

Iğdır Üniversitesi Sosyal Bilimler Dergisi

E-ISSN: 2147-6152

Yıl 12, Sayı 33, Mayıs 2023

[Araştırma Makalesi] **Attf/Citation**: Ayaz, O. (2023). "An Alternative View on Animal Symbolism in The Göbekli Tepe Neolithic Cultural Region in the Light of New Data (Göbekli Tepe, Sayburç)". *Iğdır Üniversitesi Sosyal Bilimler Dergisi*. (33): 365-383. **Gönderim Tarihi**: 18.02.2023 **Kabul ve Yayın Tarihi**: 16.05.2023-31.05.2023 **DOI**: 10.54600/igdirsosbilder.1252928

Yazar/Author Orhan AYAZ*

Makale Adı/Article Name

An Alternative View on Animal Symbolism in The Göbekli Tepe Neolithic Cultural Region in the Light of New Data (Göbekli Tepe, Sayburç)

Yeni Veriler Işığında Göbekli Tepe Neolitik Kültür Bölgesi'ndeki Hayvan Sembolizmine Alternatif Bir Bakış (Göbekli Tepe, Sayburç)

ABSTRACT

One of the most surprising and distinguishing characteristics of the symbolism in the Göbekli Tepe Neolithic Culture is the widespread use of animals. The interpretations of this symbolism up to this date were more often on the wildness of these animals and the roles that they have played in the spiritual world of the humans of the period. The perspective in question led to the conclusion that at this period the physical interaction between humans and animals was limited. This study is based on the new archaeofaunal data and approaches regarding Southwest Asia and the hunting ground economy of "the Göbekli Tepe Neolithic Cultural Region" that is generally neglected in the archaeological studies, and will offer an alternative perspective on the animal symbolism of the region. This study argues that this cultural area might have hosted rituals that could be related with the deadly animal-human and animal-animal contests based especially on the animal symbolism of this region. Furthermore, this study suggests at least some of the contests might have been held in the entrapment areas of this region. In addition, despite the claim in the literature that that the animal symbolism of the region caused the control and domestication of animals, the claim here is that a more reasonable argument would the presence of a more interactive process: the perspective in this study suggests an already existing intense human-animal interaction, and that the prevalent emotion in the Göbekli Tepe symbolism was not the fear of the wild.

Keywords: Göbekli Tepe, Sayburç, entrapment areas, Pre-Pottery Neolithic, animal symbolism.

ÖΖ

Göbekli Tepe Neolitik kültüründeki sembolizmin en şaşırtıcı ve ayırt edici özelliklerinden birisi hayvanların yaygın olarak kullanılmasıdır. Şimdiye kadar yapılan yorumlar daha çok hayvanların yabaniliği ve bu dönem insanların spiritüel dünyasında oynadıkları roller ile ilgili olmuştur. Söz konusu bakış açısı bu dönemde, insan ile hayvanlar arasında sınırlı bir fiziksel etkileşimin olduğu sonucuna götürmekteydi. Bu çalışma Güneybatı Asya'daki yeni arkeofaunal veri ve yaklaşımlardan ve Göbekli Tepe Neolitik kültür bölgesinde arkeolojik çalışmalarda genellikle göz ardı edilen tuzak alanları ekonomisinden hareket ederek bu bölgedeki hayvan sembolizmine alternatif bir bakış sunacaktır. Çalışma bölgedeki özellikle hayvan sembolizminden hareketle, ölümcül hayvan-insan ve hayvan-hayvan müsabakalarıyla ilişkilendirilebilecek ritüellerin yapılmış olabileceğini iddia edecektir. Dahası en azından bazı müsabakaların bölgedeki tuzak alanlarında yapılmış olabileceğini ileri sürecektir. Ayrıca literatürde iddia edildiği gibi bu bölgede hayvan sembolizminin hayvanların kontrol altına alınıp evcilleştirmesine neden olduğu tezi yerine etkileşimli bir sürecin daha makul olabileceği söylenebilir. Bu bakış açısı bu bölge için daha yakın ve yoğun insan-hayvan etkileşiminin varlığını ima ederek Göbekli Tepe sembolizminde hâkim duygunun vahşi olana ilişkin korku olmadığını ortaya atacaktır.

Anahtar Kelimeler: Göbekli Tepe, Sayburç, tuzak alanları, Çanak Çömleksiz Neolitik, hayvan sembolizmi.

* Dr. Academic Member, Harran University Department of Sociology of Religion, orhanayaz76@hotmail.com (DORCID: 0000-0001-8599-0485



ACKNOWLEDGMENTS

I would like extend my gratitude to Melinda A. Zeder and Bahattin Çelik for their contributions to this study.

Introduction

Neolithic Period indicates a new way of life for humanity in many aspects. In its turn, the symbolism that adorned the material tools with new imagery reflects this transformation in the way of life (Karul, 2021). One of the most important places in which this transformation process was experienced is the Göbekli Tepe cultural region that encompasses the Göbekli Tepe Neolithic site in the Upper Euphrates Basin. Göbekli Tepe Neolithic site, discovered almost 30 years ago, has a unique position due to its architecture and art. According to Peters and Schmidt, the most prominent aspects of this art are rich animal depictions on "stone figurines, sculptures and megalithic pillars decorated with bas-reliefs" (2004:179). Soon after its discovery, it was revealed that the region in which the Göbekli Tepe site resides was also the host to an intense Neolithic settlement that represented the same cultural world (Celik, 2011, 2017a, 2019; Güler et al., 2013). The excavations launched in 2021 within the scope of the Sanliurfa Neolithic Research Project (Taş Tepeler Project) at Karahan Tepe (Quça Keçel), Sefer Tepe, Sayburç, Çakmak Tepe (Quça Çeqmaq), Harbetsuvan, Gürcü Tepe, along with the archaeological surveys conducted in this cultural region have demonstrated that the Göbekli Tepe Neolithic site is not unique, but part of this culture (Karul, 2021, 2022b; Özdoğan and Uludağ, 2022). Another important point regarding these Neolithic settlements, including Göbekli Tepe, is that rather than being "temples"/"sanctuaries" that hunter-gatherers met at certain times for cultic reasons, as it was previously claimed (Schmidt, 2006, 2010), they are settlements that include domestic buildings (Clare, 2020; Jeunesse, 2020; Karul, 2021; Kinzel and Clare, 2020).

