

One currently popular interpretive stance regarding Great Houses distant from Chaco is that some Great Houses represent indigenous "emulations" of Chacoan models: local copies of Chacoan models (e.g. Cameron REFS). "Emulation" re-establishes local scales for Chaco-looking Great Houses in southeastern Utah or west-central New Mexico.

It is hard to evaluate these claims. What would an "emulation" look like? To compress much longer arguments (see, for example, Cameron REFS; Kantner and Mahoney REFS), "emulation" is defined by degrees of difference from Chaco Canyon standards; that is, a local "emulation" looks less like Pueblo Bonito than ... what? Without external references or standards for to answer the question, "how much difference is enough?" debate about emulation is difficult to resolve. A bright archaeologist, an exceptionally bright archaeologist, a brilliant archaeologist may think his/her Great House sufficiently different from Pueblo Bonito to indicate emulation. I, in my dull dotage, may look at the same building and be tremendously impressed by the similarities. At this point, "Chacoan-ess" is a matter of taste or aesthetics.

"Emulation" versus "export" are legitimate and intriguing research issues, but I'm not sure we have the tools or comparative frameworks to resolve the debate(s). The present logic (as I understand it) proceeds from the perspective of Chaco Canyon; that is, from "inside-out." I have questioned this method because Great House architecture within Chaco Canyon is, in fact, quite diverse. Architectural variability within Chaco Canyon Great Houses encompasses (and perhaps even surpasses) that at candidate Great Houses in the larger region. Which part of what Chaco Canyon Great House becomes the Gold Standard?

It is possible and perhaps even useful to study "emulation" from "outside-in," as it were. If we seek obvious candidates for emulation, perhaps we should look for exceptional Chaco era sites beyond the limits of the most expansive interpretation of the Chacoan world (i.e. 240 km), which resemble the "big bump" Great House pattern (Lekson 1991). For example: comparatively or relatively large, massive, formal buildings, central to a community of relatively smaller, less formal domestic structures.

Beyond the 240 km radius, such patterns seem possible in the Mimbres region, at sites such as Woodrow Ruin in the upper Gila (Lekson REFS). To understand how “emulation” might look, consider an unusually massive and formal Mimbres structure, built of river cobbles but central to a community with Great Kivas. Such a site might be argued as an “emulation,” rather differently than “emulation” based on minor details of Great Houses within the 140 km or 240 km radii. These, too, might be emulations, but the logic of the argument might be stronger if “emulations” are scaled both from inside-out and outside-in. That is, beginning far beyond the Chacoan region and attempting to characterize the most distant sites which demonstrate any Great House characteristics (and particularly the “big bump” criterion).

There are several Mimbres sites which may well be Great House emulations (resembling Chacoan structures but clearly beyond Chaco’s political or economic reach). The Fremont region, with sites such as Nawthis Village, might also repay this strategy. Nawthis Village, in east central Utah, is an unusually large, formal structure built of massive puddle adobe (REFS). Another good candidate, to the south, is Tla Kii (Haury REFS; contra Herr REFS and Mills REFS). Unlike Woodrow Ruin (built of river cobbles) and Nawthis Village (adobe), Tla Kii is has a few Chacoan details in wall construction, but all three represent “big bumps” among communities of much smaller sites and, I suggest, all three are good places to begin to think about “emulation.”

Well beyond the 240 km limit sits Wupatki. Wupatki is a post-Chaco Great House, 310 kms from Chaco Canyon and 330 km from Aztec Ruins. Wupatki began about A.D. 1145 as a four- to six-room block of large rooms built with “carefully selected sandstone slabs, chinked with sandstone pieces, in what many have referred to as a Chaco style” (Downum, Brennan and Holmlund 1999:53). Major construction at Wupatki continued through the 1190s, with limited additional building to about 1215 (Downum, Brennan and Holmlund 1999).

