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Core and Periphery Models during the Neolithic – Is the Analogy Appropriate?

The theme of this volume is Jordan through the millennia. When viewing the prehistoric past, a thousand years may not seem to be a great deal of time. But as the millennia progress towards the present, major human events unfolded at a quickening pace. One can reasonably argue that those few short millennia during which the transformation from hunting and gathering to food production, or the so-called “Neolithic Revolution,” occurred was one of the most significant events in human evolution. This event set the stage for subsequent cultural development not only in Jordan, but ultimately throughout the western world.

If we change our time focus from millennia to decades, the past twenty years have witnessed another “Neolithic Revolution” in a sense, one that involves our unraveling of Neolithic archaeology. There has been a tremendous acceleration of research on Neolithic settlements in Jordan that has radically changed our comprehension of this complex period. Our previous understanding of the Neolithic was relatively simple: there were “big” sites, like Jericho, representing regional centers; and there were “little” sites, like Bayḍa, representing much smaller villages. Contemporary research, however, has greatly complicated the situation.

Our current conception of the Neolithic has changed dramatically as a result of investigations at many huge settlements that dwarf even Jericho. These include ‘Ayn Ghazāl (Rollefson *et al.* 1992; Simmons *et al.* 1988), Wādī Shu‘ayb (Simmons *et al.* 1989), Baṣṭa (Nissen 1990; Nissen *et al.* 1991), ‘Ayn Jammān (Waheeb and Fino 1997), and aṣ-Ṣifiya (Mahasneh 1997). At the same time, new research at more modest communities, such as al-Ghuwayr I (Simmons and Najjar 1996; 1998) or Ba‘ja (Bienert 1997), has also demonstrated that an incredible amount of settlement diversity characterized the Neolithic. We have enough data now that the time is ripe to examine the Neolithic from a regional perspective. There are many ways in which to do so, and in this paper, I present an initial attempt that looks only at one issue, the

relationship between the huge “mega-sites” and the smaller communities. In particular, I wish to examine if the theoretical framework known as “core and periphery” is an appropriate model with which to characterize the Neolithic.

First, however, some background is necessary. The large Jordanian settlements have drastically modified our view of the Levantine Neolithic. These centers were different that those closer to the Mediterranean coast, and, falling slightly outside of the so-called “Levantine Corridor” (cf. Bar-Yosef and Cohen 1989; Bar-Yosef and Meadows 1995), probably represented unique desert-edge adaptations. They generally flourished and expanded during the late Pre-Pottery Neolithic B, often contain a transitional Pre-Pottery Neolithic C phase, and then continue, often in a “downscaled” version, into the Pottery Neolithic, after which they are abandoned (Simmons 1995; 1997). Reasons for the abandonment are undoubtedly complex, but compelling arguments have been made that the residents of these enormous settlements mismanaged farming and herding activities to the point of creating ecological chaos. An adaptive response was for some people to move to desert areas and adopt a nomadic lifestyle, while others remained at the large settlements and continued farming until this, too, was no longer viable (Köhler-Rollefson 1988, 1992; Köhler-Rollefson and Rollefson 1990; Rollefson 1997). In a sense, this probably represents the genesis of the classic Near Eastern economic dichotomy between the “desert and the sown.”

In addition to large settlements, numerous small sites are known throughout the Levant, and many occur in the more marginal environments of the southern and eastern deserts (Bar-Yosef 1981, 1984; Betts 1990; Garrard *et al.* 1994, 1996; Simmons 1980, 1981). Some of the southern sites are small villages, while others probably reflect logistical camps away from villages, “Neolithic” hunter-gatherer populations, or farmer/pastoralists. Such small sites have prompted some researchers to claim that the Neolithic adaptation in the semi-arid zones was character-

ized by seasonally-mobile hunters and gatherers, or by Neolithic groups making use of a "pastoral package" (Garrard *et al.* 1996:221).

It is clear that some very interesting and highly variable events were occurring during the Neolithic in Jordan. One thing I find curious is that there seems to be a relative lack of Neolithic diversity in central and northern Jordan, where large, nearly "urbanized" communities appear to be the normal adaptation, and smaller sites seem to be rarer. This is in contrast to the south, where in addition to numerous small sites, recent work has also uncovered very large settlements. This, of course, argues against a simple seasonal occupation of the south. In the eastern deserts, however, small sites seem to be the only type present.

