



“WHAT DOES THIS HAVE TO DO WITH ARCHAEOLOGY?”

*Essays on the Occasion of the 65th Birthday
of Reinhard Bernbeck*

EDITORIAL COLLECTIVE



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of Reinhard Bernbeck*

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HERAUSGEBER*INNENKOLLEKTIV

Aydin Abar, Mette Bangsborg Thuesen, Georg Cyrus, Vera Egbers, Jana Eger, Ilia Heit,
Benjamin Irvine, Christine Kainert, Johannes Köhler, Moslem Mishmastnehi,
Birgül Ögüt, Sarvenaz Parsa, Giulia Russo, Julia Schönicke, Stefan Schreiber,
Francelin Tourtet, Lisa Wolff-Heger

in cooperation with
Svend Hansen and Regina Uhl

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Capitalizing Ruins or Ruins of Capitalism

Göbekli Tepe and the Impact of Excavations in the Anthropocene

Julia Schönicke

Introduction

“Even the archaeological layers will contain microplastic in the future! These tiny pieces – and you will find them in your sediment samples,” stated Reinhard Bernbeck on the remains of modernity in one of our colloquia, that Susan Pollock and he organize for master and doctoral candidates at the Freie Universität Berlin each semester. This started one of our many discussions on the Anthropocene which have significantly impacted the development of my dissertation, in which I analyze both Neolithic and contemporary ruin interactions at Göbekli Tepe. Surprisingly, the archaeological view is still strongly oriented towards the (ancient) past, although the field of contemporary archaeology has shed light on the importance of documenting the recent past and present through archaeological method and theory for over 30 years (Graves-Brown 2000; Harrison and Schofield 2010; Holtorf and Piccini 2011; Bernbeck 2017). When analyzing ruin interactions, it is obvious that we, as archaeologists, are entangled with ruins in past and present contexts all the time. But ruins embody not only the past and present but also the future as they reflect the ephemeral materiality in which everything that exists will decay eventually (Meier 2023, 72). I am therefore concerned with the question of how Göbekli Tepe will appear as a ruin in the future after its re-occupation and future abandonment by archaeologists and visitors.

In this paper,¹ I focus on the impact of excavations on archaeological sites in the Anthropocene. First, different Anthropocene discourses are presented including those of the Capitalocene, Plantationocene, and Chthulucene to raise awareness about the sharpest markers and their onsets. Second, I highlight ruins as interaction spheres in which the different facets of the Anthropocene manifest themselves. Using the example of Göbekli Tepe in the third part of this paper, I demonstrate to what degree

Julia Schönicke
Freie Universität Berlin,
Institut für Vorderasiatische
Archäologie

1 This paper is based on my talk “Archaeologists as Time Travelers – Creating Unimagined Futures in the Age of the Anthropocene” held at the 28th EAA Annual Meeting in Budapest, Aug 31–Sept 3, 2022. The talk was part of the session “Archaeology as Study of the Future” organized by Thomas Meier, Cornelius Holtorf, and Anders Högberg. This talk also has its basis in my dissertation project “All Places are Temporary Places” – Auffassungspraktiken und Ruineninteraktionen in der neolithischen Siedlung Göbekli Tepe, Türkei” (working title), supervised by Reinhard Bernbeck, Ricardo Eichmann, and Lee Clare, conducted at the Institute of Near Eastern Archaeology, Freie Universität Berlin.

the Anthropocene is detectable in the Neolithic layers of the site. How abandoned is the site, actually? The modern interactions of agriculture, excavation, conservation, and tourism have created a new occupation phase that I refer to as the “Anthropocene horizon” and that I add to the site’s biography.

