Journal of Archaeological Science 40 (2013) 1816–1822

Contents lists available at SciVerse ScienceDirect

Journal of Archaeological Science

journal homepage: http://www.elsevier.com/locate/jas

Corporate kin-groups, social memory, and "history houses"? A quantitative test of recent reconstructions of social organization and building function at Çatalhöyük during the PPNB

W. Chris Carleton [a], James Conolly [b], Mark Collard [a,*]

[a] Human Evolutionary Studies Program and Department of Archaeology, Simon Fraser University, 8888 University Drive, Burnaby, British Columbia V5A 1S6, Canada
[b] Department of Anthropology, Trent University, 2140 East Bank Drive, Peterborough, Ontario K9J 7B8, Canada

ARTICLE INFO

Article history:
Received 12 July 2012
Received in revised form
1 November 2012
Accepted 21 November 2012

Keywords:
Çatalhöyük
Pre-Pottery Neolithic B
Corporate kin-group
Social memory
Factor analysis
Spatial analysis

ABSTRACT

It has been argued that the corporate kin-group was the main form of socioeconomic organization at the Turkish site of Çatalhöyük during the Pre-Pottery Neolithic B (PPNB). This hypothesis is linked to a claim of long-term repetitive patterning in the use of household space. Çatalhöyük's corporate kin-groups, it is suggested, would have been maintained by social memory, and social memory would have been created by the repeated rebuilding of houses with the same floor plan and by the burial of important members of the corporate kin-groups under house floors. This hypothesis been taken up by a number of authors in recent years. However, it is not clear how much confidence should be invested in the hypothesis as the use of household space at Çatalhöyük during the PPNB has not been subject to formal evaluation. With this in mind, we carried out a study in which we examined the relationship between continuity in house floor plans and the percentage of houses that contain burials. To assess the co-variation between these variables, we developed a GIS-based method of quantifying house wall continuity, and then subjected the resulting index and a number of other variables, including the percentage of houses that contain burials, to factor analysis. The results of the analyses do not support the hypothesis. The house-wall continuity index and the percentage of houses that contains burials load on different factors, which indicates that they do not co-vary through time. This is contrary to the predictions of the corporate kin-group hypothesis. Thus, claims that during the PPNB Çatalhöyük's occupants formed corporate kin groups that were maintained by social memory and "history houses" should be curtailed and interpretations built on this hypothesis should be viewed with suspicion.

1. Introduction

In this paper we report a test of a widely discussed hypothesis concerning social organization and building function at the well-known site of Çatalhöyük during the Pre-Pottery Neolithic B (PPNB). Çatalhöyük is located in a region of south-central Turkey known as the Konya Plain. Part of the Central Anatolian Plateau, the Konya Plain is about 6000 km^2 in area and has an average altitude of approximately 1000 m (Roberts et al., 1996). The closest major cities to Çatalhöyük are Konya, which is 37 km to the northwest, and Mersin, which is 187 km to the southeast. The site consists of two tells that are separated by a branch of the Çarsamba river. These tells usually are referred to as the East Mound and the West Mound. The East Mound, which has been more thoroughly investigated than its neighbour, covers approximately 12 ha and is around 21-m deep (Roberts et al., 1996). The West Mound also extends over about 12 ha but is only about a third of the height of the East Mound (Roberts et al., 1996).

Çatalhöyük's archaeological significance was first recognized in the 1950s by James Mellaart, who at the time was assistant director of the British Institute of Archaeology in Ankara (Mellaart, 1967). Mellaart conducted four field seasons at the site between 1961 and 1965. Large-scale archaeological research was restarted at the site in the early 1990s by Ian Hodder, then of the Department of Archaeology, University of Cambridge, and now of the Department of Anthropology, Stanford University. Hodder's team has excavated at Çatalhöyük every year since 1993 (www.catalhoyuk.com). Peter Biehl of the University at Buffalo's Department of Anthropology initiated an additional, independent field project at the site in 2006. Currently, Hodder's team is excavating on the East Mound, while Biehl's team is excavating on the West Mound (ibid.).

* Corresponding author.
E-mail address: mcollard@sfu.ca (M. Collard).

0305-4403/$ – see front matter © 2012 Elsevier Ltd. All rights reserved.
http://dx.doi.org/10.1016/j.jas.2012.11.011

Evidence recovered at Çatalhöyük since 1961 suggests the site was inhabited from approximately 9400 calBP to about 7600 calBP (Cessford, 2005). The East Mound was the initial focus of settlement. Its occupation layers span the middle Pre-Pottery Neolithic B (PPNB) through to the early Ceramic Neolithic.[1] Around 8200 calBP the East Mound appears to have been depopulated. The West Mound was settled around the time the East Mound was depopulated, but it is unclear whether there was overlap or a hiatus between the occupations (Schoop, 2005; Biehl et al., 2012). The West Mound's occupation layers span the early Ceramic Neolithic through to the Chalcolithic (Cessford, 2005). Both mounds were used as cemeteries in the Roman and Byzantine periods, but there is no evidence of people living at the site during these periods or between 7600 calBP and the start of the Roman period. There is also no evidence of post-Byzantine occupation on either mound (Hodder, 1996; Gibson et al., 2002; Gibson and Last, 2000).

