

## The Point Community: Life in a Chacoan Small House Community

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Downstream from the Chacoan great house of Salmon Ruin are five multi-site communities on the southern edge of what is now Farmington, New Mexico [SLIDE]. These communities lie along the middle San Juan River, near the confluence of the San Juan, Animas, and La Plata Rivers (named the Totah region by McKenna and Toll 1992). This is a relatively lush region for the desert Southwest that would have provided ample farmland and wild game. Today, most of the sites that made up these communities are on the B-Square Ranch, a working ranch of over 12,000 acres that runs along the San Juan River and makes up the southern edge of Farmington.

The five prehistoric communities in this region [SLIDE] have an occupational span ranging from the Pueblo I to Pueblo III periods (or approximately A.D. 800 to 1300). Four of the five communities included a Chacoan great house, two of which were fairly large (the Fort Site, with 50 to 100 rooms, in the Animas Community and Jaquez, with 75 to 100 rooms, in the Gallegos Community), while the other two are of unknown size due to severe erosion (the Point Site in the Point Community and the Sterling Site in the Stewart Community). In addition to these structures, dozens of small house structures dot the regional landscape.

The avocational interests of Tommy Bolack, who owns and was raised on the B-Square Ranch, led to numerous small test pits in many of these sites over the decades beginning in the 1960s and ending in 1989. Some of these were done to repair damage

caused by local pot hunters, while others were done to learn about the prehistory of the ranch. Rough sketches and field notes were made to document this work and these have been used in our analyses to determine contextual information [SLIDE]. By far, most of the excavation on the ranch occurred at two sites, the Tommy Site and Mine Canyon Site located in the Point Community. An examination of the ceramics from these sites suggests that the Tommy Site dates to the late Pueblo I/Pueblo II period (A.D. 800-1100), while the Mine Canyon Site was occupied in the Pueblo III period (A.D. 1100-1300). Over 100 human skeletons were excavated during work at the Tommy Site and 39 were recovered from the Mine Canyon Site. These remains and their associated grave goods are currently located on the B-Square Ranch. Although all amateur excavations have been discontinued on the ranch, San Juan College has conducted field schools at the Tommy Site each summer since 1999 that have been funded by Tommy Bolack and San Juan College through a cooperative agreement defining the Totah Archaeological Project (TAP).

In the summer of 2006, six graduate students and I, with crucial logistical assistance from my co-author Linda Wheelbarger, went to the B-Square Ranch to study the skeletons from the Tommy Site and Mine Canyon Site. This project, the Middle San Juan Region Osteological Project, was funded by Tommy Bolack as part of the educational and research efforts of TAP. Our study included a thorough analysis of the skeletons using the standards set out in Buikstra and Ubelaker (1994). The individual studies from the project [SLIDE] that will be presented here today include a paleodemographic analysis through time in the Point Community, a description of the paleopathology of each site, a craniometric comparison of individuals across the northern

Southwest, a DNA analysis of the skeletons, a bone chemistry analysis, and a faunal analysis of bones from the Tommy Site. These studies are intended to increase our understanding of changes in prehistoric health and diet in the region, and inform us about the impact of the rise and fall of the Chaco system on small scale regional populations.

### Regional Environment

The Point Community [SLIDE] is located on the lower slopes of the Shannon Bluffs on the south side of the San Juan River between Mine Canyon (on the east) and Head Canyon (on the west). Although the river channel has been diverted by the Bolack family to parallel the bluffs, the riverbed was located 300 to 400 meters to the north prehistorically. This would have resulted in a large amount of arable land available in the immediate vicinity of the community.

The Point Site, believed to be a Chacoan great house (Fowler and Stein 1992; Kincaid 1983; Stein and Fowler 1996), lies on a triangular portion of the sandstone bench that juts northward toward the river [SLIDE]. A feature known as the Needle Rock [SLIDE] rises above the community on its western edge. This feature is associated with two petroglyph panels and thousands of artifacts scattered on the surface near its base. Test excavations by San Juan College have not revealed any structures associated with the Needle Rock. The Tommy Site [SLIDE] lies on the lower slope of the Shannon Bluffs between the Needle Rock and the Point Site, while the Mine Canyon Site [SLIDE] is the only one in the community located on the valley floor.

The skeletal remains analyzed as part of our project all came from the Tommy and Mine Canyon sites. Although we began with the assumption that these remains

represented an ancestor/descendant relationship through time, as Snow will discuss this morning the DNA evidence from this community shows that this is not the case.

