

BRAIDWOOD'S AXIOM AND KENYON'S CHRONOLOGY: COMPLEXITIES AND THE NEOLITHIC OF SOUTHWESTERN ASIA

BRAIDWOOD ÖNERMELERİ VE KENYON KRONOLOJİSİ: BİLEŞİKLER VE GÜNEYBATI ASYA'DA NEOLİTİK

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Neolitik Devirde güneybatı Asya'nın yarım asır önce düşünüldüğünden çok daha karmaşık bir sosyo-politik ve sosyo-ekonomik düzene sahip olduğu artık açıkça ortaya konulmuştur. "Hilly Flanks" (Dağların Yamaçları) bölgesinden biriken veriler Neolitik'in ekolojik (çevrebilimsel) olarak farz ettiğimizden çok daha karmaşık ve kültürel olarak da çok daha çeşitli olduğunu ortaya koymuştur. Bu karmaşıklıkları doğru ele alarak tanımaya çalışmak gerekmektedir ve eğer güneybatı Asya'nın Neolitik'ini anlamak istiyorsak bu tanımlamayı yapmamız gerekmektedir

Introduction

The words "complexity" and "Neolithic" are so often used together now that we tend to forget that only about 40 years ago scholars were genuinely surprised by the complexity evident at (then) newly-excavated sites such as Jericho and Çatal Höyük. The complexity that scholars were surprised to see then and still regularly analyze is a reflection of socio-political and socio-economic organization, as variously expressed in site size, substantial public architecture, symbolic art, evidence of cultic activities, etc. However, such socio-cultural complexity is by no means the only kind of complexity possible; nor, is it the only kind becoming increasingly visible in the early Neolithic sites of southwestern Asia.

The early excavations at Jericho and Çatal Höyük falsified then-current implicit assumptions concerning the socio-political and socio-economic complexity of the Neolithic societies that once inhabited southwestern Asia. Subsequent work over the next forty years has made and continues to make increasingly clear just how socio-culturally complex such societies actually were. However, the cumulative weight of the data from this subsequent work, particularly in southeastern Anatolia, suggests that our current implicit assumptions concerning ecological complexity and cultural diversity in the Neolithic of southwestern Asia are in many ways as simplistic as were our views forty years ago of social complexity in the Neolithic.

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Braidwood's Axiom and Adaptive Diversity in the Neolithic

The fundamental insight that guided Braidwood to explore the 'Hilly Flanks' natural habitat zone of the major Near Eastern domesticates, excavating first at Jarmo and later at Çayönü, can be conveniently labeled "Braidwood's axiom" - the self-evident proposition that a resource species had to have been present in a population's physical environment in order for it to have been exploited/domesticated by them. Braidwood's success at discovering Neolithic sites at first Jarmo and then Çayönü triggered additional excavations in other parts of the Taurus-Zagros highlands (e.g., Hole, et al 1968; Smith 1968, 1970, 1972). To this developing corpus of excavated data was added the results of the early paleo-environmental work (e.g., D. Zohary 1969; M. Zohary 1973), which documented that the various domesticates had general ranges within the 'hilly flanks' that were not identical.

The result was the gradual development of a broad consensus that there was indeed some variability in the subsistence adaptations of proto- and early Neolithic groups in southwestern Asia, with sheep/goats being first domesticated in the Taurus-Zagros arc and cereals in the Levant, etc. (e.g., Hole 1984; Bar-Yosef & Meadow 1995). Such variability was attributed to being a product of general environmental variability, within the framework of a basic adaptation revolving around the exploitation of whatever cereals and animals were available in a given region.

However, this widely accepted degree of broad ecological diversity does not do justice to the high degree of more local variability that likely actually existed among the early sedentary societies of southwestern Asia. Thus, the recent data from Hallan Çemi, indicating an economy at that site revolving around the exploitation of nuts instead of cereals, was something of a surprise; and, a particularly puzzling one given the equally recent genetic studies suggesting that emmer

wheat was first domesticated only a little more than 100 km away from that site at **approximately the same time**.