It is likely that the roots of what Karl Butzer (1996) has termed the "Mediterranean Agrosystem" were established during this time. During the Neolithic, many profound social changes occurred that had important consequences for the subsequent emergence of civilization in the Near East. The Neolithic witnessed the first true experiment with prolonged communal living, the establishment of sedentary communities, and the inevitable increasing of social complexity. At large "urban" settlements, at least those in central Jordan, intense farming and herding activities had major ecological impacts that required the reorientation of social structure towards the end of the Neolithic. Can such a pattern be documented at smaller settlements located in different environments? Indeed, one may well ask what was the relationship between the large communities and their smaller counterparts? Was there, in fact, a relationship at all, or were these groups of Neolithic peoples unaware of each other's existence?

It was with these sorts of questions in mind that a recently initiated project at al-Ghuwayr I, a small but exceptionally well-preserved PPNB village in the remote Wādī Faynān of southern Jordan, was undertaken (Simmons and Najjar 1997; 1998). While the results of this interdisciplinary study are on-going, the following discussion addresses the types of questions being asked of al-Ghuwayr I and its relationship within a wider Neolithic world.

To fully explain the diversity represented in the Neolithic record of Jordan, we need to focus on the linkage of several complementary research domains. These include social and economic distinctions and possible trade relationships between small "rural" and large "urban" settlements; ecological impacts and their affect upon society; chronological trajectories of village development; and paleoenvironmental reconstruction. In the remainder of this paper, I examine only the first of these issues, exploring potential interactions between some of the large core centers and smaller rural settlements.

The "core/periphery" model, developed from Emmanuel Wallerstein's (1974) World System Theory, has been applied to many complex post-Neolithic societies with considerable success, with the realization that some aspects of it, especially relations of consumption, trade, and dependency, may be appropriate in pre-modern contexts. Guiermo Algaze's (1986, 1989) conceptualization of the Uruk expansion in Mesopotamia is one compelling use of ancient core/periphery models. He proposed that during the fourth millennium BC, highly integrated southern Mesopotamian core Urukian societies had established a system of interaction tying their resource-deficient homeland with the resource-rich, but less-developed, highland periphery. He felt this was an early example of a "world system" based on asymmetrical exchange and on hierarchically organized divisions of labor that played a major role in urban expansion and emergent social complexity. Archaeologically, the Uruk expansion included small and strategically located settlements whose primary function was to control the flow of resources into the core area. Resources consisted of both essential unprocessed materials and rare, exotic materials, necessary for the maintenance of social and political relationships within elite groups.

We might ask if a modified core/periphery model is applicable to earlier, Neolithic societies as well, which may have lacked the economic, organizational, and social elaboration necessary to ensure continual interaction between core centers and peripheral communities. After all, the Neolithic represents the first experimentation with full-time community living. There simply may not have been the need for elaborate interaction systems within the still relatively low population densities that characterized the Neolithic. But, if a modified core/periphery model can be applied, what would the archaeological reflection be? Already, if the pattern observed in central Jordan is correct, we have seen that the large core settlements there apparently did not support smaller local satellite sites, while in the eastern desert, large communities appear absent. But, in the south, both large and small settlements existed. Can using a core/periphery approach help us to better comprehend the social complexities that may have emerged during the Neolithic?

Much of the core/periphery distinction revolves around an economic framework. A system of tribute and redistribution is critical, with primary producers often creating surpluses. Such surpluses were then redistributed from centralized communities through an elaborate system of trade. Often, a pattern of unequal exchange and exploitation between core and periphery develops, with the core communities largely being beneficiaries of "elite" commodities at the expense of smaller rural settlements. Within this model, there often is at least an implied dependency relationship as well. While this can be a highly

successful system, it also can ultimately lead to destabilization, and could have been particularly acute in the face of deteriorating climatic conditions. Thus, the core/periphery model could be a potentially powerful interpretative device for critically examining the Jordanian Neolithic, and might help explain the diversity of site types observed, for at least southern Jordan.

This does not mean that we can completely transplant a core/periphery model to the Neolithic. There are clearly aspects of a such a model that will *not* be appropriate for the Neolithic. For example, it is unlikely that it will be possible to identify core-originated Neolithic "enclaves" as opposed to indigenous Neolithic development. The distinctive ceramics that allowed Algaze to identify Uruk components in peripheral areas are, of course, lacking during the Pre-Pottery Neolithic. Diagnostic artifacts, such as projectile points, may indicate regional linkages, but such arguments are tentative. Architecture is perhaps more sensitive, but this remains to be demonstrated. Furthermore, given the lack of written records, episodes of conquest or colonization would be difficult to precisely identify; indeed, there is relatively little evidence for conflict during the Neolithic.