There are certain archaeological data as important as understanding that these sites were settlements, such as the intense animal entrapment areas close to these sites and the hillside settlements in the vicinity of the entrapment areas (Celik and Ayaz, 2022; Celik and Tolon, 2018; Celik, 2016). These important data, often neglected in the archaeological analysis, shed light on the economic infrastructure of the period, and were also vital for the human-animal interaction methods and areas of the period. It is possible to understand from the temporary hillside settlements close-by that an important ratio of these animals in these entrapment areas were held in these entrapment areas for a long time. Another important datum that will change our perspective on this cultural region is provided by the archaeozoological studies. Former approaches regarding the archaeofaunal remains received from Göbekli Tepe (Peters et al., 2020: 4612; Peters and Schmidt, 2004) are facing serious challenges. Due to the entrapment area economy, the body part representation at the site is no longer indicative of the animals there could only be wild animals. This is because the animals kept in the out-site entrapment areas were prepared in the close-by hillside settlements, and their meat were then carried to the settlement. And this points out to the presence of animals kept in the entrapment areas rather than the presence of persistence hunted animals in their natural environment (Celik and Ayaz, 2022). In addition, the "skeletal size" of an animal (Peters et al., 2020: 4612) no longer seems to be the sign of whether it is domesticated or wild (Zeder, 2011). The research on the faunal remains at Göbekli Tepe (Peters et al. 2020: 4612; Peters and Schmidt, 2004) considered the decrease in size as the foremost indicator of domestication, and therefore, did not consider the demographic characteristics of these animals that might have shed light on the management strategies implemented prior to the late manifestation of morphological change (See Zeder and Lemoine,

2022). So until we might get hold of similar data, whether Göbekli Tepe residents relied on hunting or on animal management (or as it might be likely, a combination of both) for protein is as of yet undecided. As a result, since the faunal evidence do not shed light on whether the animals consumed in the region were wild animals, beyond human management or not, and since entrapped animals were kept for a while, we can argue for a closer and more intense human-animal interaction. In other words, this study brings up the following hypothesis for discussion: domestication process was successful in this region; and wild oxen, wild boar and wild sheep, along with other wild and dangerous animals depicted in this culture, were carried into the symbolic universe of the humans of this period in their natural state, far from the intense and close human interaction.

1. The Göbekli Tepe Neolithic Cultural Region

It has been an almost a quarter century since the Göbekli Tepe Neolithic site was first excavated in 1995. The first director of excavation, Schmidt, reveals the most characteristic feature of the site as such (2010: 240; see also Peters et al., 2020): "The main features are T-shaped monolithic pillars, each weighing several tons. They were erected to form large circular enclosures, at the centre of which a pair of these pillars towers over all." The animal figures depicted on the Tshaped pillars and various human and animal statues should also be added to these main features (Dietrich et al., 2019; Peters and Schmidt, 2004). Göbekli Tepe was interpreted as a Neolithic center in which the hunters of the region came at certain seasons to hold feasts for work and perform death rituals, often along with the claims that the site was a challenge to the established assumptions on early human history (Hodder, 2006; Schmidt, 2006). So, previous literature often underlined the failure of Childe (1964) who held the view that Neolithic Period was the start of a new socio-economic order in which hunter-gatherers began to domesticate animals and plants, since, according to the view prevalent in literature, the megalithic structures at Göbekli Tepe were built by hunter-gatherers who provided their subsistence by persistence hunting and gathering wild plants. However, the new data at this stage forces us to review the present interpretations and assumptions.

First of all, a series of archaeological surveys revealed that Göbekli Tepe is not unique. It seems that Göbekli Tepe with its intense surrounding Neolithic settlement represents just one site of this cultural region. To this day, more than 20 Neolithic sites, some contemporaneous to and some of which are dated even older than Göbekli Tepe are discovered in this Neolithic cultural region (**Fig. 1**) (Çelik, 2000, 2011, 2015, 2019; Güler et al., 2013; Karul, 2022b; Özdoğan, 2022). Furthermore, the ongoing excavations in this cultural region step-by-step point out to the fact that these Neolithic sites are not just cultic areas, but permanent settlements containing special buildings in which rituals are performed and public meetings are held, along with intense domestic structures (Clare, 2020; Çelik, 2015; Karul, 2021, 2022a; Özdoğan and Uludağ, 2022). In addition, the Structure AB found at Karahan Tepe demonstrate that there might be buildings with more special functions, other than the T-shaped special structures of this cultural region (Karul, 2021; Ayaz et al., 2022). As a result, the Neolithic sites of the Göbekli Tepe Cultural Region are settlements that contain domestic structures, along with specialized and further specialized structures with various functions.



An Alternative View on Animal Symbolism in The Göbekli Tepe Neolithic Cultural Region in the Light of New Data (Göbekli Tepe, Sayburç)

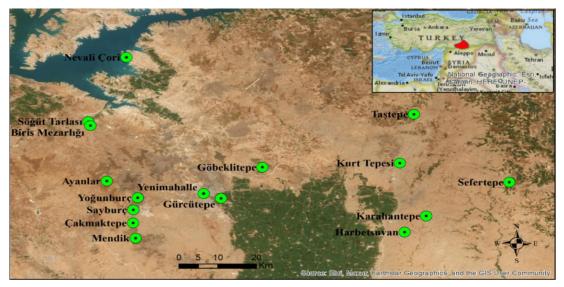


Fig.1. Göbekli Tepe (Göbeklitepe) neolithic culture geography and the principal settlements that stand out with T-shaped pillars (Excavation work on some hills that are marked has not yet begun).

Second of all, there is a critical archaeological data that does not receive the value it deserves in the recent scientific studies of this Neolithic cultural region; however, this data lies not in the Neolithic sites, but in their close quarters. The surveys conducted imply that a very important economic factor rests behind the locations of such settlements. The observed large entrapment areas clearly indicate the economic foundations on which Göbekli Tepe culture has arisen. Widespread and extremely large hunting grounds identified in the region were often disregarded during the archaeological reviews. In particular, some locations existing around Karahan Tepe and Harbetsuvan Tepesi settlements are very ideal for hunting by setting traps and snares (Çelik and Ayaz, 2022). Archaeological surveys conducted since 2013 at the Tektek Mountains and their surroundings that reside within Sanliurfa city center have identified many entrapment areas. The width of each of such entrapment areas varies between 10 and 100 decares (Celik and Ayaz, 2022; Celik and Tolon, 2018). The entrapment areas are similar to each other, having a wing or keyhole form. These entrapment areas thought to have been used first in the Neolithic Period are located around the Neolithic settlements. Generally, entrapment areas are 1-5 km away from the Neolithic settlements Since the large stone blocks that surround the entrapment areas were used in the construction of the intense detached housed settlements in the villages of the region, most of the entrapment areas that were close to the villages could not survive until today. However, the traces of these entrapment areas can still be seen (Çelik, 2016; Çelik and Tolon, 2018; Güler and Çelik, 2015). Huge entrapment areas were established by stacking large stone slabs in a sort of pile that resembles fish scales (Fig. 2). Judging by the size of the hunting grounds, the hunters were able to supply meat in large quantities in a single hunting campaign. The animals trapped in such areas were butchered at the small hillside settlements in the immediate vicinity, which had been occupied since the Neolithic period (Çelik, 2018; Çelik and Ayaz, 2022). The bone remains found at Göbekli Tepe, too, indicate that the animals were dismembered at some other site, and then the parts of carcasses were carried to the site (Clare et al., 2019: 121). These entrapment areas are though to have been constructed to hunt the formerly dense gazelle populations in the region. However, since the stones that form the entrapment areas are lined up like domino stones and thus



are very sturdy, these type of entrapment areas could have been used for other animals (Çelik and Tolon, 2018)



