Concerning the identification, location and distribution of the Neolithic and Chalcolithic settlements in Central Anatolia

This paper starts out by examining what might be understood by the term "Central Anatolia". The upland central plateau is defined, to a considerable extent, by geographical features: mountain ranges, the Taurus Mountains and the Pontic Mountains, to north and south, and by the Anti-Taurus Mountains and the upper reaches of the Euphrates River to the east. This large region is characterised by systems of drainage that feed internal lake basins, of which the largest are the Konya Plain and Tuz Gölü. Only two major rivers, the Kizilirmak and the Sakarya, rise in and flow through this region, both eventually debouching into the Black Sea. Large volcanic mountains bring great variety to the landscape. Central Anatolia, then, appears to be a place of...
great diversity. Set this diversity against maps pertaining to geomorphological development during the course of the Holocene and the complexity becomes overwhelmingly bewildering. What is striking in the climatic maps, however, is the overall similarity. The parameters are more or less the same over this entire region, from north to south and from east to west. No good reason can be seen to suggest that there was significantly more variation over this whole region of Central Anatolia at any time in the middle to late Holocene, that is, over the last 10-5,000 years. Such climatic changes as have taken place during this time period would, then, have been more or less uniform over this region between the Pontic and the Taurus Mountains.

The distribution of known, permanent Neolithic (and early Chalcolithic) settlements over the Central Anatolian Plateau does not, however, reflect climatic uniformity. The known settlements are to be found on the margins of great lakes (Çatal Höyük, Pinarbasi - Karaman), in the valleys of small, swift-flowing rivers (Asikli Höyük) or by copious springs on high exposed plateau (Pinarbasi - Bor and, more sheltered, Kösk Höyük). Because there seem to be no obvious reason why Neolithic settlement should not have extended over the northern region of the Central Anatolian Plateau it is pertinent to seek other explanations for the known distribution of sites. Seven possibilities for the perceived absence of early settlement will be discussed. These possibilities are not mutually exclusive. The order of discussion begins with natural phenomena and progresses towards archaeological matters. The topics are: 1. Geomorphological burial and erosion of sites. 2. Failure to identify prime locations as a result of marked differences in past hydrology or forest cover. 3. The existence of settlements that did not lead to the formation of (conspicuous) mounded sites. 4. Early settlement sites buried below later occupation. 5. Focus of survey in lake and river basins. 6. Inability to recognise early material even when it is present. 7. An obsession with obsidian.

The aim of this short review is to stimulate discussion rather than to come to any firm set of conclusions.

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EARLY HOLOCENE SETTLEMENT IN CENTRAL ANATOLIA - PROBLEMS AND PROSPECTS AS SEEN FROM THE KONYA PLAIN

In my paper I will consider the problems facing attempts to map and interpret the distribution of Neolithic and Early/Middle Chalcolithic sites with specific reference to our experience on the
Konya Plain Survey. I will then, in the same vein, consider the evidence for factors underlying observed settlement distributions and locations and changes in those distributions from the early Holocene to Early/Middle Chalcolithic, Periods I-V in the terms of the Table Ronde. This will provide an opportunity to consider the issues raised by Geoff Summers in the context of the settlement characteristics of the region as a whole.

It is useful to outline a few pertinent points about the component of Central Anatolia in which the survey is located and the survey area specifically. The Konya basin is a high altitude relatively level inland drainage basin. It is relatively arid in terms of moisture introduced to the basin by precipitation with less than 200 mm towards the centre of the basin and c. 300 mm around its edges. Several larger and smaller rivers and also sub-surface sources introduce water to the basin from surrounding hills. The relatively level character of the basin might indicate a degree of uniformity but this is deceptive. A volcanic massif with surrounding sedimentary rocks Karadag characterises the centre of the basin and dune systems and gravel ridges, shorelines of Pleistocene lakes, introduce elements of relief. The flanks of the plain are characterised by rising terrain. Soil types vary significantly as well, with lake basin marls and soft lime soils forming areas where plant cultivation would be a challenge, through bajada and hillside soils with significant potential, to alluvial soils with high potential, laid down in fans by the larger rivers. Of course these geomorphological units point to a varied environmental history of which more shortly.

