

Early Near Eastern Production, Subsistence, and Environment 8. Berlin: ex oriente.

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Supra-Regional Concepts II

Can We Identify a Centre, a Region, or a Supra-Region for Near Eastern Plant Domestication?

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Introduction

In this note I concentrate on the first part of the Neolithic, the PPNA (defined here chronologically, c. 10,200-9,500 uncal. BP). Some contributors to this workshop have proposed that this period has been relatively well understood for some time, particularly with regard to plant domestication. In contrast, I believe that the publication in the last decade of high-quality archaeobotanical data, from both PPNA and PPNB sites, suggests a radically different scenario to that based on the classic excavations of the 1960s/70s. New data both allow us to critically re-examine some older views, e.g., of the "Levantine primacy school", and to compare regional trends in much greater detail than before.

Reassessing Levantine Plant Domestication

A key piece of evidence for the primary role of the Levant (in the traditional, narrower definition of the region) in plant domestication is that the earliest remains of domesticated plants are found at sites in the region. There is

still no evidence for PPNA domestication in other regions, but the PPNA evidence from the Levant now looks less secure (see Nesbitt 2002 for full review and citations).

There were two important sites from the 1960s/70s period. PPNA Tell Aswad has convincingly domesticated emmer grains, but no direct dating and, from the new excavations (see Stordeur's article) no evidence for the PPNA. The well-known material from Jericho reached full publication in 1983, by which time virtually all the domesticated material had been reassigned to the Pottery Neolithic, and the remaining PPNA period material (still dubious) is dated 9,300-9,200 BP.

In the 1990s Iraq ed-Dubb appeared to provide further evidence of PPNA domestication; however the small quantity of plant remains is compromised by the lack of direct dating, and the known intrusion of plant materials from upper levels to lower.

In conclusion, there is no archaeobotanical evidence – the *only* reliable form of evidence for plant domestication – in the Levantine PPNA, and therefore no evidence that agriculture started there first.

What Was Happening in the PPNA?

In contrast to the modest, poorly dated seeds from the above sites, more recent work has added some really substantial datasets that bear a very different interpretation. At Netiv Hagdud, in the Levant, there is good evidence from chaff for absence of domesticates, and a diet based on collection of wild barley and other food plants.

The most significant development for this period has been the excavation in the 1990s of PPNA-period sites in the northern Fertile Crescent, at Jerf al Ahmar (Syria), M'lefaat and Qermez Dere (Iraq) and Hallan Çemi (Turkey). The absence of PPNA sites from the region, despite the presence of Epipalaeolithic sites such as Abu Hureyra and Mureybit, was surely a key factor in the development of the Levantine primacy hypothesis. In terms of plant economy, the plant remains are comparable to those of Netiv Hagdud, with evidence from chaff for absence of domesticates at Jerf al Ahmar, and comparable plant remains (though lacking chaff) from the other sites.

At the same time as demonstrating lack of domestication, there are fascinating hints of cultivation/domestication. George Willcox (2004) has recently drawn attention to possible increases in grain size prior to full domestication at Jerf al Ahmar, possibly the result of selection for seed size during cultivation of the wild cereals. Sue Colledge has used statistical analysis of "weed" floras to postulate cultivation of wild cereals at a number of late Epipalaeolithic and PPNA sites (Colledge 2001).

Experimentation with cereal cultivation across the western and northern (W/N) Fertile Crescent, during the PPNA, will be difficult to prove, but seems a highly plausible precursor to domestication in the PPNB. This has a special importance for the topic of this workshop. We know that (a) wild ancestors of crops were present throughout the W/N Fertile Crescent from 10,300-9,500 BP, (b) cultivation of wild grains was likely taking place at sites in both the W/N Fertile Crescent, (c) there is no secure evidence that domestication of plants took place in the Levant before elsewhere. Therefore, any consideration of the origins of the PPNB farming economy need to look at the W/C Fertile Crescent as a whole (as a "supra-region") rather than assuming a narrow region of origin. I think this fits well with evidence from projectile points (similar over long distances) of extensive "trade" in ideas over this period; could cultivation/agriculture really have developed in isolation?

What Was Happening in the PPNB?

Earliest Domestication

There is reasonably secure evidence for plant domestication in the early PPNB (9,500-9,200 BP), although there are dating problems with virtually all the sites.