Fig. 2. (Çelik and Tolon 2018, Photo 2. Side stones of Entrapment Area at Minzile Cimel Location of Sarpdere Village)

It would be best to take a closer look at the entrapment area at Sarpdere (Meri) village (**Fig. 3**, **Fig.4**). This entrapment area lies on a ridge between two hills, 1.5 km to the west of the Sarpdere (Meri) village and 60 km to the east of Şanlıurfa province. In the area formed by huge and flat stone blocks that are tilted on each other like domino stones, there are three entrapment areas that are "V" shaped. At the corners of these entrapment areas, there are five circular-planned positions with 4 m diameter. The archaeological surveys revealed blade and chip pieces made of flint-stone at the surface of the entrapment area with a roughly 100 decare surface area. This entrapment area is 4 km to the south of the Karahan Tepe settlement (Çelik and Ayaz, 2022; Çelik and Tolon, 2018; Çelik, 2017b).



Fig. 3 (Celik and Ayaz, 2022, Photo 1. View of the Sarpdere Entrapment Area to the South of Karahan Tepe)



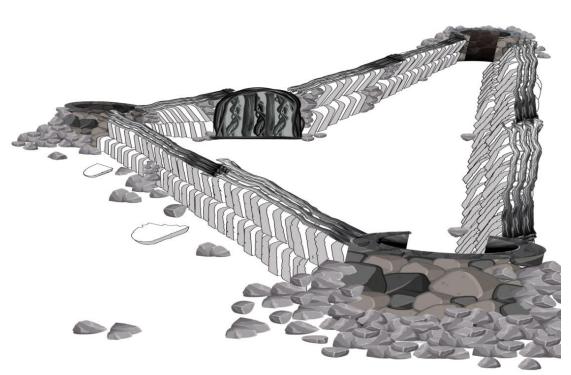


Fig. 4. The illustration of the enclosed area of the Sarpdere Entrapment Area to the South of Karahan Tepe (Illustration: Orhan Ayaz)

The two huge entrapment areas discovered near Selamet Village are among the best examples of these entrapment areas (**Fig. 5**) (Çelik, 2019; Çelik, 2015: 354).

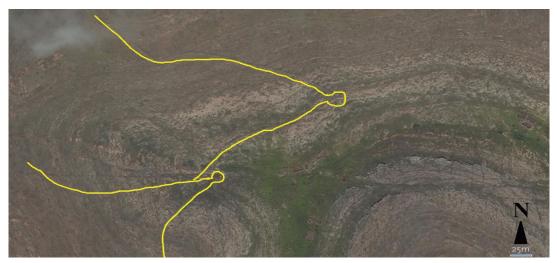
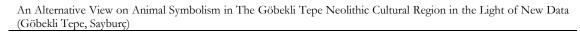


Fig. 5. (Çelik 2015, Fig.5. Triangle shaped entrapment areas at Guhera Abid location of Selamet Village)

2. Human-Animal Interaction in the Göbekli Tepe Cultural Region

The idea that Göbekli Tepe is a "temple" built by "hunters" was accepted for a long time (Schmidt, 2006). It was stated in the above paragraphs that there is sufficient data to prove that the sites within the same Göbekli Tepe Cultural Region were inhabited by humans during the whole four seasons and were long-term settlements that held some special structures for rituals. On the other hand, there is no objections to the argument that this place was built by "hunters". When an



alternative perspective is adopted regarding the animal symbolism of Göbekli Tepe Cultural Region, whether the animal depictions actually represent wild animals becomes questionable.

Based on the key food mammals, their body part representations, their skeletal size, sex and age, it was argued that the meat consumption in the Göbekli Tepe Neolithic site was dependent on hunting (Peters et al., 2020: 4612). The literature on the issue argues that the hunters who lived commonly nomadic lives performed persistence hunting, and at the end of the hunts, they held feasts at Göbekli Tepe (Dietrich et al., 2012; Dietrich, Notroff and Schmidt, 2017; Peters and Schmidt 2004). It can also be argued within such an economic model, there were limited interaction between wild animals and humans. Peters et al. (2017) states that livestock management began a few centuries earlier than the time when full domestication was achieved, 8500-8300 calBP -in the first half of the ninth millennium calBP². Such an interpretation led the first excavation team to deduce that "the early stages of livestock management were obviously situated within a cognitive world in which animals played a central and symbolic role" (Peters et al., 2020: 4615). Therefore, Klaus Schmidt and his colleagues maintained the view that the prevalent animal symbolism in the symbolic system of the PPNA period, richly expressed in the Göbekli Tepe culture, offered a context that encouraged the advent of husbandry (Peters et al., 2017). However this study argues that it is more reasonable that symbolic world and economic life should have influenced each other in the then-present interactive conditions. The possible ritual-use of the animals trapped and held in the entrapment areas for economic purposes should have encouraged more and more control over animals.

Recent studies show that morphological change in the mammals could have appeared late in the domestication process and can no longer be accepted as the leading-edge indicator of domestication (Zeder, 2011b: 230). In this sense, it can be said that domestication caused little morphological change and only in the male animals. It seems that the advent of animal management should be dated at least thousand years earlier than the manifestation of the archaeologically identifiable morphological changes among the managed animals (Zeder, 2011b: 227). In this context, the first attempts at manipulating the herds in Southeastern Anatolia could be dated to 11,700 BP (Zeder and Lemoine, 2022). For example, the wild boar, domesticated fully 10,500 years earlier in Southeastern Anatolia (Zeder, 2008), could be managed and manipulated at least since 11,500 calBP. Similarly, despite having later exact domestication dates, the pigs and cattle of this region could have gone through similar processes (Fig. 6) (Zeder, 2008: 11598). So, the following can be deduced from the above information: the emergence of Göbekli Tepe Culture coincides with intense human-animal interaction. The critical question here is this: how did this intense interaction in question materialize? Peters, Pöllath and Arbuckle's (2017: 248) reply is "[f]or the moment, however, neither the practicality nor the duration of this early management phase is well understood." Yet, many researchers agree that for the domestication of ungulates, there needs to be a close relation with their wild ancestors and humans. This, at the same time, requires a spatial isolation of managed animals from their wild ancestors (Peters et al. 2020: 4614). Therefore, Göbekli Tepe Cultural Region provides critical archaeological data on how this interaction might have materialized.³

³ For a similar mechanism in grains, see Zeder (2011). In addition, see Asouti and Kabukcu (2014) for changes in human-plant interaction since Early Holocen.



 $^{^2}$ Since Peters study is based on size reduction as the leading edge marker of domestication, the initial domestication dates are off the mark. It is probable that the domestication process has started almost 500 years earlier.

