INTRODUCTION

The late prehispanic Southwest (A.D. 1200 to 1550) was a dynamic period of migration and aggregation. Our project seeks to understand how social network analysis (SNA) can provide insights into past social dynamics. We reconstruct social networks among sites via similarities assessed on a record of 4.3 million ceramic artifacts compiled by the Southwest Social Networks (SWSN) Project (Mills et al. 2011). This approach allows for a quantifiable assessment of the relationships among sites, providing a powerful tool for understanding the social dynamics of the time.

SOCIAL NETWORK ANALYSIS (SNA)

SNA is a field most widely employed in quantitative sociology, where it is used to look at the relationships or ties between actors (e.g., Wasserman and Faust 1994). Actors are represented as nodes or vertices and their connections as ties or edges.

A fundamental aspect of network analysis is that it is relational. In archaeology, these relations are defined using material culture similarities and modes of transmission. Here, settlements are the nodes and decorated ceramics are the currency of interaction. Our ties are based on similarities in ceramic frequencies using an index that is comparable to the Brainerd-Robinson coefficient (Roberts et al. 2012) used widely by archaeologists. An SNA approach to archaeological data provides a way of thinking explicitly about different kinds of ties and a formal set of methods for characterizing different kinds of networks across space and through time.

MICRO-SCALE ANALYSIS: SAN PEDRO RIVER VALLEY

The San Pedro River Valley (Figure 1) has clear evidence of ancestral Puebloan migration in the late 13th century A.D. (Clark and Lyons 2012). The non-migrant, “first-comers” constructed residential compounds and later -ceremonial platform mounds. Migrant villagers lived in pueblos, constructed kivas, and produced much of the Salado polychrome (Figure 2) found in the valley.

By the early 15th century the first-comers had constructed large platforms and kivas (Figure 3). At this time, the valley was highly connected, especially Zuni, the Mogollon Highlands, the Little Colorado, Silver Creek, and the Tonto Basin (Figure 9). Non-Plateau settlements, other than the Tonto Basin and the Mogollon Highlands, are largely disconnected from each other. A dramatic change in social relations occurs following the late 13th century migrations, shown in the network diagram of the A.D. 1350-1450 period (Figure 9). Zuni becomes much more isolated; Silver Creek is more closely tied to the Central Arizona Highlands; Hopi, Flagstaff, and the Verde Valley form another cluster; while the Tonto Basin settlements are more similar to those in the Phoenix Basin. The “networks” of the southern Southwest, largely driven by the Salado polychromes that were prominent in building relational networks at the other scales, becomes even more striking in the next two periods: A.D. 1350-1400 and A.D. 1400-1450. Villages in the Southwest are the most connected during the A.D. 1350-1400 period (Figure 10), reflecting in part the spatial aggregation of settlements. Yet, the tight cluster in the southern valleys shows that spatial propinquity does not always correlate with social propinquity.

CONCLUSIONS

In terms of the ways in which relations are constructed here, i.e., decorated ceramics, our analyses show that there is more homogenous community of practice among all the sites in the post-migration period compared to the earlier periods at micro- and macro-scales. In the southern Southeast these ties are largely based on frequencies of Salado polychromes, which are known for their ideological significance (Cowan 1994: Figure 2). Decorated ceramics, which are mostly serving bowls, were one means of bridging different communities - socially and spatially - in the late prehistoric Southwest. Communal politics and the social diversity created in the post-migration period combined to increase relations among villages across this region.

At the largest scale, however, network analyses illustrate how certain areas may have served to bridge the northern and the southern Southwest, and how different areas became disconnected. For example, the Tonto Basin and the Mogollon highlands are initially more connected to Plateau settlements than they are to other settlements below the Mogollon Rim. This change in the post-migration period with the Salado polychrome network incorporating a diversity of areas unlike the rest of the Southwest. This scale-cleary shows the impact of migration on changing social relations in the Southwest and also how scale changes the perspective from one of greater connectivity over time to one with greater differentiation.

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