

Göbekli Tepe: Agriculture and Domestication

Joris Peters¹, Klaus Schmidt², Oliver Dietrich² and Nadja Pöllath¹

¹Institute of Palaeoanatomy, Domestication Research and the History of Veterinary Medicine, Ludwig-Maximilian University, Munich, Germany

²Orient-Abteilung, Deutsches Archäologisches Institut, Berlin, Germany

Introduction

The Site

The Pre-Pottery Neolithic (PPN) tell of Göbekli Tepe (GT) lies 15 km NE of the modern city of Şanlıurfa in SE Anatolia. It is located at the highest point of the Germuş range overlooking the Harran plain. Ongoing excavations since 1995 revealed a unique monumental architecture rich in symbolism (Schmidt 2011, 2012).

Key Issues

Traces of domestic structures have not been found yet. At least two occupation phases can be distinguished. The monumental architecture (Fig. 1) with huge T-shaped pillars arranged in circle-like enclosures around two even taller central pillars (>5 m) corresponds to Layer III and dates to the PPNA (Dietrich & Schmidt 2010). The pillars are interconnected by walls and stone benches. Layer II represents a later occupation phase dating to the Early and Middle PPNB. Its architecture consists of small rectangular buildings, usually with two pillars (<2 m) placed in their center.

The pillars of Layer III are richly decorated with figurations of animals as diverse as insects, spiders, scorpions, snakes, birds, and mammals (Peters & Schmidt 2004; Fig. 2). These enclosures also produced limestone sculptures of human beings and animals. A geophysical survey revealed the presence of many more large



Göbekli Tepe: Agriculture and Domestication, Fig. 1 Göbekli Tepe – overview of the main excavation area with the characteristic round enclosures. In the foreground Enclosure D, the one best preserved (© DAI, Photo N. Becker)

enclosures all over the mound. Obviously, these were backfilled rapidly and intentionally after some time of use, ritually buried as it seems.

It is assumed that the T-shaped pillars represent supra-natural beings (Schmidt 2011). In addition, depictions of human arms and hands together with garments, such as decorated belts or loincloths made of a fox pelt, indicate their anthropomorphic nature (Fig. 3). As such, the complex belief system visualized by the findings at GT illustrates considerable sociocultural complexity in foraging communities inhabiting PPNA Upper Mesopotamia.

Subsistence

The carving of the monoliths and the building of the enclosures necessitated considerable man power and a well-organized community. Moreover, cult practices including feasting likely



Göbekli Tepe: Agriculture and Domestication, Fig. 2 Pillar 43 in Enclosure D is covered entirely by depictions, mostly of animals (© GEO & DAI, Photo B. Steinhilber)

attracted large groups, implying that food procurement had to be organized. If the numerous grinders, mortars, and pestles found in the backfill suggest large-scale plant processing at GT, other evidence for this activity is poor. Storage facilities have not been found so far and remains of edible plants are rare. Up to now, only wild taxa including cereals such as einkorn, wheat/rye, and barley could be identified (Neef 2003). At this stage of research, however, activities pointing at cereal cultivation can neither be evidenced nor excluded.

Besides plant collecting, hunting was essential. The faunal assemblage illustrates that throughout site occupation, people predominantly hunted Persian gazelle. Wild cattle, asiatic wild ass, wild boar, wild sheep, deer, hare, fox, and a variety of bird species contributed to the diet as well. Faunal composition in Layer III indicates that besides gazelle (58 %), wild cattle



Göbekli Tepe: Agriculture and Domestication, Fig. 3 Pillar 31, one of the central pillars of Enclosure D, illustrates the anthropomorphic character of the pillars. It shows arms and hands as well as elements of clothing – a stola, a belt, and a loincloth made of a fox pelt (© DAI, Photo N. Becker)

(18 %) were a major supplier of meat too considering the species' liveweight. However, its economic importance declined markedly during later occupation when medium-sized ungulates (gazelle, wild sheep) provided most of the meat.