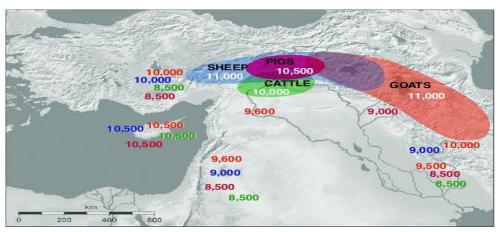


Fig.6 (Zeder, 2008, Fig. 1. "The origin and dispersal of domestic livestock species in the Fertile Crescent. Shaded areas show the general region and the approximate dates in calibrated years B.P. in which initial domestication is thought to take place.")

Within the framework above, Göbekli Tepe Cultural Region sheds light on the "nature" of humananimal interaction. It can be argued that the inhabitants (or at least, most of the males) of the Göbekli Tepe Cultural Region would have spent certain seasons of the year at the animal entrapment areas 3 or 5 km away from these sites and at the temporary hillside settlements built close-by to those entrapment areas (Çelik and Ayaz, 2022). That is to say, the neolithic inhabitants of the region had developed a different relationship than the former human-animal relationship that lasted for hundred thousands of years, for they have learned how to corral a amount of animals in one fell swoop in the huge entrapment areas that they had masterfully built in cooperation, and also, they have learned how to keep at least an important fraction of those animals within those areas for long periods. The symbolic depictions that indicate that the animals kept there might have been used in various rituals shall be handled in the following paragraphs. It might be argued that this new situation represents a different economic model than that of the "stone age economy" (Sahlins, 2016).

Celik who has discovered the entrapment areas there and those at many other Neolithic sites in the region (Celik, 2000, 2011, 2015, 2017, 2019; Celik and Tolon, 2018) and the author of this paper has conceptualized this new economic model as "hunting ground economy" (Celik and Ayaz, 2022). This subsistence strategy displays different characteristics when compared with former the persistence hunting economy and the later economy of husbandry. The most important difference from the former hunter-gatherer economy is that some of the animals were not killed immediately, but were corralled in an enclosed area and managed for a long time. This strategy meant the "nature" of the human-animal relations were to be changed in large. It required an intense human-animal interaction since the animals had to be fed in the enclosed areas to be used in various rituals. Yet, this was also different from the later economic model of agriculturehusbandry in which animals were totally domesticated. When the temporary nature of the hillside settlements around the entrapment areas are considered (Celik and Ayaz, 2022), this economic activity could be considered seasonal. The duration of this activity was possibly determined by the water and grass resources in these areas. Furthermore, when the lack of a social hierarchy formed on the basis of surplus products and economy in the Göbekli Tepe Culture is taken into consideration (Ayaz et al., 2022), this fact indicates that the animals entrapped here were just for



annual consumption. In addition, the public characteristic of the processing of cereal at Göbekli Tepe (Dietrich et al. 2012; Dietrich et al. 2019) implicates that the same characteristic is true for the seasonal entrapment area economy, since it, too, requires organization and division of labor. As Zeder has pointed out, there were stable and sustainable subsistence economies through a mixture of "free-living, managed, and fully domesticated" animals, at least 4.000 years before the presence of economies primarily based on agriculture and husbandry in the Near East (Zeder 2011b: 231). While it is true that the situation is not exactly clear due to the lack of faunal data/ specific methodology, we can talk about close and intense human-animal interaction based on the entrapment areas and symbolic system.

3. An Alternative Perspective on the Animal Symbolism in Göbekli Tepe Culture

Cultural memory is the result of a very selective process, not every event in history finds suitable material vessels for their representation (Sütterlin and Eibl-Eibesfeldt, 2013: 42). The large majority of the animals depicted in Göbekli Tepe Culture reflects the faunal communities of the region, rather than imaginary beings. There were at least 28 taxa identified from the depictions on the T-shaped pillars of the Göbekli Tepe site. In addition, along with the depictions of animals, there are also animal statues (sometimes in composite forms). The situation is same for the other sites of the Göbekli Tepe Cultural Region (Becker et al., 2012; Celik, 2011; Karul, 2022a; Notroff et al., 2014; Özdoğan, 2022; Peters and Schmidt, 2004). If we are to accept these common animal depictions and statues as indicative of the cultural memory, it is not hard to assume that the Neolithic inhabitants of this cultural region had intense interaction with these animals. Therefore, the question that must be asked is what was the "nature" of this interaction? When Klaus Schmidt defined the Göbekli Tepe site as a temple/shrine in which hunters gathered at certain periods for ritual purposes, he also defined how the animal symbols should be interpreted. Then again, this definition also supported the interpretations based on the archaeozoological approaches that accepted morphological change as the primary indicator of domestication. Such interpretations can be summarized as such: the animals depicted were those in nature, dangerous and frightening (for humans) (Hodder and Meskell, 2011; Peters et al., 2020: 4614; Peters and Schmidt, 2004). While Clare et al. (2019) stated that some of the animals were used in certain rituals as "scapegoats", the main focal point of the interpretations was that humans did not have any form of control over animals. So much so that these "incapable" hunter-gatherers attempted to gain control over these animals symbolically via the agency of "the suprantural beings evoked by the T-shaped pillars" (Peters et al., 2020: 4614). Therefore, according to these interpretations, animals were not the reflections of an experience in real life, but instead were related with "spiritual encounters" (and as such, related with "shamanic rituals") (Peters and Schmidt, 2004: 2011). According to these interpretations that received support from Cauvin (2000), humans established "physical" control over animals, just after establishing "mental" control over them via symbolic tools, and they later domesticated them (Peters et al., 2020: 4614).

However, new archaeological date and archaeozoological approaches elaborated above requires revising the former interpretations. Within this scope, this paper will attempt to establish an alternative interpretation regarding three animals of this culture (that will, at the same time, support the two data recounted above):

a) It seems that the people of this culture were not hunter-gatherer mobile groups (Notroff et al., 2014; Peters et al., 2020; Schmidt, 2010) living in different parts of the Fertile Crescent, but permanent inhabitants of these neolithic sites (Clare, 2020; Jeunesse, 2020; Karul, 2021, 2022a; Özdoğan and Uludağ, 2022).

b) The basic food sources of these inhabitants are not just wild animals and grains (Dietrich et al., 2019; Peters et al., 2020: 4612), but, along with grains that had also recently been introduced to the culture, animals that had been kept for a long period in the entrapment areas close-by to these sites (Çelik and Ayaz, 2022). The faunal evidence at Göbekli Tepe indicates that the primary source of meat consumption was gazelles (Peters et al. 2020: 4612). This data also shows that the entrapment areas were mostly used for gazelle hunting. Nevertheless the robust structure of the entrapment areas indicates that the second most consumed animal in this site, aurochs, were also entrapped, kept, and as it will be discussed below, possibly used in certain rituals in these entrapment areas. A similar process, while rarely, is possible for other species.