Wupatki was contemporary with Salmon and Aztec Ruins and, perhaps significantly, with the “missing decades” between the initial Chaco era construction of those two sites and their explosion of 13th century construction and modification. Intriguingly, population spikes around Wupatki during the 12th century, a time when archaeological evidence appears thin in the northern San Juan (Downum REFS). The middle and late 12th centuries have been seen as a period of population decrease in the “northern” and middle San Juan (Lipe and others REFS), but it is the current opinion of researchers associated with Crow Canyon Archaeological Center that 12th century population remained more or less level at many multi-component communities spanning “Chaco” Pueblo II and “Mesa Verde” Pueblo III periods (Scott Ortman and Mark Varien, p.c. 2004) – a conclusion with major implications for both regional demographics and internal site histories of Salmon and Aztec.

Depending on our resolution of 12th century demographics in the “northern San Juan,” Wupatki may have been a destination for 12th century peoples or a rival to

12th century centers of the middle San Juan. Whatever its historical role, an uncontested fact is that Wupatki was built very near Sunset Crater, shortly after that volcano erupted (Downum REFS). The eruption, which was spectacular if not overly destructive, took place sometime after A.D. 1064, perhaps as late as the early 1100s. (Research is clarifying dating and particulars of the eruption; Mark Elson and Jeff Dean, p.c. 2004) At one time, viewshed analysis suggested that Sunset Crater's eruption was visible from Chaco Canyon; re-analysis makes that less likely, but there can be no question that the Chaco world would have known almost immediately about the volcanic marvel. It was, no doubt, a sign and a wonder.

We cannot know if the eruption was interpreted as a portent for good or for ill. Perhaps both: the eruption coincided roughly with the end of Chaco and with the rise of Aztec Ruins. And it was followed by the construction of a Wupatki, a Great House style building with a large Great Kiva and a remarkable Hohokam style ball court. Wupatki, moreover, had astonishing numbers of exotic and sumptuary objects: copper bells, macaws, turquoise inlay, etc in qualities and quantities known from Pueblo Bonito but not, significantly, from Salmon or Aztec Ruins. Wupatki was far more cosmopolitan in architecture, ceramics, and prestige items than were its middle San Juan contemporaries, Salmon and Aztec Ruin. I submit that the histories of these two places – Wupatki and Totah – are linked in ways we have not yet begun to understand, despite a spatial separation of over 300 km (less than two thirds of the distance between Cahokia and Spiro!).

Wupatki was 310 km from Chaco, the 11th century pivot point. At almost the same distance (315 km) sat the northernmost of the large 11th century Mimbres towns: the TJ Ruin, at the Gila Cliff Dwelling National Monument. Earlier in this essay, I suggested that some Mimbres structures were possible emulations of Chaco Great Houses, and I close here with TJ, well beyond Chaco's reach but a comparable in distance to Wupatki (a post Chaco Great House – this is complicated stuff!). The compact central roomblock at TJ Ruin is, by consensus, the most likely multistoried Mimbres structure (e.g. Shafer 2004, McKenna and Bradford 1989, Darrell Creel p.c. 2004).

Wupatki and TJ Ruin were not contemporaries (although there was a 12th century component at TJ ruin), nor did they likely interact. Both, however, may have been “emulations” (albeit with different purposes) of Chacoan Great Houses, at similar distances from Chaco Canyon; that is, well over 300 km away. These sites (along with Fremont sites like Nawthis and Rio Grande sites like the Bronze Trail Group) can help us think about “outliers” and “emulations” and interactions between Chaco Canyon and the middle San Juan, if we learn how to use them. It's important to consider (absent bulk economies) the extent to which space does *not* structure society, but society structures space. Of course space and society are recursive and interacting, but we might first comprehend the nature (or at least the extent) of the Chacoan world, and then attempt to understand its distances.

(5) Hohokam

“Hohokam” refers to an archaeological package of material culture which included red-on-buff pottery, ball courts, a mortuary complex involving cremations, palettes and censers, and (more often than not) major canal irrigation (REFS, REFS). Hohokam, in this sense, starts about 750/800 in the Phoenix Basin (that is, along the middle Gila and lower Salt rivers). During the Colonial Period (about 750-950), Hohokam explodes outward, up river valleys north, east, and south – and to an intriguingly shorter distance, west to Gila Bend, and no farther. The whole business fell apart about 1050, when the regional expansion contracted back into the Phoenix Basin, ball courts ceased to be built (and used?), and things generally went to hell in a hand basket (the so-called Classic Period, 1150-1450; Abbot REFS, Doyel REFS).