Widening the Anthropocene debates

Since the Neolithization process, humans have relentlessly reshaped the planet to suit their needs. With industrialization in the 19th century and the detonations of atomic bombs since 1945, the anthropogenic impact on earth has become so severe, that the (not undisputed) concept of the Anthropocene has been proposed to follow the Holocene. The term was initially introduced by biologist Eugene F. Stoermer in the early 1980s and later popularized by the atmospheric chemist Paul Crutzen (Crutzen and Stoermer 2000; Crutzen 2002) to describe the irreversible and globally detectable effects of humans on earth. Changes in geological epochs are indicated by a Global Boundary Stratotype Section and Point (GSSP) or “golden spike” that define the base of a boundary within the Geological Time Scale (GTS). Hence, it is currently discussed which parameters define the onset of the Anthropocene (Waters et al. 2018; Syvitski et al. 2020). Usually, these discussions are carried out within the geological community within the scope of activities of the Stratigraphy Commission of the Geological Society, that later formed the Anthropocene Working Group (AWG) to standardize the decisive factors for the beginning of the Anthropocene by defining globally detectable chronostratigraphic markers (SQS 2009). At present, the onset of the Anthropocene is reflected in various parameters and stages. The earliest stage is marked by the immense increase of CO₂ in the atmosphere caused by the industrialization. The Great Acceleration starting in 1945 marks a second stage (Steffen et al. 2007, 617), with radionuclides from nuclear weapons being the sharpest marker worldwide (Zalasiewicz et al. 2021, 7). The Anthropocene creates a diverse technosphere that comprises a complex entanglement of social structures, physical infrastructure, and technological artifacts (Zalasiewicz et al. 2017, 10). The latter are referred to as technofossils if they bear the potential to become index fossils of the Anthropocene, such as books or mobile phones (Zalasiewicz et al. 2017, 19), chicken bones (Bennett et al. 2018), or the geological cycle of plastics (Zalasiewicz et al. 2016).

With the popularization of the term “Anthropocene”, the discourse extended into almost all academic disciplines including the social sciences, philosophy, and anthropology, but also into the public sphere and the media (for a summary of the latest discussions see Folkers 2020; Zalasiewicz et al. 2021). Debates began as to whether the onset of the Anthropocene should be viewed as beginning

much earlier in time, with some scholars even placing its start at the Pleistocene–Holocene boundary (B.D. Smith and Zeder 2013). Bruce Smith and Melinda Zeder argue that the driving force of the Anthropocene is the ability of humans to modify ecosystems (ecosystem engineering/ niche construction) which started with the processes of Neolithization (mainly through the domestication process of plants and animals) and is therefore to be seen as the ultimate and defining cause for the critical developments that we are experiencing today (B. D. Smith and Zeder 2013, 5).

This view is highly problematic as it masks the fact that it is not “humanity” as an entity that is the cause for the crises of the Anthropocene, but historically specific economic conditions of suppression and exploitation – namely colonialism, racism, and capitalism (Folkers 2020, 599), or evolutionary social history on earth (Haraway and Tsing 2019). Recent studies demonstrate that low-intensity land use, as it was carried out for more than 12,000 years as well as indigenous land management today, are not resulting in declining biodiversity (in fact the opposite), but rather appropriation, colonization, and intensified land use in historic and modern times has caused this (Ellis et al. 2021, 7).

In this context, the term “Capitalocene” shifts the focus around these conditions and was introduced by political theorist and ecological Marxist Jason W. Moore (Moore 2017; 2018). Moore describes the Capitalocene as a system of power and profit, and the control of (re-) production but aims to simultaneously overcome the nature/culture dichotomy (Moore 2017, 594). By analyzing the onset of colonialism in the 15th century, which opened the way for intensified and more pronounced capitalist exploitation and accumulation, Moore unmasks the actual driving and destructive forces in the Anthropocene narratives that sound too “comforting” (Moore 2017, 595) in their original geological descriptions. The concept of the “Plantationocene” (by feminist philosopher Donna Haraway, anthropologist Anna Tsing and others, see Haraway et al. 2016) specifically addresses the devastating conditions of the slave plantation system that created exploited and alienated labor (Haraway 2015, 162; Yusoff 2018).

Debates about the naming and the exact timing of the onset of the Anthropocene and whether it must be viewed as a boundary event rather than an epoch are still ongoing (Edgeworth et al. 2019; Gibbard et al. 2022; Waters et al. 2022), and will perhaps only be clarified in the far future after the end of the Anthropocene (Haraway 2015, 162). Philip Gibbard et al. (2022) argue against the definition of a geochronological epoch since it would limit the Anthropocene’s utility across disciplines to engage with human-environment interactions. Rather, they propose the Anthropocene