Domesticates are present both at sites in the Levant (Wadi el-Jilat 7, Nahal Hemar) and in the northern Fertile Crescent (Névalı Çori, Çayönü, Cafer Höyük). More-or-less contemporary material, of uncertain wild/domesticated status has been found in Cyprus. There is therefore no archaeobotanical evidence to suggest that domestication took place first in any one part of the Fertile Crescent. However, it would be premature to interpret this as positive evidence for contemporary domestication across the W/N Fertile Crescent.

Independent Domestications?

I strongly agree with Willcox's (2002) argument that the pattern of occurrence of domesticates at earlier PPNB sites and wild ancestors at PPNA sites points towards independent development of agricultural packages. There are some interesting correspondences with DNA evidence: for example the importance of barley at Levantine sites fits well with DNA evidence for region of domestication, as does the importance of emmer and einkorn in the northern Fertile Crescent. The appearance is not of a "snowball-effect", in which agriculture picks up additional crops as it moves from its core area through the Fertile Crescent. Instead, it is not until the mid-PPNB that a well-established and homogeneous package of crops is present throughout the region.

The Subsistence Economy

So far, I have concentrated on the technical question of when and where cultivation/ domestication started, with the aim of showing that regional origins and interactions are as open a question in the PPNA, as in the PPNB.

Of course, as Asouti points out, the main interest of tackling agricultural origins is the impact that subsistence change has on settlements, social organisation, ritual and religion etc. There are remarkably diverse views on the key dividing line between a hunter-gather economy (albeit, one in which some crops may have been cultivated) and an agricultural economy. The traditional view, in which agriculture is one defining factor for the Neolithic, sees the transition at the Epipalaeolithic/ Neolithic boundary. I doubt many people at this workshop still hold this view: as Özdoğan points out, the Neolithic is better defined as a cultural phenomenon.

At the opposite extreme, some believe that a truly agricultural economy did not develop until the Pottery Neolithic or later, a view held by some excavators working in Turkey. This view is strongly influenced by arguments based on poorly preserved archaeobotanical evidence from Britain, and does not take into account the recent views of archaeobotanists familiar with British Neolithic material (Fairbairn 2000).

In my own view, there is an obvious difference in scale between PPNA and Epipalaeolithic sites, typically low,

small mounds (with the glaring exception of Jericho), and PPNB sites which are often massive mounds (for example, Ahiklı Höyük). This might point to the early PPNB period representing the dividing line between the two types of economy. This has implications for the workshop topic: how did such a potent economic force as agriculture affect the interactions between the different regions? Presumably increased wealth and increased population would have led to sharply different types of interaction compared to those based around long-distance obsidian trade etc?

Conclusions

- We can not be complacent in assuming we understand the PPNA – recent high-quality archaeobotanical evidence challenges traditional views on the (southern Levantine) location and (PPNA) dating of plant domestication
- The quality of the new evidence, combined with new DNA studies, means that subsistence changes and domestication events in the PPNA can now be studied at a regional level
- At present, evidence from weeds and grain size suggests that cultivation may have been taking place in both the western and northern Fertile Crescent in the PPNA
- It might be time to stop using the term Levant for an area of agricultural origins that many now delineate as encompassing Israel, Palestine, Jordan, western Syria, southeast Turkey and northern Iraq. The term western Fertile Crescent (if agreed to define the same area) might avoid giving the impression of spatial and cultural homogeneity which might obscure regional variations.
- Evidence from the occurrence of domesticates, and the late development of a consistent crop package, points

to independent domestication (and agricultural origins) in different regions. It's difficult to say if that is because of rapid spread of ideas, or because of similar pressures operating on hunter-gatherer communities across different regions

- Settlement evidence supports the notion of a fundamental shift to an agricultural economy at some point in the early PPNB. This might have had a strong effect on regional interactions.
- In answer to the question in my title, the evidence currently supports Gebel's view of a polycentric evolution. But I'm sorry to miss the opportunity of discussing these views at the meeting!

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Editorial

Dialogue

Peltenburg, PPN Cyprus
Kuijt, Le Brun, Ozdoğan, Rollefson, Sampson &
Katsarou, Simmons: Comments
Peltenburg: Response to Commentators

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Towards New Frameworks: Supra-Regional Concepts
in Near Eastern Neolithization: 4ICAANE
Workshop, Berlin, 1-2 April 2004

Asoutis, Bar-Yosef, Benz, Gebel, Henry, Hermansen,
Nesbitt, Ozdoğan, Peltenburg, Peters, Rollefson,
Simmons, Stordeur, Willcox: Pre-Workshop

Statements

5th Workshop on PPN Chipped Stone Industries
Fréjus, 1-5 March 2004

Hole, Coqueugniot, Inizan, Gebel: Brief Reports

New Publications and Theses

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