The Phoenix Basin was the center, but its not clear if there was a center in the center; that is, if one Hohokam site ruled them all and in the darkness bound them. I use Phoenix itself as a conventional geographic center, that modern city being more or less central to the known large Hohokam sites within the Phoenix Basin.

Ball courts are the architectural sine qua non of Hohokam. Ball courts are large, earth-bermed ovals in which was played some form of the Mexican ball. The largest courts are large indeed, 55 m long by 16 m wide with berms standing 5 m tall. The smallest were much more modest, and could easily be mistaken for an elongated pit house depression on a gravel-capped terrace (my point here being that there may well be many small ball courts in regions where they are not now currently expected, particularly in the Mimbres area).

There are 238 ball courts known at 194 sites (Wilcox REFS, Marshall 2001) – numbers gratifyingly close to 200 Chaco “outlier” Great Houses in the Chaco World database (Kanter REFS). Recall that about 50 of those are post-Chaco Era. The two systems were more or less similar in scale and numbers of components: we are probably comparing apples and apples with Chaco and Hohokam.

Of course, there is inevitable fussing among aficionados about which ball courts are real, and which are not – a situation depressingly similar to arguments about Chaco “outliers.”

The farthest large, no-doubt-about-‘em ball courts are near Wupatki, to the north and at the Pueblo Viejo site near Safford, to the east. Intriguingly, these are each about 240 km distant from Phoenix.

Ball courts have long been viewed as a “regional system” comparable to Chaco’s in scale, ambiguity and haziness. In the Hohokam case, “regional system” has economic teeth. Ball courts are thought to have established or marked a market system for circulation of goods within the Hohokam core (Abbott REFS, REFS).

No one postulates bulk materials circulating from the farthest flung ball courts (Wupatki and Pueblo Viejo, for example) back into Phoenix, but there is clearly the notion that these distant courts were integrated into a large regional system, which consists of several sub-regional sub-systems with economic dimensions (Wilcox REFS; Crown REFS).

Beyond the ball court system, the Hohokam sphere demonstrably extended to the Pacific Ocean in the Gulf of California (and, for a few species, the California coast). The production of ornament and other objects of marine shell was a hallmark of Hohokam (REFS, REFS). Shellwork was a major Hohokam industry with a complicated social and geographic structure (REFS, REFS); but sources of most shell species were no closer than Bahia de Adair and Bahia de San Jorge, at Puerto Peñasco. Puerto Peñasco is 280 kms from Phoenix. Several species were procured at much greater distances. (For comparison, Chaco is 180 km from the Cerrillos turquoise mines.)

Hohokam archaeology has no difficulties thinking about a regional system or systems on the scale of 240 km radius (or distances of 280 km). Indeed, Hohokam archaeologists seem to think those scales are pretty neat, rather interesting.

(6) Casas Grandes

Casas Grandes had a clear center at Paquime and a large region of archaeological interest, much like Chaco. Casas Grandes and Paquime were later than Chaco; Paquime, the central city, rose about 1250 and fell about 1450, apparently with violence.

There are, of course, the same range of “minimizing” and “maximizing” interpretations of Casas Grandes as we see for Chaco, and for almost exactly the same reasons (which need not detain us here). Schaafsma and Riley (1999) see Paquime as the center of a huge region; Whalen and Minnis (2001) make that region much smaller. They note and then question the conventional “far flung periphery” of 110 to 170 km (a composite of Di Peso, Schaafsma, and others). They limit Paquime effective “political economy” to 60 to 75 km (Whalen and Minnis 2001:52, 194).

The rhetorical and programmatic parallels to Chaco archaeology are obvious, but it is amusing (and personally gratifying) to note that the most widely accepted reconstruction of the political development of Paquime (Whalen and Minnis 2001) was modeled directly and explicitly from Sebastian’s (1992) reconstruction of Chaco Canyon. Clearly, Whalen and Minnis feel it is appropriate to compare Chaco and Casas Grandes, even if they prefer a smaller Chaco (and ignore Galton’s Problem).