If Braidwood's axiom states the obvious fact that something has to be present to be exploited, the second part to properly understanding what was happening in southwestern Asia at the dawn of food production derives from Evolutionary Human Ecology theory (e.g., see Smith 2000). It is a body of models collectively referred to usually as optimal foraging theory (e.g., see Kelley 1995). In essence, it presumes that groups have a general knowledge of the range of exploitable (within the framework of an existing extractive technology) resources available to them within their territories and it holds that human local groups will generally utilize whatever mix of resources maximize the nutritional returns on the energy they expend on subsistence related activities. Thus, if a resource is present in the environment, it likely will be exploited to a lesser or greater degree and one can expect to find significant variability between the economies of even neighboring groups, based on local differences in resource availability, density, desirability, etc. This expectation is consistent with what is perhaps the largest ethnographic study of local hunter-gather/incipient food producer groups ever published: Steward's (1938) study of the Shoshonean native American groups inhabiting the southern Great Basin plateau of North America. There, while the 'regional' subsistence system can be generally said to revolve around the exploitation of pinyon nuts (much as we tend to talk about the general patterns in southwestern Asia), there was a high degree of local variability and actually some areas where pinyon exploitation played no significant part in the economy at all, due to lack of local availability.

Such high variability was also almost certainly the reality for local subsistence adaptations in southwestern Asia at the end of the Pleistocene, even within what have hitherto been viewed as sub-regions typified by a 'characteristic' adapta-

tion (e.g., southern Levant, northern Levant, southeastern Anatolia). If nothing else, the botanical data from Abu Hureyra (e.g., Hillman et al. 1989) show quite clearly that early sedentary societies in southwestern Asia made extensive use of the full range of resources available to them. One can logically extrapolate from that conclusion to the further conclusion that they did so systematically, not randomly - in a manner that maximized nutritional returns on energy expenditures. Thus, cereals were no doubt extensively exploited in those local territories where they were densely plentiful, less extensively exploited in local territories where they were less readily available, and not exploited at all in those local territories (such as the vicinity of Hallan Çemi) where they were not available at all (Rosenberg et al. 1997).

Viewing post-Pleistocene adaptations in southwestern Asia with an appreciation for the proper degree of local variability likely encompassed by them does two things. First, it warns us away from sweeping conclusions based on the economic data from any one site, or even a single occupational episode at one such site. For example, just because the inhabitants of Hallan Çemi may have practiced a rudimentary form of pig husbandry (Rosenberg et al. 1997), does not inevitably lead to the expectation of finding the same economic behavior being practiced by every other local community within the area, or even by later communities occupying the same territory (e.g., Demirköy, Körtik). This is because the economic behavior in question was presumably practiced in order to efficiently exploit a territory in the context of environmental (and social) conditions to some degree unique to that time and place - i.e., the Batman drainage at the very end of the Younger Dryas. In other words, it was based on the real (or perceived) 'needs' of a specific group in a specific environmental context that would not have been identical to the situation faced by later groups or contemporary groups living only 100 kilometers to the west - for whom cereals were apparently available, because they were appar-

ently being domesticated there at the same time. Only when those needs can be established to have existed over a wider area, can the economic behavior in question be reasonably expected to occur over such a wider area.

Secondly, it warns us away from sweeping explanations of some regionally-widespread behavioral change that propose the behavior in question to have resulted from the exploitation of some specific resource. This is because (given local variability in adaptations) we can safely assume that some of the sites exhibiting the behavior being explained by the generalization made minimal or perhaps even no use at all of the specific resource proposed to have precipitated it. Thus, for example, it has been suggested that the shift from mobile foraging to sedentism at the end of the Pleistocene was motivated by the growing availability of cereals at that time (e.g., Henry 1991; see also McCorriston & Hole 1991). In this particular case, the evidence of exceptions is quite clear; at least in the case of Hallan Çemi, we have sedentism in the absence of cereal exploitation. This is not to say that the climatic and associated environmental changes attendant on the end of the Pleistocene did not play a role in the abandonment of mobile foraging lifeways; the coincidence is too strong to ignore. Nor, is it to say that the greater availability cereals and **other resources** as a direct result of such changes, did not make **possible** such sedentism (e.g., see suggestion by Richerson et al. 2001). It is simply to say that any explanation revolving around the exploitation of a single resource or resource class as **the** cause of sedentism is reliant on a regional uniformity of adaptations that is highly unlikely to have ever existed anywhere.