3.1. Wild Cattle

In the Near Eastern Neolithic, wild cattle (or aurochs) were commonly integrated into ritual practices, yet there were significant differences regarding the context, related ritual evidence, possible functions and meanings of these rituals (Hodder and Meskell, 2011; Meier et al., 2017; Peters and Schmidt, 2004; Twiss and Russell, 2009). Cauvin (2000) had also placed the bull cult at the center of the ideology of the early farmers. Similarly, aurochs depictions are common in the Göbekli Tepe Neolithic site. A striking depiction of an aurochs also appeared at Sayburc where excavations began recently. Under this topic, we will focus on two depictions that give the impression that they are part of a narrative within the scope of this study: first depiction is a wall depiction in Sayburç, and the second one is found on the T-shaped pillars at Göbekli Tepe. During the Neolithic Period, the Upper Euphrates basin was a suitable geography for the wild pigs, sheep (both will be discussed further below) and aurochs to live together (Peters et al., 2020: 4615). Moreover, archaeozoological remains demonstrate that these three animals had a significant place in forming the meat supply (Peters and Schmidt, 2004; Peters et al., 2020). In the wall depiction in Sayburç, we see a human and an aurochs, quite possibly during a confrontation, based on the phallus depiction of the human. Next to this wall depiction is another high relief depiction of a human holding its phallus, standing in the middle of two predatory animals (Özdoğan, 2022; Özdoğan and Uludağ, 2022). If we consider both compositions as two parts of a single narrative, the second depiction should be associated with rituals related to a person who comes out victorious from an encounter with an aurochs (and depiction with a phallus suggests the ritual in question can be an initiation rite). Thus, the depiction related with the bull-human encounter should reflect not the "human in struggle against the power of nature" as interpreted by Özdoğan and Uludağ (2022: 22), but the control of human over nature (and therefore, animals) (Fig. 7).





Fig. 7, The reliefs within the special structure AA in Sayburç, (Photo: Bekir Köşker, Journal of Archaeology and Art, Back Cover Photo, Özdogan & Uludağ, 2022: 16).

Given the data on this cultural region, it is perfectly reasonable to assume that the first part of the story is related to animals held in entrapment areas. Particularly, based on the architectural robustness of the entrapment areas (Çelik and Tolon, 2018), this shows that wild aurochs were also kept and held for a certain time in these entrapment areas. If the complete subjection of the wild aurochs to human management and manipulation in this region corresponds approximately to the time when this culture emerged, then the intense human-animal interaction, also the subject to certain rituals, must be associated with animals that have been kept for a certain time in these entrapment areas. Therefore, this narrative depicted on the wall at Sayburç, given the context, should not only be the result of a spiritual experience, but also be the reflection of a real-life event that was probably observed frequently.



At Göbekli Tepe, too, an aurochs is depicted in a confrontation, but the confrontation this time is not with a human, but a snake. In Enclosure D, the scene on P20, probably illustrates a confrontation between a snake and an aurochs (**Fig. 8**). Here, the snake is depicted as if moving down the shaft of the pillar, whereas the aurochs' legs are buckled, "kneeling down" as if to "surrender" according to Peters and Schmidt (2004: 184), and showing that the animal is near its end, possibly due to the poison according to Clare et al. (2019: 113), and thus recounting the final moments of an aurochs that has apparently fallen by a deadly snake attack.

Fig. 8, (Peters and Schmidt 2004: 190 "FIG. 8. – Göbekli Tepe. Enclosure D – P20, with snake, aurochs and fox. View from the north. Photograph I. Wagner. Schmidt, © Deutsches Archäologisches Institut, Berlin.")



An Alternative View on Animal Symbolism in The Göbekli Tepe Neolithic Cultural Region in the Light of New Data (Göbekli Tepe, Sayburç)



Another depiction at Göbekli Tepe also involves two aurochs probably after a confrontation, since their tongues are hanging out from their mouths and their legs are buckled in a scene, probably showing of their death, because, a zigzag line emitting from their eyes can be interpreted as a stream of blood, and because there is a bird, probably a vulture hanging above (Fig. 9) (Clare et al., 2019: 115). Based on other depictions, this bird in question may have the power to cause the demise of humans or animals. Clare et al. (2019: 105), basing their arguments on Girard (1977), associate these type of depictions with death and victim representations, and argue that these can be accepted as the most effective means of suppressing violence between rival communities where an authoritative legal/judicial system does not exist. However, the Sayburc descriptions point to the multiple meanings and functions of these competitions.

Fig. 9, (Clare et al. 2019: 115, "Figure 5.7 "Pillar 66 in Enclosure H showing two (one large and one smaller) aurochs at the moment of death; tongues are hanging limp from their mouths and legs are buckled forwards. Photo: N. Becker, Deutsches Archäologisches Institut (DAI)."

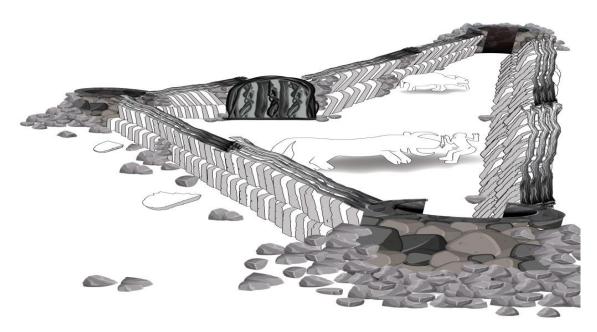


Fig.10. Three data were used in this illustration of human-animal interaction: a closed section of the Sarpdere entrapment area for location, one of the aurochs on Pillar 66 in Enclosure H, and part of the depiction on the Sayburç wall (Illustration: Orhan Ayaz).

3.2. Wild Boar

Another animal that has undergone a successful domestication process in Southwest Asia is the wild boar. Current archaeological evidence suggests that the time and place of the first domestication of pigs were 10,500 - 10,000 BP in Southeastern Anatolia (Zeder, 2008). Quite possibly, this animal was as important as the aurochs both as food and as part of the symbolic repertoire in the Göbekli Tepe Neolithic Period (Peters et al., 2020; Peters and Schmidt, 2004). For the purposes of this study, the images of the two pigs are significant. The first of these is the depiction that gives the impression that a wild boar is about to be attacked by a feline predator depicted as a high relief on the Pillar 27 in Enclosure C (Fig.11) (Clare et al., 2019: 112). Considering also the depiction at Sayburc, the intense human manipulation of animals can be seen regardless of the prevailing side –whether the victor in these confrontations are humans or animals (Fig. 10). After all, possibly humans in the first place organized these deadly confrontations that might be called contests, for which the entrapment areas were perfectly suitable place. In the leopard and the pig scene, it is possible to observe the human intervention on the leopard. Judging by the distinctive description of its ribs, the animal in question was probably left hungry and thus, its aggression was increased for such an event. Moreover, in this culture, the animals in an attack position were most of the time depicted with a phallus (Fig.13), and this suggests the possibility that the animals in these hypothesized contests were in mating season, when they would be more aggressive. In this context, not only these three domesticated animals, but also the poisonous and predatory animals used in the similar hypothesized contests should also have been under control and manipulation. Based on the hypotheses above, following conjecture can be drawn: Neolithic inhabitants of the Göbekli Tepe region could not have been "naïve" hunters, just frightened with the animals they have encountered in nature, but rather people who were experts in the manipulation of various animals. And it seems that they were not content with the aggression and violence of animals in their natural environment, but on the contrary, they were increasing the aggression for some rituals, using certain methods (i.e. as in the human depiction on Sayburç wall, irritating a bull with an object). Of course, the humans of this Neolithic cultural region being afraid of wild and predatory animals is something to be expected. Nonetheless, this study suggests that the emotion that forms the basis of this symbolic lexicon that highlights the danger and savagery of these wild animals is not fear.