The size, nature and significance of the Casas Grandes region is, as noted, a matter of great debate, based on far fewer data than we enjoy for Chaco. The

best (i.e. most extensive) data for this question come from the Animas region of extreme southwestern New Mexico, from excavations by Kidder, Cosgrove and Cosgrove (1949) and McCluney (1965) and more recent work by Skibo, McCluney and Walker (2002). Animas sites were closely connected with Paquime: major architectural forms (e.g. ball courts) and many telling details (e.g. distinctive fire pits), and abundant ceramic evidence attest to significant interrelations between Animas sites and Paquime (the conclusion of the latest research: Skibo, McCluney and Walker 2002). Joyce Well, the largest Animas phase site, is about 140 km distant from Paquime, comparable to the distances of Chimney Rock, Far View, and White House from Chaco Canyon. (Notably, Jane Kelley and her colleagues have defined the southern boundary of the Casas Grandes region at site CH 151, about 155 km from Paquime; Kelley, Stewart, MacWilliams, and Neff 1999). Joyce Well and the other Animas sites have been interpreted as colonization (cf. Chimney Rock), political incorporation of existing populations (cf. Far View Ruin), or emulation (cf. Bluff) (REFS, REFS). Both the distances and the interpretations are almost perfect parallels to Chaco and its region, within the 140 km radius.

And farther out from Paquime? In southern New Mexico (which is far better known than other segments of the Casas Grandes region) arguments for inclusion and connection to Casas Grandes have ranged as far abroad as Bloom Mound, near Roswell NM (REFS), almost 460 km northeast of Paquime. Schaafsma and Riley 1999:Fig. 1) extend the “Casas Grandes interaction sphere” as far north as 330 kms (to the vicinity of Truth or Consequences New Mexico) and to the northeast (to Roswell) about 460 kms. To the south, Carlos Lazcano Sahagun, in his survey of Sierra Madre cliff dwellings, extends the “límite aproximado del territorio Paquimé” almost as far south as Creel; that is, over 500 kms south of Paquimé (Lazcano Sahagun REFS).

There is, of course, considerable debate over these farthest “Casas Grandes” sites. I have no difficulty envisioning an “interaction sphere” of that size; but perhaps not a region of intense, sustained relations. I make a smaller case for close connections between sites near Redrock NM, on the upper Gila River, and Paquime (Lekson 2002). Redrock provided the green banded ricolite (serpentine) which constitutes the most important (i.e. most by weight) imported stone or mineral material at Paquime. (115 kg of Redrock ricolite were found at Paquime, much of it manufactured into distinctive rectangular, short-legged stools.) At Redrock, sites contemporary with Paquime but otherwise identified as Salado contain surprising quantities of Casas Grandes pottery (compared to other Salado sites), much of it in burial associations. I argue that Redrock was peripherally but significantly incorporated into the Casas Grandes world (much as Cerrillos was part of Chaco’s world). Redrock is about 266 km from Paquime, comparable to the distance from Owen’s Great House and Aragon to Chaco Canyon (240 km).

This distance, 240 kms, is remarkably similar to the distance from Paquimé to the “known southerly extent of Chihuahuan culture” at site CH 151 (Kelley and others

1999:Fig. 4.1) – about 280 kms. This radius, of about 270-280 kms, is of course a far more conservative estimate of Casas Grande’s region than Lazcano Sahagun’s or Shaafsma and Riley’s (and more expansive than Whalen and Minnis’ REFS). It is, obviously, intriguingly close to the outermost ring of Chaco “outliers.”

(7) Cahokia and Aztalan

Cahokia was Chaco’s contemporary, then, and its unindicted co-conspirator in archaeological disputation, now. Almost every argument from Chaco finds answering chords in the rich literature of Cahokia, but there are curious differences in matters of scale and distance. Southwestern distances pale by comparison to Mississippi Valley archaeology. Aztalan (in Wisconsin) is a Cahokia “outlier” comparable, in many ways, to Chimney Rock: amid the Woodland populations of southern Wisconsin, Aztalan appears as out of place as Chimney Rock among the rustic indigenes of the upper Piedra. Some suggest Aztalan was a Cahokia colony, some suggest it was an emulation (by other terms), and a few argue for no connection whatsoever (REFS, REFS). I am not so much struck by the near perfect parallels in archaeological debates, but rather by the great difference in *distance*: Aztalan is 495 km north of Cahokia, three and one half times farther than Chimney Rock and twice farther than Owen’s Great House were from Chaco Canyon. (I doubt that river systems did much to diminish effectively that distance; indeed, by boat, Cahokia and Aztalan were over 600 km apart.)