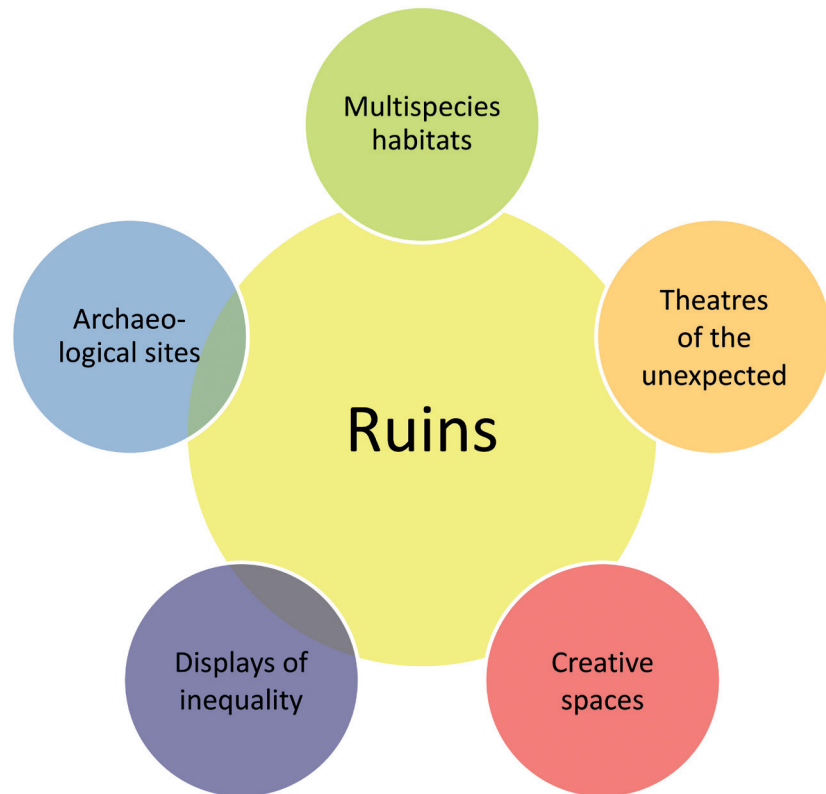


Fig.1. Ruins as interaction spheres.

as a geological event, a concept that has recently been picked up and supported by researchers of the Anthropocene Working Group (Waters et al. 2022). The present cross-disciplinary debates offer an opportunity to highlight political, economic, ecological, and social responsibilities that demand redistribution and re-appropriation (Folkers 2020, 600). According to Haraway (2016), the post-Anthropocene future lies in multispecies entanglements that will develop in the compost pile of the Anthropocene – the Chthulucene – where humans are not the only dominant actors but are rather “with and of the Earth, and the biotic and abiotic powers of this Earth are the main story” (Haraway 2016, 11). Yet, the ruins – or ghosts – of the Anthropocene will provide a significant challenge of so far unforeseeable dimensions for future life in “haunted landscapes” (Gan et al. 2017, G1–2).

Certainly, the discussions around the re-naming the Anthropocene are essential although it seems that the term is now intricately intertwined with the discourse and over a hundred alternative terms have been presented so far (Zalasiewicz et al. 2021, 19). I therefore follow Tsing who argues for the usefulness of the concept (Haraway et al. 2016, 541) as its widespread dissemination and awareness holds potential to move beyond disciplinary boundaries and prejudices (Gan et al. 2017, G2). Yet, one cannot exclude the Capitalocene, Plantationocene, and Chthulucene from

the Anthropocene discourse – one conversation cannot be conducted without the other.

The myriad facets of the Anthropocene are distinctly reflected in ruin interactions. Why is that so? Especially considering that contemporary ruins are somewhat off the grid and hence escape legal control mechanisms. Their unsettled nature is liberating in an otherwise planned environment. These informal spaces comprise a variety of affordances and encourage creative actions (Hudson 2014, 194). Therefore, they attract humans and non-human to the same extent.

Ruins as interaction spheres

Interactions with ruins are highly diverse and are well attested in past and present contexts which is reflected by the presence of abandoned places (Cameron and Tomka 1993; Olsen and Pétursdóttir 2014; Lamoureux-St-Hilaire and Macrae 2020). I therefore assume that they will continue to happen in the future. Most people interact with ruins in a planned and distant way, like when they visit an archaeological site. But beyond this, there are many more possibilities for approaching abandoned places. By defining different interaction spheres, I illustrate various ways of engaging with ruins. I address ruins as 1. multispecies habitats, 2. theatres of the unexpected and creative spaces, 3. displays of inequality, and 4. archaeological sites (Fig. 1).