Göbekli Tepe and the "Neolithic Revolution"

Architecture and art at GT are indicative of a complex belief system and a hierarchically structured universe. Of particular interest is the anthropomorphic nature of the T-shaped pillars and the fact that insects, spiders, and vertebrates have been depicted on them. This could signify that the supra-natural beings exerted power over these animals and therefore – in the figurative sense – over the world of the living. The GT findings might therefore suggest that within the hierarchy of the PPN belief system,

anthropomorphic beings – and hence humans – considered themselves superior to other living creatures. If this interpretation is correct, then the symbolism displayed at PPNA GT could indeed evidence a mind-set that was conducive for achieving cultural control over animals. It has been argued that the Neolithic revolution could not have taken place without this mental development (Cauvin 1997).

A sedentary way of life and long-term acquaintance with wild forms were essential prior to domesticating ungulates. At a certain point in time domestication moreover necessitated the spatial isolation of individuals from free-ranging herds and their raising and breeding in an anthropogenic environment. However, evidence for human interference with the life cycle of ungulates during the initial stages of the domestication process, when hunting activities still provided the bulk of the meat (and hence of the osseous remains in the assemblage), is problematic based on the available zooarchaeological methods. Thus, whether domesticates were kept at GT is difficult to ascertain, but it is not impossible that this was the case during the later occupation stage (Layer II).

Particularly noteworthy is the evidence for feasting at GT (Dietrich et al. 2012). In combination with the wide geographic distribution of elements of its iconography in Upper Mesopotamia, this implies that groups of hunter-gatherers originating from different parts of Anatolia and northern Syria assembled here. On these occasions, hunters from different communities had the possibility to share their knowledge and experience relative to the exploitation of economically important species, e.g., gazelle, wild cattle, wild sheep, and wild boar. This way, more efficient hunting techniques as well as innovative methods for monitoring mobility in wild ungulates within the site catchment could have spread quite quickly. The same is true for aspects concerning the practicability, workload, and economic benefits of keeping and breeding animals within the boundaries of a settlement. Not only would this kind of dissemination scenario be consistent with the available zooarchaeological and genetic evidence indicating multiple and

broadly contemporaneous domestication events throughout the (northern) Fertile Crescent, it would also help understanding why PPN ungulate domestication was not restricted to a single taxon or to animals confined to a particular ecogeographic setting (Peters et al. in press).

Interestingly, the fact that in SE and E Anatolia livestock husbandry was already practiced a few centuries before reaching the early Holocene climatic optimum c. 8000 BCE (Peters et al. 1999) suggests that ungulate domestication occurred when climatic conditions were still improving and with it the carrying capacity of the landscape. Thus, rather than taking place under acute resource stress, we cannot exclude that meat procurement was still quite secure when efforts to appropriate animals started.

Around c. 8200 cal BCE, GT was abandoned. It is perhaps telling that this coincided with a major economic change in Upper Mesopotamia, namely, the replacement of gazelle hunting by small livestock husbandry as the main subsistence activity to procure meat (Peters et al. in press). Because cult centers with large catchment areas like GT may have served over the centuries as places of exchange between communities of foragers inhabiting the northern Fertile Crescent, it is not unlikely that these gatherings played a catalytic role in the propagation of innovative techniques relative to food acquisition and ungulate domestication as well, causing the long-term demise of the foraging lifestyle lying at the very origin of these unique megalithic ritual places.

Cross-References

- [Agriculture: Definition and Overview](#)
- [Plant Domestication and Cultivation in Archaeology](#)

References

- CAUVIN, J. 1997. *Naissance des divinités. Naissance de l'agriculture* (Nouvelle édition). Paris: C.N.R.S.
- DIETRICH, O. & K. SCHMIDT. 2010. A radiocarbon date from the wall plaster of Enclosure D of Göbekli Tepe. *Neo-Lithics* 2: 82-3.