### Skeletal Analyses in the Chaco Region

To put our study in regional context, we will begin with a discussion of recent skeletal studies. The San Juan region has witnessed a flurry of bioarchaeological studies over the past two decades. This research has included studies of human remains from both Chacoan great houses and small houses (*e.g.*, Akins 1986; Akins and Schelberg 1984; Bergschneider 1996; Martin et al. 2001; Palkovich 1984), as well as studies utilizing burial patterns to better understand Chacoan social organization (*e.g.*, Heitman and Plog 2005; Neitzel 2000).

Neitzel (2000), in an examination of mortuary data to uncover evidence of gender hierarchies [SLIDE], found an interesting pattern among great and small houses in Chaco Canyon. She calculated Grave Lot Values for burials from a variety of sites across the Southwest. These values have been used successfully by many researchers to identify the presence of hierarchical forms of social organization among prehistoric Southwest populations (*e.g.*, Crown and Fish 1996; McGuire 1992; Mitchel 2003; Neitzel 2000). They are based on the full complement of grave goods, including utilitarian items, jewelry, and ritual items. Neitzel compared the Grave Lot Values of males and females in her samples to identify evidence of gender hierarchies. For the Chaco region, she found that during the height of the Chacoan period, from A.D. 900 to 1050, great houses appear to have had male dominated hierarchies, while the nearby small houses in Chaco Canyon had female dominated hierarchies. After A.D. 1100 in the McElmo phase, both

great and small houses appeared to have female dominated gender hierarchies. In the latest, or Mesa Verde period (A.D. 1175-1300), there is no longer evidence for any hierarchies among the small houses and no cases of great house burials with which to compare.

Moving outside of Chaco Canyon, and much closer to the region of our study, Martin and colleagues (2001) found evidence of the mistreatment of females at small houses in the La Plata Valley. Seven of the female skeletons (two from the Pueblo II period, three from the Pueblo III period, and two from other periods) had evidence of cranial (n=6) and postcranial (n=5) healed fractures (four individuals had both). Many of these had been haphazardly interred, either splayed on their back in a pit structure or buried in another unusual position or location (Martin *et al.* 2001:192). Three males had healed cranial fractures and three others had healed postcranial fractures, but no male had both types of injury. Two of the males with cranial fractures also were buried in unusual circumstances. Martin and her colleagues (2001:1) suggest that there was a pattern of violence against a subset of women in the La Plata Valley. Thus, the pattern of female dominated hierarchies that Neitzel (2000) found among small houses in Chaco Canyon does not appear to hold across the Chaco region.

#### Ceramic Grave Goods at the Point Community

To explore these issues for the Point Community, we have examined the grave goods associated with the Tommy and Mine Canyon Site burials. As noted above, Grave Lot Values rely on the entire range of grave goods. This includes ceramics, lithics, jewelry, and any other items used as grave offerings by a prehistoric culture. The lack of

information regarding non-ceramic grave goods prevented such an in-depth analysis here. Instead, we have examined the presence or absence, and quantity of ceramics present with the burials. Although not ideal, this will allow a glimpse into any differences in grave goods between females and males through time in the community.

The remains from the Tommy Site overlap in time with the fluorescence of Chaco Canyon, while those from Mine Canyon Site are from the post-Chacoan period [SLIDE]. Out of 106 documented burials at the Tommy Site, 42 percent contained associated ceramics. A similar percentage of the Mine Canyon burials also had associated ceramics (44%, or 17 of 39 burials).

There was a wider range of ceramics per burial at the Tommy Site [SLIDE] than was present at the Mine Canyon Site. At the Tommy Site, females with ceramics had an average of 2.4 associated vessels, with a range of 1 to 5 vessels. One of these females (TS#6) had four associated vessels and one had five (TS#10), both of which are more than any other burial at either site. Males at the site with ceramics had an average of only 1.3 vessels, with only 1 or 2 vessels per burial. At the Mine Canyon Site, females with associated ceramics had an average of 1.7 vessels and a range of 1 to 2 vessels, while the males had an average of 2.3 vessels and a range of 2 to 3 vessels. Although this is an extremely limited comparison, as it relies solely on ceramic counts rather than Grave Lot Values, this pattern does fit that identified by Neitzel (2000) for Chaco Canyon. If ceramics relate to status and the hierarchical relationship of individuals at these sites, females have more evidence of hierarchy in the earlier Chacoan period, whereas the differences even out or reverse in the later, post-Chacoan period.

## MSJROP Results

One of the major goals of our project was to document the lives of the inhabitants of a Chacoan small house and to determine whether there were changes in the community through time after the end of the Chaco period. We began with the assumption, rather the unproven hypothesis, that the two sites in our study represented the same people over the course of centuries. The results of Snow's DNA analysis proved this was a faulty assumption, and caused us to reinterpret each of our analyses in a different light.