Fig.11, (Dietrich et al., 2012: 680 "Figure 5. Pillar 27 in Enclosure C with the sculpture of a predator in high relief" (photograph: D. Johannes, © DAI)



An Alternative View on Animal Symbolism in The Göbekli Tepe Neolithic Cultural Region in the Light of New Data (Göbekli Tepe, Sayburç)



Fig. 12, (Peters and Schmidt, 2004: 198, "FIG. 17. – Göbekli Tepe. Enclosure C – Entrance (?), with wild boar in an upside down position (C29). View from the south." Photograph K. Schmidt, © Deutsches Archäologisches Institut, Berlin)

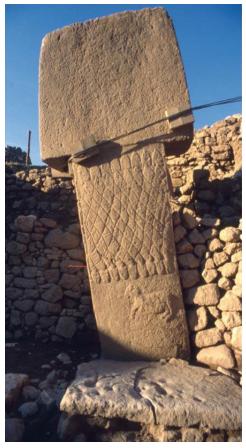
Another depiction of a wild boar, which appears to be the loser of a contest, was also found at the entrance to the Structure C. This wild boar appears to be upside-down, but it is not clear if it is on purpose. If so, the wild boar's position might indicate that it is dead (**Fig. 12**) (Peters and Schmidt, 2004: 184; Clare et al., 2019: 113).



Fig. 13, (Dietrich et al. 2017: 110, "Fig. 5.14 Pillar 51, one of the central pillars of Enclosure H, shows a leaping felid"© DAI, Foto N. Becker.)



3.3. Wild Sheep



Discussion and Conclusion

At Göbekli Tepe, the sheep was also playing an important role in supplying meat (Peters et al., 2020; Peters and Schmidt, 2004). As a matter of fact, sheep is one of three animals that have been successfully domesticated in Southwest Asia. Actually, it seems to be the early focus of the transition from hunting to livestock in this area (Peters et al., 2005; Zeder, 2008). In the Göbekli Tepe area, sheep (ram) depictions are not as common as other animals. The most impressive depiction of sheep at Göbekli Tepe is found in Pillar 1, one of the central pillars of Enclosure A. And here, too, we see another animal-animal encounter. The animal that gives the impression that it is in an attack position is the snake we are familiar with from another scene. A four legged animal, identified as a ram in Clare et al. (2019: 113) is caught within a "deadly snake-net" that Peters and Schmidt (2004: 184) describe as "made up of 17 snakes, 8 animals oriented upwards and 9 downwards" (Fig. 14).

Fig.14, (Dietrich et al. 2017: 106, "Fig. 5.10 Pillar 1, one of the central pillars of Enclosure A, carries a net-like pattern, possibly of snakes" (© DAI, Photo C. Gerber).

Bone remains indicate that the inhabitants of Göbekli Tepe made use of a wide range of animals for food (Peters et al., 2020; Peters and Schmidt, 2004: 206). Most of the vertebrate animals used as food can be seen in the art depictions (Peters and Schmidt, 2004: 209). In the literature on Göbekli Tepe culture, the animals consumed and depicted are described as wild animals. Based on this description, the animal symbols were associated with roles such as being temple "guards", with rituals such as hunting rituals, and with "totemism" (Peters and Schmidt, 2004:2010). Despite different interpretations (Banning, 2011; Becker et al., 2012; Benz and Bauer, 2015; Clare et al., 2019; Schmidt, 2006), as a result of these associations, animals in the symbolic system were considered to be representative of their free-life counterparts in nature, away from human control (i.e. management and manipulation), and thus, particularly their "intimidating" aspects were highlighted. Hodder and Meskell (2011: 241) considers the presence of wild animals in the symbolic system is natural, based on the idea that the economy of the region is dependent on wild animals. Similarly, Verhoeven (2002: 252) suggests that during PPNB, human-animal relationship was an expression of the wild, dangerous and aggressive dimensions of nature. As noted above, this perspective has caused the inference that the use of animal symbolism for social and religious purposes determined animal management and domestication (See Dietrich et al., 2012; Dietrich et al., 2019; Mithen et al., 2022: 2; Peters et al., 2017).

In the current state, new data presents challenges to old interpretations. Before the three animals discussed above were domesticated in Southwest Asia, humans had interacted intensely, closely and for a long time with these animals (Zeder, 2008). New archaeozoological studies show that

we can take this interaction back to the time this culture began to emerge (Zeder, 2011b). One of the most reasonable locations for this close and intense interaction could be these entrapment areas commonly found in this cultural region. In particular, the entrapment areas in the vicinity of these sites indicate that wild animals, primarily gazelles, were held in the entrapment areas around these sites, and some of them were not killed immediately and kept there for a certain time. The slope settlements near the entrapment areas also show that these animals were prepared as meat supply to be moved to sites there (Çelik and Ayaz, 2022). Based on the sturdy structure of these entrapment areas, it can be deduced that not just the gazelles, but large and powerful animals such as bulls were also kept there (Çelik and Tolon, 2018).

Animal-animal and animal-human contests were often repeated in the stage-shaped depictions in the Göbekli Tepe area. And interestingly, in most of the depictions, the animals that were subject to the domestication process in this area at this period give the impression that they are the losers of the hypothesized contests. Rather than being a coincidence, this can be read as the reflection of an over 1,000 years of experience. It seems that animals were not only kept as food in these entrapment areas, and the scenes that we discussed above must have reflected the rituals performed in this area. As it is in the Sayburç wall depiction, for a naked person (possibly an adolescent) of the period who was meant to anger a wild bull, the most suitable place to do so must have been the entrapment areas robust enough to keep the bull in its confined space. It seems likely that there was a closer and more intense relationship between the residents of the Göbekli Tepe region and animals than previously thought. As of now, we do not have faunal evidence regarding animal management within the context of domestication, as we do at Hallan Cemi (Zeder and Lemoine, 2022). However, the recent archaeofaunal methods render the argument in the literature that the animals in the Göbekli Tepe region were wild, beyond human management, questionable. The alternative view of the entrapment area economy requiring close and intense human-animal interaction and of the animal symbolism in this study suggests that wild animals had been subject to intense human intervention and manipulation.