On another (western) Mississippian frontier, Spiro Mounds is thought (by some, REFS) to have very strong ties to Cahokia. Predictably, others (REFS) deny any meaningful connections. Archaeological disputes are, again, of less interest than distances: Spiro is 555 kms from Cahokia! Yet Mississippian archaeologists admit Spiro and Cahokia as a combination worthy of open debate and public discussion.

My point here is not that Chaco and Cahokia are comparable (they are, but that’s another story; Lekson and Peregrine 2004). Rather, I am impressed by the differing spatial sensibilities of Southwestern and Mississippian archaeologists. For example, claims that Chaco may have had something to do with Paquime (Di Peso 1974; Lekson 1999) are often dismissed out of hand, because the distance (640 km) seems impossible, even indecent. Yet Mississippian archaeologists actively debate arguments framed at spatial scales of 495 and 555 km. Mississippian scales reduce distance-based objections to Chaco-Salmon or Chaco-Far View or Chaco-Owen’s to mere quibbles.

(8) Post Classic Mesoamerica.

Long distance contacts in the Classic Period were equally or, perhaps, even more impressive. Teotihuacan enclaves existed at great distances from the Classic Period's first and greatest city. For example: at Maticapan 400 kms; Chac (near Sayil) 960 kms; Tikal 1000 kms; and Kaminaljuyu 1030 kms (Smyth and Rogart 2004).

The greatest developments in the Southwest, however, were contemporary with the Post Classic (A.D. 950 to 1520). Post Classic Mesoamerica was marked by the spectacular development of a large and pervasive "world system" of trade and exchange, stylistic horizons, and political alliance (Smith and Berdan 2003, which I use in this short section as my principal source). Population growth, proliferation of small polities, increased long-distance exchange, greater diversity of trade goods, commercialization of the economy, new forms of writing, iconography, and stylistic interaction were all characteristics of the era (Berdan, Kepecs, and Smith 2003:315-316). It was a highly dynamic time, and spatially expansive. Inevitably, there are skeptics who doubt or downplay these conclusions (e.g. Spence 2000; REFS; REFS).

In the early Post Classic (950-1150) "much of west Mexico was drawn into Mesoamerican economic and religious orbits at this time. Major cities with considerable international influence arose at Tula in central Mexico and Chichen Itza in Yucatan. "These two cities were clearly in contact with one another, but the nature of their interaction remains unclear" (Smith and Berdan 2003:4). Remarkable architectural similarities between Chichen Itza and Tula caught the attention of early archaeologists, and their relationship has become a central matter of the Early Postclassic (e.g., Kowalski and Kristan-Graham 2007). Traditional histories (and architectural similarities) were at first interpreted as the conquest of Chichen Itza by Toltecs from Tula. That literal reading is no longer widely accepted, but the striking similarities lead to titles like "Twin Cities" (Jones 1995) and "Twin Tollans" (Kowalski and Kristan-Graham 2007). Whatever the historical and cultural dynamics which produced the similarities, the fact remains that Chichen Itza and Tula were 1125 km apart – and the central matter of an important genre of Mesoamerican studies.

The scale and energy of Early Post Classic commercial, political and symbolic interactions increased through the Middle Post Classic (1150-1350) and culminated in the Late Post Classic (1350-1500) Post Classic with large empires (Aztec and Tarascan, among others). Many archaeologists have proposed that the Southwest was neither isolated from nor immune to "ripple effects" of Mesoamerican political and social dynamics (e.g., recently, Nelson 1997; Kelley 2000; REFS). Southwest-Mesoamerica represents a whole genre (with identifiable sub-genres!) in Southwestern studies (e.g. analyses by Phillips 2000, among others) – but always a minor theme in mainstream practice. Post Classic political regional interactions within many spheres of economic, political, and religious life was truly impressive, and our thinking about Southwestern scales should address or at least acknowledge contemporary Mesoamerican developments.