The PPNB is found throughout much of Southwest Asia in deposits dating between 10,800 and 8500 calBP (Aurenche et al., 2001). It is characterized by reliance on domesticated plants and animals, permanently occupied settlements dominated by high-density agglutinated rectilinear buildings, and wide-ranging economic networks involving the transportation of raw and processed materials, particularly obsidian (Kuijt and Goring-Morris, 2002; Asouti, 2006). Art and ritual are also important features of the PPNB. Wall paintings and anthropomorphic figurines have been found at many PPNB sites, as have decorated human skulls (Grissom, 2000; Goring-Morris et al., 1998; Lesure, 2002; Verhoeven, 2002). In addition, a number of PPNB sites have yielded evidence of what appears to be special, non-domestic, buildings and ritually embellished architecture (Schmidt, 2001, 2003; Byrd, 2005). All these characteristics of the PPNB, with the exception of non-domestic architecture, have been documented at Çatalhöyük (Hodder, 2005a, 2005b, 2006).

The hypothesis we tested holds that socioeconomic organization at Çatalhöyük during the PPNB was based on the corporate kin-group, which is a collection of consanguineal and affinal relatives who share economic, social, and ritual rights and responsibilities. First proposed by Conolly (1999), this hypothesis has been developed more fully by Hodder (e.g. Hodder and Cessford, 2004; Hodder, 2006, 2010; Hodder and Pels, 2010). The case Hodder makes for the existence of corporate kin-groups at Çatalhöyük during the PPNB focuses on four phenomena that have been documented at the site – the daily repetition of household tasks, the building of new houses in the same location and with the same floor plan as old houses, the burial of individuals beneath the floors of houses, and the exhumation and reburial of the skulls of some of the aforementioned individuals (Hodder and Cessford, 2004; Hodder, 2010). These phenomena, Hodder contends, generated the social memory necessary to maintain a corporate kin-group. The daily repetition of household tasks would have reminded the living generation that preceding generations performed the same daily tasks in the same places and created a sense of continuity (Hodder, 2006). The building of a new house atop the remains of the old house reinforced a sense of shared identity between the generations and linked the persistence of the house with that of the kin-group. Hodder asserts that the individuals buried beneath the floors of houses were particularly important ancestral members of kin-groups (Hodder, 2006). He argues that the presence of the remains of these individuals under house floors and the occasional exhumation and reburial of some of their skulls would also have reinforced the identity of the groups because those ancestors would be actively remembered by the occupants of the house and the community at large (Hodder and Cessford, 2004; Hodder, 2007). Social memory of the actions and socioeconomic negotiations of the ancestors would have provided a vehicle for transferring the rights and obligations obtained by those ancestors onto the living members of the corporate group. Such transcendence of rights and obligations and the persistence of a group identity are regarded as key components of a corporate kin-group (Gillespie, 2000).

The suggestion that the corporate kin-group was the primary form of socioeconomic organization at Çatalhöyük during the PPNB has been taken up by a number of authors in recent years and has influenced interpretations of other sites not only in southwest Asia, but in other parts of the world too (e.g. Adams, 2005; Fairbairn, 2005; Pauketat and Alt, 2005; Atalay and Hastorf, 2006; Düring, 2007; Borić, 2007; Varien and Potter, 2008; Twiss, 2008; Russell et al., 2009; Belfer-Cohen and Goring-Morris, 2011; Kuijt et al., 2011; Schortman and Urban, 2011; Hayden, 2012; Watkins, 2012). However, at the moment, it is not clear how much confidence should be invested in this hypothesis. One reason for this is that Hodder only examined evidence from a few areas of the site (i.e. the excavated portions), which means that the hypothesis may not hold for the whole of the site. In addition, Hodder has not demonstrated that the phenomena he argues would have generated the social memory necessary to maintain the corporate kin-groups co-vary in the manner required by the hypothesis. He claims that there is "a clear link between houses with many burials and houses that are replaced through many levels" (Hodder and Cessford, 2004: 36), but does not show quantitatively that such is the case. Thus, it is not even possible to be confident that the hypothesis holds for the areas of the site that Hodder examined. Lastly, a recent odontometric study found that individuals buried within houses at Çatalhöyük are no more closely related to each other than they are to individuals buried in other houses (Pilloud and Larsen, 2011), which runs counter to the notion that a kin-group would have occupied the same house for multiple generations and identified specifically with that house.

The study reported here focused on key part of the corporate kin-group hypothesis, namely the claim that houses with many burials tend to be replicated through successive rebuilding events (Hodder and Cessford, 2004; Hodder, 2006). We tested this claim by applying factor analysis to several house-related variables from the PPNB levels at Çatalhöyük, including a measure of house-wall continuity and the percentage of houses that contain burials. Factor Analysis (FA) is a statistical technique that is designed to reduce variability among observed variables into a smaller number of unobserved variables called factors (Spearman, 1904; Mulaik, 1987). It has a long history of use in archaeology to reconstruct socioeconomic processes (e.g. Binford and Binford, 1966; House et al., 1975; Healan, 1995; Kuijt and Goodale, 2009). In our study, we reasoned that if Hodder's claim is correct, the measure of house-wall continuity and the percentage of houses that contain burials should load on the same factor and do so in the same direction.

2. Materials and methods

Data for seven of the variables used in the study were taken from Cutting (2005). These variables are 1) the percentage of houses with platforms, 2) the percentage of houses that contain pillars, 3) the percentage of houses in which benches are found, 4) the percentage of houses that are decorated in some way, 5) the percentage of

[1] There is disagreement about the phase-chronology at Çatalhöyük, with some authors arguing for the use of the well-known Southwest Asian scheme developed by Kathleen Kenyon (e.g. Kenyon, 1957), and others favouring an Anatolia-specific scheme (e.g. Gerard and Thissen, 2001). We have elected to follow the main excavator of the site, Hodder, and use Kenyon's scheme (e.g. Hodder and Cessford, 2004).