Kenyon's Chronology and Cultural Diversity in the Neolithic

A half century ago, when confronted with the need to chronologically subdivide the surprisingly deep Neolithic deposits at Jericho, Kenyon (1957) seized on obvious architectural

differences in style and building materials to differentiate periods of occupation at that site. The architectural attributes for the aceramic periods, in turn, were eventually found to be strongly associated with elements of larger, more general cultural complexes characterized by a host of distinctive religious, architectural, and artistic features, as well as distinctive chipped stone tool technologies. For that reason, the chronological framework Kenyon constructed for the aceramic periods (i.e., PPNA, PPNB) has held up remarkably well in the southern Levant, with only minor modification (e.g., the suggested addition of a PPNC phase).

With the initial flowering of Neolithic research in the highlands of southwestern Asia from the 1960's onward, it was soon noted that aceramic sites in more distant areas (e.g., Syria and southeastern Anatolia) often contained chipped stone tool assemblages that included some of the more distinctive Levantine components. This quickly led to the almost casual application of the terms 'PPNA' and 'PPNB' to sites in those areas as well, typically in order to invoke the relatively safe (and convenient) chronological connotations, but sometimes also implying a more general cultural connotation (e.g., Cauvin 1988).

The first - and thus far, only - serious attempt to address the significance of these similarities and the socio-geographic relationships implicit in the geographically far-flung application of these originally-local labels was by Bar-Yosef and Belfer Cohen (1989). They suggest that the similarities were diffusionary products of a regional "PPNB interaction sphere," rooted in trade as a by-product of increasingly far-ranging hunting forays/expeditions by now-sedentary (and more spatially restricted) communities. The actual merits of Bar-Yosef and Belfer-Cohen's proposed mechanics aside (suffice it to say that they are plausible), two points are worth noting. First, they restricted their analysis to sites in the northern and southern Levant, a region in which sites often referred to as PPNB do in fact exhi-

bit a large and diverse (but not necessarily uniform) set of similarities. Second (and more potentially troublesome in its potential), implicit in their model is the view that this diffusion led to a regional 'culture' complex geared to local demographic circumstances and thus accounting for the lack of (e.g., architectural) uniformity in some areas. While such a view of the sites Bar-Yosef and Belfer-Cohen actually dealt with directly is not necessarily wrong, it did open the door to making the same assumption (as regards to inclusion in a widespread regional culture complex) about any other site so labeled as part of the "interaction" sphere in the future by others. In other words, any other site, no matter how different in however many other aspects of culture could be labeled as belonging within this regional culture complex even if the only point of similarity is some limited aspect of the chipped stone assemblage.

One particularly distinctive element of the Levantine 'PPNB' complex is a type of sophisticated prepared blade core - termed naviform-. These were apparently used to produce long relatively straight blades for the manufacture of (among other artefacts) large projectile points (cf. Wilke & Quintero 1994). Such cores occur at northern and southern Levantine PPNB sites, and also at aceramic sites well outside that area - along the upper reaches of the Euphrates in southeastern Anatolia, and even as far away as central Anatolia.

The presence of these distinctive cores in more distant locales points to obvious contacts with the Levant that cannot be denied, even if such contacts were only in the form of trade limited to the core performs - a form of contact entirely consistent with an "interaction" sphere. However, the presence of such cores, in turn, has led to the frequent application of the label 'PPNB' to some of these more distant sites as well. Sometimes, the usage of PPNB was meant in the original chronological sense, implying a contemporaneity with Levantine PPNB sites. However, sometimes it is not clear whether

more of the accrued cultural meaning (e.g., Cauvin 1988 or Bar-Yosef & Belfer Cohen 1989) is implied. Moreover, even the relatively conservative chronological usage is increasingly suspect with distance. Thus, Kenyon's terminology has become a source of confusion at best, and at worst misleading in the matter of the more distant sites outside the Levant.

For example, few would seriously propose that Aşıklı (in central Anatolia) is closely related culturally to sites exhibiting the full complex of traits that define the Levantine PPNB, despite the presence of naviform cores at that and nearby sites (cf. Balkan-Atlı, et al. 2001; Didier & Balkan-Atlı 2001). Yet, all too often that is precisely what is loosely implied by applications of the term to somewhat closer sites in southeastern Anatolia (e.g., Nevalı Çori, Cafer, Çayönü).