For example: it was during the middle and late Post Classic era that Southwestern turquoise became a “key commodity” in Mesoamerica (Smith 2003:124). Turquoise was, apparently, primarily processed through the Mixtec area (John Pohl, pc., 2001), “entering the Mixteca-Puebla region through Tututepec in Oaxaca” (Smith 2003:125). The distance from Tututepec to Paquime (the most likely proprietor of the extensive turquoise mines of Old Hachita) was about 2000 km. Comparable distances were traversed by macaws and copper objects, from Southwest coastal and West Mexico to Southwestern centers. However turquoise got from Southwest to Mixteca and bird and bells got from West Mexico to Southwestern centers, they moved very long distances in some form of institutionalized exchange. Whatever transpired between the Southwest and Mexico, there is no good reason to assume that contacts were indirect or “down-the-line,” with scarlet macaws being passed from hill tribe to hill tribe. “The idea that Mesoamerican influences and presence at Casas Grandes [for example] are simply emulations of Mesoamerican cultures to the south is, to say the least, naïve ... Furthermore, the suggestion that Casas Grandes is not a major trading and production center is fallacious” (Foster 1999:160)

(9 a) Conclusions: Economics

I tend to harp on the fact that Southwestern archaeology is conventionally framed at small geographic scales: segments of river valleys, for example. While my nagging may be annoying, it may still be needed. Chaco, Hohokam, and Casas Grandes clearly exceeded small scales of conventional dissertation research, almost all CRM projects, New Archaeology natural laboratories, agent-based models of the VEP scale, and (most distressingly) agent-oriented micro-accounts favored by many post-processual approaches. Chaco, Hohokam, and Casas Grandes transcend local history or, more accurately, local histories.

What scales are appropriate for thinking about Chaco? What scales are *realistic*? I have attempted to show, by selective (but not anecdotal) examples, that the San Juan Basin (however defined) is far too small for Chaco’s regional context. A radius of 140 – 150 km represents a geometrically arbitrary, but archaeologically warranted, distance for some level of regional interaction; a radius of 240 – 250 km circumscribes another (perhaps lesser?) level of interaction. Beyond that 240 km radius (and then, perhaps, within) lie sites with which to define operationally the gossamer, indefinite quality of “emulation” (discussed further below).

I and others have suggested that the Chacoan region was administered by a fairly complicated visual communication system (Lekson REFS, Hayes and Windes REFS, REFS). Chimney Rock and aptly-named Far View, 140 km distant from Chaco are excellent examples: as noted above, Katie Freeman, Chimney Rock was linked to Chaco via a single repeater station at Huerfano Peak. Similarly, Huerfano is almost certainly visible from Far View (based on analysis of USGS topographic maps and GIS view-shed programs). Huerfano

and Pueblo Alto (at Chaco Canyon) are markedly intervisible. The probable use of repeater stations make this network a *system*: that is, a complicated arrangement of stations which required cooperative or directed administration. I believe, but cannot currently demonstrate, that the visual communication system extended over the entire Chacoan region, and very likely out to the 240 km limits of the Chacoan world.

What mean these radii, when the sandals hit the road? Chacoan commerce was foot-driven, delivered by tump-line back-packs on porters (Dobyns 2002). No carts, no horses, no boats, no rivers. How far and how much people could move, on their feet and on their backs? David Wilcox (e.g., 1999, 2004), an early student of the question, offered estimates of distances and travel times for social interaction in Southwestern "regional systems." He initially proposed two measures: first, 11 miles (17.7 km) for "daily intercourse between communities," which represents a roundtrip of 22 miles (the distance a person can walk with a pack in a day); second, 22 miles (35.4 km) for a one-way day trip. At that pace, 140 km represents four days' walk and 240 km represents seven days' walk. Wilcox interpreted these 11 and 22 km distances in terms of social interaction, up to and including threats of force, and not long-distance economic interactions.