The geomorphological evidence from the plain has implications for key past environment reconstructions, those relevant to us concern late Pleistocene and early Holocene environments. It also has implications for a chronology of the depositional record and its role in site exposure, burial, and destruction. The main work in these areas has been carried out by Kuzucuoglu and Roberts' KOPAL project. The KOPAL project and Konya Plain Survey have been working closely together to reconstruct the geomorphological history of the Çarsamba fan, in the south-west part of the Konya basin. This has been dated partly by archaeological occupations related to sedimentary sequences by coring and by geoarchaeological trenches in relation to Çatalhöyük, as well as absolute dating methods. It appears that on the Çarsamba alluvial fan, alluvial deposition commenced very early in the Holocene sometime before Çatalhöyük was occupied and continued at least during the early occupation of the Neolithic site at Çatalhöyük East. Perhaps in later phases of that occupation or in the Early Chalcolithic the area around Çatalhöyük saw less flooding indicated by soil formation processes. This period may relate to the occupation of Early Chalcolithic Çatalhöyük West as two 14C dates suggest. The lower alluvial unit associated with these periods apparently continued to be deposited at least further down stream on the edges of the fan until the earlier part of the Early Bronze Age at least. What is currently unclear in this reconstruction is whether a down stream shift in deposition of alluvial sediment meant the fan grew in area during the Neolithic and later or whether it reached its maximum extent rapidly. A later alluvial unit was deposited under slightly different conditions and ultimately less extensively in the southern area of the fan, at least from the Iron Age onwards. Perhaps up to 3 m of alluvium masks some of the Pleistocene marl in the area immediately around Çatalhöyük. However given clear irregularities in the Pleistocene marl deposits and variations in the extent of alluvial sediment distribution, very significant areas of the
fan have much lower depths of alluvium, particularly the peripheries. It is unclear how similar the adjacent May alluvial sequence is.

Palaeoenvironmental work in the survey area suggests the following; earlier work by Roberts suggests the large Konya palaeolake receded after the height of the last glaciation. The late glacial period may have witnessed the presence of a number of smaller water bodies in the peripheries of the basin. In the early Holocene, before the onset of true alluviation, the area was probably characterised by a number of standing water bodies in limited depressions in the area of the later alluvial fan. This landscape could potentially be contemporary with the occupations in the 'early aceramic' phase outlined below, since C14 AMS dates on the organic clay formed in these widely spread depressions indicates they existed c 79-7200 cal BC. The early Holocene, probably some time before 8200 BP uncal in the range 7500-7000 cal BC witnessed an environment in which relatively regular extensive floods characterised the area of the Çarsamba alluvial fan. These floods may well have been quite extensive. One of the problems for us is in translating this geomorphological scale of events to a more human scale. Thus what was the periodicity of regular flooding? Once in ten years would have a different significance than every year without fail. A number of convergent lines of evidence point to standing water bodies and marshy areas within some proximity of Çatalhöyük. Clearly this reconstruction has significant if as yet unresolved significance for potential agricultural and pastoral practices. The soils may be of high potential but extensive spring floods and high water tables might have made agriculture problematic. However we should not imagine, particularly in an early phase of alluvial deposition, that the whole area of the Çarsamba fan offered the same prospects and problems and we need also to conceive the potential role of land management strategies like drainage.

Given the potential for alluvial burial in some areas survey strategies that include the desire to locate a representative sample of early sites must sample a range of geomorphic units, must include an understanding of local geomorphological histories, to take into account masking factors in interpretation, and must have strategies for revealing early occupations buried by sediment and later occupational material. Perforce this must include an element of intensive survey. This influenced our methodology.

The survey area includes c. 640 km2 of the area around Çumra and south of Konya. This area was designed to encompass a range of soil and terrain types and precipitation belts, so alluvial fan, marl/soft lime, hillside bajada and colluvial soils, and gravel ridge soils were included. Two alluvial fans were incorporated to see if there were different settlement histories on different alluvial fans.

The survey methodology had clearly intensive as well as extensive aspects to gain coverage of ground and address problems of identifying small early and buried sites. Locating sites: 1) Remote sensing using satellite imagery. 30% of features identified on the satellite images have proved to be sites. 2) Canal walking continued to yield sites. 3) Field walking recovered sites and artifact scatters, the latter probably relating to ancient agriculture. 4) Visual inspection of the topography revealed new sites. These methods have added significantly to the site record detailed on the topographic maps Site comprehension: Contour survey and intensive collection produced
vital and detailed information about site histories on the many multi-period sites. We have had particular success in isolating site components of particular periods or types and documenting the complex and early histories of particular sites.

The paper will demonstrate the vital role of such intensive survey methods and such associated geomorphological work in locating a representative sample of late Pleistocene to early Holocene sites, partly through comparisons with earlier survey in the area.

In addition, the preliminary results of the survey in relation to settlement distribution and changes in such distribution will be considered. Five main phases of settlement are characterised, an early 'aceramic' phase, a late aceramic Neolithic phase, a ceramic Neolithic phase, an Early Chalcolithic phase and a Middle Chalcolithic phase. Settlement size and distributions fluctuate significantly from one to another. Small-dispersed settlements characterise the first two phases. Sites are located both in the main zone of alluviation of the Çarsamba and beyond it or close to its edge. In the ceramic Neolithic only one settlement has been identified, the exceptionally large Çatalhöyük. This may suggest a number of communities on the fan combined to produce the exceptionally large but relatively isolated settlement (in terms of proximate communities) at Çatalhöyük. Possible reasons for the relative isolation of Çatalhöyük East are examined. The pattern changes dramatically in the Early Chalcolithic. Whilst a relatively large community continued to exist at Çatalhöyük West numerous small communities are found dispersed across the Çarsamba alluvial fan, but not beyond. In the Middle Chalcolithic the number of settlements declines significantly. These phenomena will also be considered.