Here, the presence of naviform cores is supplemented by the presence of Levantine type points. This pairing is apparently considered sufficient justification for referring to them as PPNB, despite the numerous other cultural dissimilarities between the southeastern Anatolian and Levantine sites. Those dissimilarities are not identical to the ones that differentiate central Anatolian from contemporary Levantine sites, but they are every bit as numerous and pronounced.

For example, the southeastern Anatolian sites are distinguished by the absence of Levantine architectural forms and the presence of distinctive sequential domestic forms (grill, channel, and cell plans), as well as distinctive types of public structures that have no counterparts in the Levant. The building materials employed also differ from those employed in the Levant. True, plaster is commonly used in both areas. But, like naviform cores, that is a technological element quite capable of independent diffusion in the absence of other cultural traits and, thus, meaningless with respect to cultural association. In the domain of ritual life, all that the two areas can be said to have in common is the fact of a

complex ritual life. In detail, their respective religious complexes are vastly different. In fact, the only point of real similarity is that mortuary cults (albeit different ones) seem to figure prominently in both. But then, mortuary cults figure prominently in many ancient and modern cultures (including the central Anatolian Neolithic) and the simple existence of a mortuary cult in both areas is very weak grounds for assuming cultural affiliation.

The strongest element implying some tie between the sites in southeastern Anatolia and the Levant are the presence of the afore-mentioned projectile points with Levantine affinities. These are stylistic elements of culture and commonly used (for good reason) as reliable indicators of cultural affiliation. Thus, the presence of Khiam type points at sites in northern Iraq is the basis for often referring to the latter as PPNA sites and the presence of Byblos type points at sites in southeastern Anatolia is often the basis for referring to those sites as PPNB sites. However, as noted by Bar-Yosef and Belfer Cohen (1989), points are commonly traded. Thus, their presence at the fringe of the Levant does not automatically imply some cultural affiliation of local communities with the Levantine Neolithic complexes, all the less so if other local types are also present.

Such local types - specifically hollow base and fish-tail points - are in fact present at Southeast Anatolian 'PPNB' sites. Moreover, the distribution of hollow base and fish-tail points is generally consistent with that of the other cultural traits that distinguish southeast Anatolian so-called 'PPNB' sites from Levantine PPNB sites. This suggests that these fish-tail/hollow base points are the true cultural markers for the southeast Anatolian late aceramic (i.e., 'PPNB') complex and that the Byblos points represent a culturally intrusive element that traveled with the naviform technology, perhaps by trade as suggested by Bar-Yosef & Belfer-Cohen (1989).

Similarly, local Nemrik points are common at

early aceramic (i.e., 'PPNA') sites in northern Iraq. Their continued occurrence further north into southeast Anatolia (without accompanying Khiam points) again corresponds to the distribution of cultural traits characteristic of that region at that time (e.g., sculpted 'pestles'), but absent from the Levantine PPNA complex. Thus, for the early aceramic also, Levantine elements must be considered intrusive and a product of trade or some other form of contact with Levantine groups exploiting the Syrian plateau for resources such as perhaps game animals.

Naviform cores represent a technological element, capable of spreading on the basis of need, independently of the other cultural elements that defined the group that invented the technology. One of their functions was the production of large straight blades for the manufacture of large projectile points. Such points are common in both the Levant and southeastern (as well as central) Anatolia, but in areas outside the Levant they were clearly employed to produce points of local design, indicating cultural differences between the groups using the technology. One can focus, as does Kozłowski (1999, 97ff.), on the general phenomenon of large points being present over a wide area during the 'PPNB,' and doing so is probably more meaningful than simply talking about the points as PPNB index types. However, focusing on large points as a general type, is unlikely to yield meaningful answers concerning 'who' made them; and, instead raises questions about function and 'why' widespread groups would opt for changing to the same type of weapon - each in their own way.

More importantly, even the conservative, strictly chronological usage is problematic. For example, while the presence of naviform cores and Byblos points at central and southeastern Anatolian sites clearly indicates they were occupied at **some** time during what was the PPNB **in the Levant**, referring to them as 'PPNB' sites implies that the **local** period into which these sites fall corresponded to the Levantine PPNB in

its full duration. While such a uniformity of duration over all of southwestern Asia may ultimately prove to be the case for the PPNB (particularly if Bar-Yosef & Belfer Cohen's mechanism proves to have been the operational cause), that fact has yet to be established and no such regionally applicable explanatory phenomenon exists for the PPNA.