References:

- Ayaz, O., Çelik, B. and Çakmak, F. (2022). "Status Society": Sociological Thinking of Göbekli Tepe and Karahan Tepe in the Context of Social Stratification. *Karadeniz Uluslararası Bilimsel Dergi*, 1(56), 122-142. DOI: https://doi.org/10.17498/kdeniz.1186376
- Asouti, E., & Kabukcu, C. (2014). Holocene semi-arid oak woodlands in the Irano-Anatolian region of Southwest Asia: Natural or anthrpogenic? *Quaternary Science Reviews*, 90, 158–182. https://doi.org/10.1016/j.quascirev.2014.03.001
- Banning, E. B. (2011). So Fair a House Göbekli Tepe and the Identification of Temples in the Pre-Pottery Neolithic of the Near East. *Current Antropology*, 52(5), 619-660. DOI: https://doi.org/10.1086/661207
- Becker, N., Dietrich, O., Götzelt, T., Köksal-Schmidt, Ç., Notroff, J. and Schmidt, K. (2012). Materialien zur Deutung der zentralen Pfeilerpaare des Göbekli Tepe und weiterer Orte des obermesopotamischen Frühneolithikums. Zeitschrift für Orient-Archäologie, 5, 14-43.
- Benz, M. and Bauer, J. (2015). On scorpion, birds, and snakes -Evidence for Shamanism in Northern Mesopotamia during the Early Holocene. *Journal of Ritual Studies*, 29(2):1-23.
- Cauvin, J. (2000). *The Birth of the Gods and the Origins of Agriculture*. Cambridge University Press.

Childe, G. (1964). What Happened in History. Harmondsworth: Penguin Books.

- Clare, L. (2020). Göbekli Tepe, Turkey. A brief summary of research at a new World Heritage Site (2015–2019). *e-Forschungsberichte* (2):81-88. DOI: https://doi.org/10.34780/efb.v0i2.1012
- Clare, L., Dietrich, O., Gresky, J., Notroff, J., Peters, J. and Pöllath, N. (2019). *Ritual Practices and Conflict Mitigation at Early Neolithic Körtik Site and Göbekli Tepe, Upper Mesopotamia*. I. Hodder (Ed.), in *Violence and the Sacred in the Ancient Near East: Girardian Conversations at Çatalhöyük* (pp. 96-128). Cambridge University Press.
- Çelik, B. (2000). An Early Neolithic Settlement in the Center of Şanlıurfa, Turkey. *Neo-Lithics*, 2(3), 4-6.
- Çelik, B. (2011). Karahan Tepe: a new cultural centre in the Urfa area in Turkey. Documenta Praehistorica XXXVII, 38, 241-253. DOI: https://10.4312/dp.38.19
- Çelik, B. (2015). New Neolithic cult centres and domestic settlements in the light of Urfa Region Surveys. *Documenta Praehistorica XLII*, 42, 353-364. DOI: https://10.4312/dp.42.25
- Çelik, B. (2016). A small-scale cult centre in Southeast Turkey: Harbetsuvan Tepesi. Documenta Praehistorica XLIII, 43, 421-428. DOI: https://10.4312/dp.43.21
- Çelik, B. (2017a). A new Pre-Pottery Neolithic site in Southeastern Turkey: Ayanlar Höyük (Gre Hut). Documenta Praehistorica XLIV, 44, 360-367. DOI: https://10.4312/dp.44.22
- Çelik, B. (2017b). Şanlıurfa İli Yüzey Araştırması, 2017. *Karadeniz*, 1(36):61-75. DOI: https://10.17498/kdeniz.357609
- Celik, B. (2018). 35. Araştırma Sonuçları Toplantısı, 22-26 Mayıs 2017, Bursa, Vol. I, 203-223.
- Çelik, B. (2019). Neolithic Dönem Kült Merkezi: Harbetsuvan Tepesi. Karadeniz Uluslararası Bilimsel Dergi, 43, 24-38. DOI: https://10.17.498/kdeniz.590720
- Çelik, B. and Ayaz, O. (2022). Rise of Göbekli Tepe Culture: "Hunting Ground Economy" and the Role of Speculative "Knowledge". *Karadeniz Uluslararası Bilimsel Dergi*, 1(56), 143-160. DOI: https://doi.org/10.17498/kdeniz.1189781
- Çelik, B. and Tolon, K. (2018). Şanlıurfa'dan Neolitik Dönem Tuzak Alanları. Karadeniz Uluslararası Bilimsel Dergi, 37:28-36.
- Dietrich, L., Meister, J., Dietrich, O., Notroff, J, Kiep, J., Heeb, J., Beuger, A. and Schütt, B. (2019).
 Cereal processing at Early Neolithic Göbekli Tepe, southeastern Turkey. *PlOS ONE*, 14(5),1-34. DOI: 10.1371/journal.pone.0215214
- Dietrich, O., Dietrich, L. and Notroff, J. (2019). Anthropomorphic Imagery at Göbekli Tepe. J. Becker, C. Beuger and B. Müller-Neuhof. (Ed.), in Human Iconography and Symbolic Meaning in Near Eastern Prehistory (pp. 151-66). Harrassowitz Verlag.
- Dietrich, O., Heun, M., Notroff, J., Schmidt, K. and Zarnkow, M. (2012). The role of cult and feasting in the emergence of Neolithic communities. New evidence from Gobekli Tepe, south-eastern Turkey. *Antiquity*, 86(333), 674-695. DOI: https://10.1017/S0003598X00047840
- Dietrich, O., Notroff, J. and Schmidt, K. (2017). Feasting, Social Complexity, and the Emergence of the Early Neolithic of Upper Mesopotamia: A View from Göbekli Tepe. R. J. Chacon and R. G. Mendoza (Ed.), in Feast, Famine or Fighting? Multiple Pathways to Social Complexity. Springer Nature. DOI: https://10.1007/978-3-319-48402-0_5
- Girard, R. (1977). Violence and the sacred. The John Hopkins University Press.