My analysis owes many debts to Wilcox's "macro-economies" (Wilcox 1991a, 1999). Dr. Wilcox has been worrying about these matters longer than I. Our maps look superficially alike – there there's not too many different ways to draw circles – but we reach very different conclusions.

Travel distances have obvious implications for economic interactions. Let's go for the throat or, rather, the gut, and look at basic, subsistence economy: the transport of bulk foodstuff, such as maize. Kent Lightfoot (1979) suggested a 50 km limit for "prehistoric food redistribution" at Chaco; beyond that limit, transport was uneconomical (the porter ate the portage). Lightfoot's 50 km limit became a rule of thumb – and another nail in the coffin of "complex cultural ecosystems." That radius around Chaco gets you only the stinking deserts of the interior San Juan Basin, so Lightfoot's limit was cited as proof that Chaco's regional system was not economic, at least not in subsistence economy (e.g., Sebastian 1992:88). The 50 km rule, however, is far too short. Robert Drennan (1984), looking at bulk food transport in Mesoamerica, set a much longer limit for regular commerce: an absolute (and extreme) maximum distance of 275 km. "Ordinarily, we should expect transport of such staples to be restricted to substantially shorter distances" (Drennan 1984:110). And, more recently, Nancy Malville (who studies porters world-wide) concluded that "foot transport of food stuffs and durable goods would have been feasible in the pre-Hispanic American Southwest on a regular basis over distances of at least 100 to 150 km and on an occasional basis over much longer distances" (Malville 2001:230; see also Santley and Alexander 1992:44, who independently estimate an outer limit of 150 km for Postclassic "trafficking in bulky goods"). The inner limit for regular bulk goods transportation was on the order of 140-150 km (Malville's 150 km limit), while occasional movement of bulk goods might have reached 240-250 km (Drennan's

275 km limit). Certainly, precious prestige goods – macaw feather artifacts, copper bells, and so forth – could easily reach out and touch someone at 250 km. Recent chemical sourcing research suggests that foodstuffs did indeed move about within Chaco's inner circle (Benson et al. 2003; Benson et al. 2006), as did very large quantities of ceramics (Toll 2006) and construction timbers (Betancourt et al. 1986). Maybe my "empirical" radii – inner circle of 150 km for inarguable "outliers" and outer limits of 250 km for more dicey Great Houses – actually mean something in terms of ancient economies.

The huge and hugely important turquoise mines at Cerrillos were about 175 km from Chaco – a bit beyond the 150 km radius, but well within the 250 km limit. Turquoise was central to Chaco's political economy. The canyon was one big lapidary workshop. Turquoise went out to the provinces and went south to Mexico, but much of it stayed at Pueblo Bonito and the other princely houses. Chaco's rulers decked themselves out in more blue stones than a Santa Fe matron on the make. It irks Rio Grande archaeologists to have Cerrillos under Chaco's "control" – but I suspect it was.

Chaco turquoise has a well developed literature of its own (for a starting point, see Mathien 1997 and 2005). Chaco's "control" of the mines is hypothetical, but supported by a Chaco-esque "mining camp" near the mines (Wiseman and Darling 1986).

Distances of 150 and 250 km don't faze Hohokam archaeologists. The ballcourt system compares favorably with the most expansive reading of Chaco's Regional System. Bulk transport may have been routine throughout the Hohokam region, although no one suggests regular bulk economies on 250 km scales! We are only beginning to appreciate the scale and complexity of Hohokam commerce; it was probably huge (Abbott, Smith and Gallaga 2007). To anticipate a third, later system, Casas Grandes interior region fit nicely within a 150 km radius; and 250 km reaches Redrock, the source of ricolite, the most important commercial import, after shell, to the Casas Grandes capital of Paquimé. (The vast quantities of shell found at the great 14th century city came from shores even more distant!)

They did it in the deserts. It seems very likely that they did it on the plateau, too: moved masses of materials – including food – routinely within the inner circle of 150 km and sporadically to and from the outer limits of Chaco's region at 250 km from the canyon.