Discussion

The shortcomings and pitfalls of applying the terms PPNA and PPNB to sites outside of the Levant are commonly acknowledged in private conversations, but resistance to formally moving away from them is deep. The most commonly offered rationale for their continued usage is that 'everyone understands what they mean' and moving to an alternative set of terms 'would sow confusion.' **My point is that:** Everyone **recognizes** the terms, but knowing what they mean is another matter entirely; and, yes, everyone knows what they mean **for the Levant**, but they mean different things for different scholars when used outside the Levant. Thus, applying Kenyon's terminology for culturally defined groups outside of the Levant obscures much more than it elucidates. In fact, all the terms 'PPNA' and 'PPNB' do consistently is convey the rough chronological meaning of "early" and "late" aceramic Neolithic (for PPNA and PPNB, respectively) and do even that poorly because they further imply that the early and late aceramic began and ended at the same time in all areas. If that is all they actually **do mean**, then why not simply use "early aceramic" and "late aceramic" for the regional temporal terms, with meaningful named regional expressions and subdivisions as needed? Doing so would allow us to deal with these diverse local areas independent of *a priori* terminologically-based implications, which is a pre-requisite for coming to a proper understanding of the various cultural entities that inhabited southwestern Asia during the Neolithic.

Peasall (2000) has recently taken a significant

step away from using the Levantine terminology, by using the culturally-neutral term "round house horizon" in his analysis of the earlier aceramic periods along the Taurus-Zagros highlands. I suggest that we follow his lead and build on it. This round house horizon can be subdivided into an early and late period. **In the Levant**, these periods are called the Natufian and PPNA, but the round house periods in the highlands (and sub-divisions thereof) remain to be delineated, named and their durations remain to be determined. In this matter, I suggest we follow established tradition and name the periods after the first discovered sites that are clearly attributable to these periods - Zawi Chemi (Zawian) for the early round house period and M'lefaat (M'lefaatian)¹ for the later round house period.

Differentiating between the local regional expressions of the "late round-house period" in, for example, the Levant (as the PPNA) as opposed to its manifestation along the upper Tigris (as perhaps the Zawian) would allow us to discuss the characteristics and dynamics of the period in general terms without weighing that discussion down with the implicit invocation of cultural specifics that are not truly regional in reality. Thus, rather than merely cite Khiam points as the basis for attributing Iraqi sites to the PPNA, the focus would shift to the more meaningful subject of the dynamics that led to their intrusive presence in northern Iraq (as Bar-Yosef and Belfer-Cohen did in passing for the PPNB). That is, to say that PPNA type points are present at PPNA sites is to simply state the expected; but, to say that late round-house points (Khiam) associated with one late round-house culture (PPNA) are present at some sites attributable to another such culture is

to say something very **different** - something that requires explanation, and leads to a discussion of what form such contacts took and what the possible consequences of such contacts were.

The same needs to be done for later periods as well, and for much the same reasons. We need to distinguish between the Late Aceramic as a general period in southwestern Asia (and during all or part of which the PPNB interaction sphere was operative) and local late aceramic cultures (with their local phases), such as the PPNB in the Levant (early, middle, late) and what we can perhaps call the **Çayönü"n"** (grill/channel, cell) in the upper Tigris and Euphrates drainages of southeastern Anatolia. By doing so, we put southeastern Anatolia on a conceptually separate cultural footing from the Levant, forcing us to prove the Levantocentric implications of the current usages, rather than assuming them. They may ultimately prove to be correct. But, we do need to prove them so, and that outcome is by no means a foregone conclusion. The familiarity of the existing terminology is a false comfort. It hinders our quest for a fuller understanding of the Neolithic in southwestern Asia.

In conclusion, the Neolithic of southwestern Asia is now widely acknowledged to be significantly more socio-politically and socio-economically complex than we imagined only a half century ago. It is time we bow to the weight of the accumulated evidence and formally acknowledge that it is more ecologically complex and culturally diverse than we have been willing to grant thus far. By doing so we can move on to the next level of analysis and begin seriously addressing the significance of these other complexities.

NOTE

¹ This use of M'lefaatian as a named period is not to be confused with Kozłowski's (1977) attempt to define a lithic 'industry' given the same name by him.

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