- Güler, G., Çelik, B. and Güler, M. 2013. New Pre-Pottery Neolithic Sites and Cult Centres in the Urfa Region. *Documenta Praehistorica XXXVII*, 40(1), 291-304. DOI: https://10.4312/dp.40.23
- Güler, M. and Çelik, B. (2015). Şanlıurfa Bölgesi Neolitik Dönem Araştırmaları . *Belgü*, (1), 75-102.
- Hodder, I. (2006). *The Leopard's Tale: Revealing the Mysteries of Çatalhöyük*. Thames and Hudson.
- Hodder, I. and Meskell, L. (2011). A "Curious and Sometimes a Trifle Macabre Artistry" Some Aspects of Symbolism in Neolithic Turkey. *Current Antropology*, 52(2), 235-263.
- Jeunesse, C. (2020). Elite houses or specialised buildings? Some comments about the special buildings of Göbekli Tepe in relation to Chapters 2 and 3. G. Anne Birgitte, L. Sørensen, A. Teather and C. Valera (Ed.), in Monumentalising Life In The Neolithic Narratives Of Change And Continuity. Oxbow Books.
- Karul, N. (2021). Buried Buildings at Pre-Pottery Neolithic Karahantepe. *Türk Arkeoloji ve Etnografya Dergisi*, (82), 21-31.
- Karul, N. (2022a). Karahantepe Çalışmalarına Genel Bir Bakış. Arkeoloji ve Sanat, 169, 1-8.
- Karul, N. (2022b). Şanlıurfa Neolitik Çağ Araştırmaları Projesi: Taş Tepeler. Arkeoloji ve Sanat, 169.
- Kinzel, M. and Clare, L. (2020). Monumental—Compared to what? A perspective from Göbekli Tepe. Anne Birgitte, L. Sørensen, A. Teather and C. Valera (Ed.), in Monumentalising Life In The Neolithic Narratives Of Change And Continuity. Oxbow Books.
- Meier, J. S. A., Goring-Morris, N. and Munro, N. D. (2017). Aurochs Bone Deposits at Kfar HaHoresh and the Southern Levant across the Agricultural Transition. Antiquity, 91(36), 1469-83. DOI: 10.15184/aqy.2017.179
- Mithen, S. (2004). After The Ice A Global Human History 20,000–5000 BC. Harvard University Press.
- Mithen, S., Richarson, A. and Finlayson, B. (2022). The Flow of Ideas: Shared Symbolism between WF16 in the South and Göbekli Tepe in the North during Neolithic Emergence in South-West Asia. *Antiquity*.
- Notroff, J., Dietrich, O. and Schmidt, K. (2014). Building Monuments, Creating Communities. Early Monumental Architecture at Pre Pottery Neolithic Göbekli Tepe. J. Osborne (Ed.), in Approaching Monumentality in Archaeology (pp. 83-105). SUNY Press.
- Notroff, J., Dietrich, O. and Schmidt, K. (2016). Gathering of the dead? The Early Neolithic sanctuaries of Göbekli Tepe, Southeastern Turkey. C. Renfrew, M. J. Boyd, I. Morley (Ed.), in Death Rituals, Social Order and the Archaeology of Immortality in the Ancient World (pp. 65-81). Cambridge University Press. DOI: https://doi.org/10.1017/CB09781316014509
- Özdoğan, Eylem. 2022. The Sayburç Reliefs: A Narrative Scene from the Neolithic. *Antiquity*, 96(390):1599-1605. DOI: 10.15184/aqy.2022.125
- Özdoğan, E. and Uludağ, C. (2022). Sayburç: Şanlıurfa'da Yeni Bir Çanak Çömleksiz Neolitik Dönem Yerleşimi. *Arkeoloji ve Sanat* 169, 9-24.

- Peters, J., Driesch, A. von den and Helmer, D. (2005). *The upper Euphrates-Tigris basin: cradle of agro-pastoralism?*. J.-D. Vigne, J. Peters and D. Helmer (Ed.), in *First Steps of Animal Domestication New archaeozoological approaches* (pp. 96-124). Oxbow Books.
- Peters, J., Pöllath, N. and Arbuckle, B. S. (2017). *The Emergence of Livestock Husbandry in Early Neolithic Anatolia*. U. Albarella, M. Rizzetto, H. Russ, K. Vickers and S. Vinner-Daniels (Ed.), in *The Oxford Handbook of Zooarchaeology* (pp. 247-65). Oxford University Press.
- Peters, J. and Schmidt, K. (2004). Animals in the symbolic world of Pre-Pottery Neolithic Göbekli Tepe, south-eastern Turkey: a preliminary assessment. *Anthropozoologica*, 39(1), 179-2018.
- Peters, J., Schmidt, K., Dietrich, L., Dietrich, O., Pöllath, N., Kinzel, M. and Clare, L. (2020). Göbekli Tepe: Agriculture and Domestication. C. Smith (Ed.), in Encyclopedia of Global Archaeology (pp. 4607-18). Springer. http://dx.doi.org/10.1007/978-3-319-51726-1_2226-2
- Sahlins, M. (2016). Taş Devri Ekonomisi. (2. Baskı). BGST Yayınları.
- Schmidt, K. (2006). Sie bauten die ersten Tempel Das rätselhafte Heiligtum am Göbekli Tepe. München: Verlag C.H.Beck oHG.
- Schmidt, K. (2010). Göbekli Tepe the Stone Age Sanctuaries. New results of ongoing excavations with a special focus on sculptures and high reliefs. *Documenta Praehistorica XXXVII* 37, 239-56. http://dx.doi.org/10.4312/dp.37.21
- Sütterlin, C. and Eibl-Eibesfeldt, I. (2013). Human Cultural Defense: Means and Monuments of Ensuring Collective Territory. *Neo-Lithics*, 13(2), 42-48.
- Twiss, K. C. and Russell, N. (2009). Taking the bull by the horns: ideology, masculinity, and cattle horns at Çatalhöyük (Turkey). *Paléorient*, 35(2), 19-32. http://dx.doi.org/10.3406/paleo.2009.5296
- Verhoeven, M. (2002). Ritual and Ideology in the PrePottery Neolithic B of the Levant and Southeast Anatolia. *Cambridge Archaeological Journal*, 12(2), 233-58. DOI: 10.1017/S0959774302000124
- Zeder, M. A. (2008). Domestication and early agriculture in the Mediterranean Basin: Origins, diffusion, and impact. *Proceedings of the National Academy of Sciences*, 105(33), 11597-11604. DOI: 10.1073/pnas.0801317105
- Zeder, M, A. (2011a). Religion and The Revolution: The Legacy of Jacques Cauvin. *Paléorient*, 37(1), 39-60. DOI: 10.3406/paleo.2011.5437
- Zeder, M. A. (2011b). The Origins of Agriculture in the Near East. *Current Antropology*, 52(4), 221-35.
- Zeder, M. A., & Lemoine, X. (2022). A Journey Begins with a Single Step: How Early Holocene Humans and Wild Boar (Sus scrofa) Embarked on the Pathway to Domestication in the Eastern Fertile Crescent. *Journal of Archaeological Method and Theory*. DOI: https://doi.org/10.1007/s10816-022-09576-4

Çatışma beyanı

Makalenin yazarı, bu çalışma ile ilgili taraf olabilecek herhangi bir kişi ya da kuruluşla finansal ilişkisi bulunmadığını dolayısıyla herhangi bir çıkar çatışmasının olmadığını beyan eder.

Destek ve teşekkür

Çalışmada herhangi bir kurum ya da kuruluştan destek alınmamıştır.