Some of our analyses reveal little or no change through time for our samples [SLIDE]. For example, DeBoer and Tykot's stable isotope analysis shows no change in the amount of meat or maize in the diet over time, despite likely changes in the kind of meat that was eaten (the shift from artiodactyls to turkeys seen at Salmon Ruins and many other sites across the northern Southwest). Further, Greene's craniometric analysis demonstrates that there is a great deal of consistency in the skulls from the Tommy and Mine Canyon Sites, as well as similarities between these samples and Salmon Ruins.

Nonetheless, notable changes through time also are apparent [SLIDE]. As previously noted, Snow, Durand, and Smith's study of the DNA indicates that the Tommy and Mine Canyon Sites were likely occupied by two separate populations. Fuhrman's paleodemographic analysis will show that life expectancy actually increases over time, although the fertility rate declines. Pathology and activity indicators among the two samples show that females have more evidence of strenuous physical activity in the later period, while there is less difference between the sexes in the earlier sample. And my study of discrete dental traits shows differences as well, in large part mirroring the DNA analysis.

### Discrete Dental Traits

Discrete dental traits have been argued to be under tight genetic control and therefore can be used as a non-destructive means of estimating the genetic relationships among prehistoric populations (Garn 1977; Scott 1973; Scott and Turner 1997; Sofaer, Smith, and Kaye 1986). Craniometric techniques are also believed to be useful for such estimates (Schillaci and Stojanowski 2002). Rarely has there been an opportunity to compare the results of craniometric, DNA, and discrete dental trait analyses for the same population. As part of our study, I collected data on the discrete dental traits for both sites. Although more traits were scored, seven were selected for comparison with published data from modern Native American groups in the Southwest. These data, collected by Scott and Dahlberg (1982), were collected from dental casts taken of samples from the Apache, Hopi, Mohave, Navajo, Tohono O'odam (formerly the Papago), Yuman, and Zuni tribes. [SLIDE] The dental traits that are common to both studies, and that I have used for this analysis, are: shoveling of the central incisors, canine distal accessory ridge, cusp 5, Carabelli's cusp, protostylid, cusp 6, and cusp 7. The Mean Measure of Divergence statistic, as modified by Harris and Sjøvold (2004), was used to calculate the distances between the populations. The Average Linkage cluster technique was then used to create the dendrogram shown here, as it seemed to be the most discriminating solution.

As seen in this dendrogram [SLIDE], the Tommy Site sample was the most distinctive of all the samples, joining its cluster at a greater distance than any of the other samples. The Mine Canyon Site sample, however, joins the cluster with the Apache and Navajo, although at a later point than they join with each other. As will be seen in

Snow's presentation, this fits with the pattern found in the DNA analysis. The other modern samples form a separate, large cluster, with the Hopi and Tohono O'odam samples grouping first, joined by the Zuni, while the Yuma and Mojave samples form another subgroup.

The anomalous result here is the cluster grouping for the Tommy Site. In the DNA analysis, this sample falls in with the Zuni and a sample from several ancestral Puebloan sites. As noted, the Tommy Site sample is the last to join another cluster, so it may just have been a poor fit with any of these modern samples. Another possibility is that although discrete dental traits are under strong genetic control, they do not reflect the underlying genotype perfectly. Nevertheless, two conclusions can be drawn from these results [SLIDE]. First, our samples from the Tommy Site and Mine Canyon Site do appear to represent separate populations. This lends support to the argument that the reoccupation of sites in the Pueblo III period was often done by immigrants to the region. Further, the immigrants appear to have come from the north. Second, discrete dental traits appear to better reflect genetic relationships than do craniometric techniques. As Greene will show in her paper, the craniometric analysis failed to discriminate between the samples, although the DNA and discrete dental trait analyses show that they are distinct. Comparative tests of dental and cranial studies might help to determine whether our results are due to poor sample size for the crania or represent a real difference in the usefulness of the two techniques.

## Conclusions

Our next speaker will be Jesse Fuhrman, who has studied the changing paleodemographic patterns in the Point Community. Jesse's paper will be followed by those of Cathey Cline and Elizabeth Adams who will describe the paleopathology at the Tommy Site and Mine Canyon Site, respectively. Michelle Greene will then discuss the results of her craniometric study and how these results did not fit well with the DNA analysis conducted by Meradeth Snow, our next panelist. Beau DeBoer will tell us about his bone chemistry analysis of the assemblages, and what it tells us about the diet of the inhabitants of the Point Community. Erin Enright approaches the diet from a more traditional perspective, with an analysis of the faunal remains from the Tommy Site. Finally, Nancy Akins will discuss our results in light of her extensive experience with both human and faunal remains across the northern Southwest.

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