We might, however, more profitably be comfortable with the distinctions simply between large, "urban" settlements, and smaller, "rural" communities rather than true core/periphery models. Settlements such as 'Ayn Ghazāl, Wādī Shu'ayb, and Baṣṭa might be considered core sites, while many including al-Ghuwayr I, would fall within the category of smaller, rural or peripheral settlements.

It is likely that the emergence of territoriality during the Neolithic was based on competition for scarce resources amongst increasingly expanding groups (Bar-Yosef and Meadows 1995:80-82). Thus, it is possible that with the establishment of both large and small settlements, the requirement for some sort of centralized redistribution based on trade goods and economic surplus may have developed. It is unlikely that true dependency relationships existed at this early stage. More likely, settlements arose independently, and self-sufficiently, in a wide variety of environmental settings, producing their own essential materials. Such settlements, however, may have participated in wide-spread trade of exotic materials. While we cannot claim that the large Neolithic communities were located in resource-depleted areas, as during the Uruk, it is known that exotic commodities occur at many Neolithic "core" settlements. These include materials from southern Jordan, such as bitumen, Red and Mediterranean Sea shell, and malachite or turquoise (cf. Rollefson *et al.* 1992).

What is clearly needed in this new level of Neolithic research is to start looking at the Levantine Neolithic from a broad, regional orientation. In particular, an examination of where large and small sites occur on the landscape is necessary. While lacking the major riverine resources

of Mesopotamia, there are abundant wadi systems in the Levant that were major trade routes during later, post-Neolithic times. Perhaps the same was true during the Neolithic. We know that the Wādī Faynān served as a major trade route for copper as early as the Chalcolithic (Hauptman 1990); were small Neolithic sites such as al-Ghuwayr I part of even an earlier trade network? Certainly al-Ghuwayr I's location on a hillslope overlooking a major wadi that originates in the Jordanian Plateau uplands and drains to the Mediterranean suggests a strategic positioning appropriate for a "highway of commerce." Of course, this proposition requires refinement: these wadis are east-west running, while commerce with some core settlements such as 'Ayn Ghazāl or Jericho would have been north-south oriented. The Arava, however, to which the Wādī Faynān drains, would have been an ideal north-south corridor.

A simple distinction, however, between "large" and "smaller" sites is an unsatisfactory explanatory device. There is growing evidence suggesting that regional hierarchies, social stratification, and wealth differentiation existed during the Neolithic, especially at large settlements (e.g., Bar-Yosef and Meadows 1995:73-82; Garfinkel 1987; Kuijt 1995; Rollefson 1986). One might ask if the smaller communities were only frontier outposts, perhaps of limited complexity, or if they represented smaller "elite" villages that also enjoyed many of the benefits of the larger, more urban, settlements. This type of contemporary research has generated several questions relating to Neolithic complexity. These include the following. Is the use of "urban" for the core sites an appropriate analogy, or are we dealing more accurately with emerging chiefdoms? Did the smaller communities participate in a wider trade network with large settlements, and if so, to what degree? What was the range of interaction--were small southern sites engaged in trade with only the large southern sites, or did this network expand northward as well? Were the small sites as deeply affected by ecological degradation as at the larger communities? Do such smaller sites exhibit any social stratification and ceremonial elaboration? Can we see specific differences in material culture and burial patterns between the small and large sites? Did the smaller sites serve as intermediaries between settled villagers and Neolithic peoples who maintained hunting and gathering life styles? Finally, a still major issue is chronological: are the small and large sites contemporary components of the same settlement system, or were the small sites settled first, and then aggregated into the larger settlements?

In conclusion, although the Neolithic only covers a few millennia, which in terms of early prehistoric archaeology is not a huge amount of time, the very foundations for the subsequent development of civilizations occurred during this pivotal time. It is now becoming clear, as research

paradigms have progressed from description to explanation, and a new "Neolithic Research Revolution" emerges, that crucial issues relating to increasing social and religious complexity, as well as to fine-tuned adaptations to arid environments were being formulated during the Neolithic. By taking a "big picture" perspective that a regional focus can provide, researchers are certain to come away with a better comprehension of the incredible diversity and complexity that characterized the Neolithic. By understanding this, we will gain considerable insight into the remarkable cultural achievements that followed.

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