Bulk transport over distance clearly was not unusual at Chaco; we know from ceramics and lithics and timbers that bulk goods moved within the region. And even more so for Hohokam; lines of burden bearers [porters] are a notable motif on Colonial period Hohokam ceramics. For Chaco, it seems reasonable to suggest distance limits for regular transportation were on the order of 140 km (cf. Malville's 150 km limit); while occasional movement of goods might have reached 240 km (cf. Drennan's 275 km limit).

(9 b) States and Ethnogenesis

UNDER CONSTRUCTION:

It has been suggested that "tribalization" (an unfortunate term) was the predictable response of indigeneous, undifferentiated populations to intrusive states (Fried 1975; see also Barth 1969; Ferguson and Whitehead 1992; Jones 1997; Levine and Campbell 1972; Voss 2008). "Tribe," in this context, does not mean a stage on the evolutionary escalator between "bands" and "chiefdoms"; rather, a tribe was (and is) an ethnically self-identified group which (I add) encompassed multiple communities (see Chapter 3.A.). Thus "tribalization" equals ethno-genesis. In most anthropological studies, the process is or was spurred by modern colonial state intrusions. I suggest that the same or similar processes should characterize reactions of un- or less differentiated peoples at any time, when confronted by the formality and power of a state.

Chaco was a secondary state (Chapter 4B) – not a great and powerful empire, but still a state in a place previously free from the dubious pleasures of political organization. Chaco transformed the Pueblo Southwest – or, it certainly could have. Chaco's 250 km wing-span stretched from Hopi on the west, to Pecos on the east; from the limits of agricultural society on the north to the Mogollon Rim and Hohokam on the south. In effect, the northern Southwest. Chaco may not have "controlled" the Rio Grande, but every decision made by Developmental and Classic period Rio Grande leaders was framed and constrained by Chaco, and by memories of Chaco. So too, for Kayenta and Tusayan to the west.

How would we see "tribalization" and ethno-genesis in the Southwest? At a very broad – but not, I think, crude – level, we could look at ceramic decoration. Consider the remarkably broad, homogeneous distribution of Red Mesa-style designs just prior to Chaco; and the splintering and specialization of design systems immediately after Chaco. Does that marked change reflect tribalization, ethno-genesis sparked by a state-level polity appearing amid an undifferentiated regional population?

Of course, it was more complicated than that...or was it? To be sure, the history was more complicated (Lekson 2009): prior to A.D. 500, the northern Southwest was split, east-west, into two populations with a very similar common materials culture (LeBlanc et al 2007) – notably, in ceramic design. Beginning about A.D. 500, the northern Southwest saw a series of "start up" secondary secondary states, which failed in sequence but which finally "took" around A.D. 850 with Chaco (Lekson 2009). Chaco was a successful secondary state. Chaco thereafter dominated the northern Southwest, first from a capital at Chaco Canyon until about A.D. 1090, and then (less successfully) from a second capital at Aztec Ruins from A.D. 1090 to 1300. After 1300, the Pueblo region balkanized and – after tumult and shouting, Sturm und Drang – "settled out" in the modern, ethnically-separate Pueblos. Reactions to (and against) a secondary state at

Chaco was the catalyst for ethno-genesis – the creation of relatively small, ethnic or "tribal" units, from a previously culturally homogeneous regional population. I will argue (in Chapter 6 B) that ethnic diversity within the Pueblo region resulted from the experiences of polyglot or multi-lingual but broadly similar local populations (i.e., "culture areas") – into tightly defined "ethnicities" defined by mono-lingual "us-them" identities.

The history was more complicated, but I suggest that the dynamic may have been (relatively) straightforward: just as the intrusion of European states sparked ethno-genesis, causing indigenous populations to tribalize and develop ethnic identities we see today in the several Pueblos.

This suggestion is much at odds with conventional views of Pueblo prehistory, which map ethnicity directly on (or under) linguistics. Indeed, a state in the Southwest (with consequent ethnogenesis) probably requires a close re-evaluation of historical linguistics! And it makes a mess of NAGPRA. NAGPRA wants us to identify an ethnic group in the past and affiliate it with a group in the present. What if, before A.D. 1300, there were no ethnic groups? At least, as we use that term today.