- DIETRICH, O., M. HEUN, J. NOTROFF, K. SCHMIDT & M. ZARNKOW. 2012. The role of cult and feasting in the emergence of Neolithic communities. New evidence from Göbekli Tepe, south-eastern Turkey. *Antiquity* 86(3): 674-95.
- NEEF, R. 2003. Overlooking the steppe-forest: a preliminary report on the botanical remains from early Neolithic Göbekli Tepe. *Neo-Lithics* 2: 13-16.
- PETERS, J. & K. SCHMIDT. 2004. Animals in the symbolic world of pre-pottery Neolithic Göbekli Tepe, south-eastern Turkey: a preliminary assessment. *Anthropozoologica* 39(1): 179-218.
- PETERS, J., D. HELMER, A. VON DEN DRIESCH & M. SANA SEGUI. 1999. Early animal husbandry in the northern Levant. *Paléorient* 25(2): 27-48.
- PETERS, J., H. BUTTENHUIS, G. GRUPE, K. SCHMIDT & N. PÖLLATH. in press. The long and winding road. Ungulate exploitation and domestication in early Neolithic Anatolia (10,000-7,000 BC), in S. Colledge, J. Conolly, K. Dobney, K. Manning & S. Shennan (ed.) *The origins and spread of domestic animals in Southwest Asia and Europe*. Walnut Creek (CA): Left Coast Press.
- SCHMIDT, K. 2011. Göbekli Tepe: a Neolithic site in southeastern Anatolia, in S. R. Steadman & G. McMahon (ed.) *Oxford handbook of ancient Anatolia. 10,000-323 B.C.E.*: 918-33. Oxford: Oxford University Press.
- 2012. *Göbekli Tepe. A Stone Age sanctuary in south-eastern Anatolia*. Berlin: ex Oriente.

passion for the great outdoors and collecting natural specimens and artifacts, influenced the way in which he understood the relationship between humankind and the natural environment. This made him increasingly aware of the problems involved in sampling and the similarities and variations within artifacts. These ideas were translated into the methodological tool known as cultural traditions, following the work of Rouse in Connecticut and that by Willey in Peru (Goggin 1964: 110). Moreover, this was applied in the St. John's region, where he identified a Spanish-Indian tradition that resulted from the impact of Hispanic culture on Indian one (Goggin 1998: 71-2).

Major Accomplishments

Goggin's main interest was the interaction between colonists and indigenous groups in the New World. His fascination for the pottery of former Spanish colonies made him aware of the necessity to create a complete typology of majolica pottery from the sixteenth to the eighteenth centuries. This drew him into studying materials from Mexico, Colombia, and the Caribbean, which culminated in the posthumous publication of *Spanish Majolica in the New World* (1968). This is a foundational study that set the basis for typological analysis of majolica in the Spanish Empire and the Indies. Along this one, *The Spanish Olive Jar* (1960) is a comprehensive typological work that emphasizes the relevance of studying these artifacts from the former Spanish colonies. Unfortunately, his untimely death in 1963 left much of his research in note and manuscript form (Goggin n.d.) (Fig. 1).

His legacy of scholarship and theoretical developments continue inspiring students and scholars alike to follow his steps in the archaeology of the former Spanish Empire, and shaped the interests of scholars and students allocated in the Department of Archaeology in the University of Florida.

His work on pottery from the Indies was translated into one of the most complete databases

Goggin, John M.

Verónica Velasquez S. H.
Department of Archaeology, University of
Sheffield, Sheffield, UK

Basic Biographical Information

John Mann Goggin (1916–1963) was a great mind that led a life of expedition and discovery, had vast interests and eccentric hobbies, and was a devotee of natural history. Moreover, he was an anthropologist and archaeologist committed to the history of humanity (Sturtevant 1964: 386-9).

Goggin was born in Chicago and undertook his graduate degree at Yale University. His experiences growing up in Miami with the Seminole Indians and his excursions to New Mexico and to Chihuahua with the Tarahumara, along with his