Ruins as multispecies habitats

Whether a ruin enters the realm of becoming a protected archaeological site or is going to be torn down comprise various factors of decision-making. This becomes especially clear when we look at contemporary industrial ruins which are often overlooked as cultural heritage despite (or perhaps because of) the fact that they are present in abundance (Briante 2010, 128; Pétursdóttir and Olsen 2014a, 4). Commonly, they are perceived as an eyesore by the public, untidy, and overgrown by weeds. In contrast, historic and ancient ruins are extremely popular since the Romanticism of the 18th century and its *Ruinenlust* (DeSilvey and Edensor 2013, 2); but there is another way in which ruins can be seen as cultural heritage in their state of decay (DeSilvey 2017). When approaching ruins in a non-human-centered way they create multispecies habitats that were able to flourish because they were not disturbed by high-impact human interactions. Caitlyn DeSilvey, Tim Endesor, and Rodney Harrison brought attention to the importance of ruins for biodiversity and curating their decay as part of dynamic building or site biographies (DeSilvey and Edensor 2013; DeSilvey and Harrison 2020) which creates, following Tsing, polyphonic landscape-based assemblages (Tsing 2015, 24). This challenges conventional conservation concepts and opens the discourse for new understandings of heritage management with change and transformation as driving forces for dynamic synergies (DeSilvey et al. 2020, 360).

Ruins as theatres of the unexpected and creative spaces

The tolerance of contemporary ruins is culturally specific but also depends on the value of the land. In densely built-up areas, abandoned buildings are more likely to be considered economically inefficient than in sparsely populated regions. As they are often rapidly demolished, many of them vanish without any archaeological documentation, especially when they have no historic “value” and are therefore of no interest for conservation. The last people entering these places in their state of decay are Urban Explorers (Ninjalicious 2005; Cummings 2017). Urban Exploration is a subcultural movement that explores and documents abandoned places whereby urban spaces are reconquered in a non-capitalist way through discovery, new perceptions, and unpredicted experiences (Pinder 2005, 388–89; 2015, 31; Fassi 2010, 146; Pétursdóttir 2015, 106). This also stimulates creative engagement with the built

environment as in music² or art (Solis 2014)³, or as children’s adventure playgrounds (Hudson 2014, 198).

However, subcultural movements are quite often popularized and then commercialized (for example the techno scene that started as illegal raves in abandoned warehouses; see Schwanhäußer 2010). The same has happened to many places that fell into oblivion and were only occasionally visited by Urban Explorers. Today, ruin tourism has developed in many formerly abandoned places. I explicitly say *formerly* as I do not address as abandoned anymore. These phenomena are most visible in “haunted places” that address the strange and surreal such as the radioactively contaminated city of Pripjat in Ukraine (Stone 2005), the coal miner settlement of Hashima Island, Japan (López Galviz et al. 2017, 547–48), or the Beelitzer Heilstätten sanatorium in Germany (Pawlik and Krause 2020). It was long forbidden to enter the latter, but when photos of the eerie looking interior became popular on the internet and visitor numbers increased, the site was secured, tidied, and opened to the public. An elevated walkway was constructed between the buildings (“*Baumkronenpfad*”) that fundamentally changed the appearance of the site. With an entrance fee of 13.50 € it is possible to now see the buildings, but only from the outside. Guided tours of the interior of the buildings have to be booked and paid for separately.⁴ The ruin became, as many, commodified and capitalized.

Ruins as displays of inequality

Industrial ruins are probably perceived differently by a factory worker than by a tourist. Anthony J. Fassi describes the latter as the “picturesque gaze” and criticizes ruin tourism because it disguises exploitative conditions that are deeply intertwined with many of these places (Fassi 2010, 149). This “gaze of *Ruinenlust*” (López Galviz et al. 2017, 532), or “ruin pornography” (Macfarlane 2019, 184–85) often results in a loss of empathy for the subaltern that depend on the use of ruins as shelter (Macfarlane 2019, 186). Homeless people often find shelter in abandoned places since they afford the lack of surveillance and restrictions compared with “official” facilities (Hudson 2014, 194).

- 2 For example, the album “Piramida” by the Danish band “Efterklang” originated from the exploration of the abandoned miners settlement of Pyramiden in Svalbard in 2011, during which the musicians collected over 1000 field recordings and processed them into songs (Efterklang 2012). For a making-of of the album see “The Ghost of Piramida” documentary by Andreas Koefoed, 2012. It also integrated some historic documentation of the place (Vimeo 2013).
- 3 The artist Julia Solis documents “Landscapes of Decay” in abandoned buildings which she describes as the combination of a natural and a decaying anthropogenic landscape that together create a third narrative (Solis 2005).
- 4 See the homepage of “Baum & Zeit” [HPG Projektentwicklungs GmbH], a private corporation that manages the area of the Beelitzer Heilstätten since 2015 (Baum und Zeit n.d.).

This is reflected also in the squats utilized by people on the move, for example in the region of Velika Kladuša in Bosnia, which is a place of humanitarian and political crisis on the so-called “Balkan Route”. There, people occupy ruins temporarily without having access to clean drinking water, protection from harsh weather, or access to hygiene facilities. The squats are often torn down and burnt down by the police. However, most people prefer staying there rather than in state-funded camp structures where they suffer from, and are subjected to more suppression.⁵ The sensitive photographic documentation of these places, in combination with interviews with people on the move demonstrates that ruin photography can be used to raise awareness of the conditions of suppressions without the gaze of *Ruinenlust* but through – to a certain degree – empathetic approaches (Bernbeck 2017, 14). Ruin photography is therefore strongly connected with the intention of the photographer and can indeed represent the authenticity of an archaeological socio-critical engagement with materiality (Pétursdóttir and Olsen 2014b, 9). Also, and most importantly, the materiality uncovers what is often blanked out: the existence and suffering of the subaltern such as people on the move, the homeless, and displaced people (Pollock and Bernbeck 2016, 34–35; Meier 2023, 69 (for full citation see bibliography)).

Ruins as archaeological sites

Once a ruin becomes “valuable” enough to be preserved, it enters the realm of conservation by becoming an archaeological site. The creation of cultural heritage is a process of cultural and political practices (L. Smith 2006). Its character is not intrinsic to ruins but rather is created with decision-making based on human perception, experience, or emotional or political attachment that are, in turn, filtered through concepts of history and identity (Pétursdóttir 2015, 112). By this, ruins create memory spaces of cultural history (Nora 1989, 18–19; A. Assmann et al. 2002). This leads to a qualitative differentiation. Often, stone/stone-built ruins attract the most attention as they express a certain monumentality, such as Stonehenge in Great Britain (Thomas 2021, 294), the pyramids of Egypt (J. Assmann 2003) or, as presented here, Göbekli Tepe (Kinzel and Clare 2020). Less, or not, visible and therefore less present in the heritage discourse is immaterial cultural or natural heritage which results in an overestimation of the ability of stone ruins to create memory places.

Conservation measures aim to preserve the current state of ruins, to arrest their decay, and to make them accessible to the public. Yet, this focus covers the fact

that even the aim of preserving leaves significant traces. With some exceptions (e.g., Mytum and Meek 2021), archaeological sites are only rarely investigated for their modern re-occupation or their materiality that can be addressed as future heritage (Pétursdóttir 2020). One day, when Göbekli Tepe will be abandoned for the second time in its biography (except from a few sporadic visits from post-Neolithic times to the Anthropocene), what will remain of our contemporary interactions? How will we detach from the place (following Lamoureux-St-Hilaire and Macrae 2020)? To what degree is the Anthropocene even detectable at Göbekli Tepe considering that the archaeological ruins are under governmental monument protection? And what landscapes create this Neolithic-Anthropocene entanglement?

Anthropocene ruin interactions at Göbekli Tepe

The site has a long research history with excavations still being carried out today that have led to, and continue to lead to a fundamentally new understanding of the site (Clare 2020; Kinzel and Clare 2020; Kinzel et al. 2021; Braun 2021; Breuers 2022; Breuers and Kinzel 2022; Schönicke 2022). Göbekli Tepe (Kurdish: Girê Miraza or Xerabreşkê) was discovered in 1963 by Peter Benedict during a survey conducted by the Joint Istanbul–Chicago Universities’ Prehistoric Research in Southeastern Anatolia project under the direction of Halet Çambel and Robert Braidwood (Çambel and Braidwood 1980). After more than 30 years, the mound was revisited by a small team under the direction of Klaus Schmidt from the German Archaeological Institute (DAI), and excavations began in the following year, 1995 (Schmidt 1995; 2000). At present, the project is under the direction of Necmi Karul (Istanbul University), and coordinated by Lee Clare (DAI Istanbul) in close cooperation with the Republic of Türkiye’s Ministry of Culture and Tourism, and the Şanlıurfa Museum. Following the popular science publication *Sie bauten die ersten Tempel. Das rätselhafte Heiligtum am Göbekli Tepe* by Klaus Schmidt (2006) and its English translation *Göbekli Tepe. A Stone Age Sanctuary in South-Eastern Anatolia* (2012), Göbekli Tepe gained public awareness worldwide. Translations into many other languages followed and the site frequently received (and continues to receive) visitors from all over the world. Narratives created by the archaeologists themselves, such as “the first temples” or “mountain sanctuary” attracted large numbers of visitors and journalists and soon spread over into fringe sciences in formats like the television series *Ancient Aliens*. Then in 2018, the inscription to the UNESCO World Heritage List resulted in an immense media impact and focus and the official *Göbekli Tepe Year* was heralded in 2019 by the Turkish Ministry of Culture and Tourism to further promote the site for

⁵ The non-profit association Blindspots offers direct support in areas of political and humanitarian crises and documents the dramatic conditions at the EU’s external borders. For their work in the squats in Velika Kladuša see Blindspots n.d.

visitors (Kinzel 2021, 105). This led to another “Göbekli Tepe boom” and even a Turkish Netflix fantasy series (*Atiye*, in English *The Gift*)⁶ has been filmed there. The current slogan of the Göbekli Tepe marketing campaign – “zero point in time” – builds upon the already existing superlatives (Doğu Group n.d.). Göbekli Tepe became a brand with the T-pillars as its brand icon. At present, Göbekli Tepe, on average receives 1000–1250 visitors per day with a total of 336,000 visitors in 2019 (Kinzel 2021, 103). But tourists are not the only ones who come to site frequently. Less visible though, are the seasonally returning archaeologists who have been coming for over 25 years. Two field seasons are carried out each year and conservation measures have included the constructions of two permanent protective shelters.

When taking all these modern interactions into consideration, I address them as an occupational layer that I add to the biography of the site and define them as an Anthropocene horizon. In this context, I do not simply focus on Neolithic abandonment practices at Göbekli Tepe, but rather aim to uncover how deep the Neolithic and the Anthropocene are entangled, what will remain if we leave the place, and how people might perceive our materiality in the far or not so far future.

The Anthropocene survey

In June 2022, I conducted a survey to document the contemporary interactions at Göbekli Tepe that I define as an Anthropocene horizon (Schönicke in preparation).⁷ I divide those interactions in four spheres: 1. agriculture, 2. excavation, 3. conservation, and 4. tourism.

Interaction sphere: Agriculture

The farmers from the nearby village of Örencik (formerly Karaharabe) used the fertile sediments of the mound for agriculture for over 100 years. Shepherds also rested at the site with their sheep and goats. The far-visible wishing tree marks the highest point of the tell and has been a place of attraction for the people in the area for many years (Schmidt 2006, 15).

Interaction sphere: Excavation

The excavation infrastructure of over 25 years of fieldwork and its materiality is distinctly recognizable at the site. It comprises working and storage containers, eating areas, toilets, access roads and paths, power supply, activity areas for screening and flotation, containers for housing the guard, and excavated backdirt piles.

6 *Atiye* was released on Netflix in three seasons from 2019 to 2021, produced by Belkis Turan.

7 The final evaluation of the data is still pending. In this paper, some preliminary results are presented.

Interaction sphere: Conservation

Conservation measures are carried out contemporaneous to fieldwork. At present, several protective shelters with rainwater drainage, terracing walls to prevent landslides, and a fence were constructed (Clare 2020; Kinzel 2021). Also, conservation measures on the Neolithic structures themselves have been carried out.

Interaction sphere: Tourism

As long as there is fieldwork at Göbekli Tepe, visitors come from near and far. Today, the touristic infrastructure comprises a newly constructed visitor center with a small museum and a multimedia show, a café, and parking lots located 700 m to the southwest of Göbekli Tepe. Shuttle buses transport visitors to the site. Four shuttle buses are currently in service limiting the number of visitors brought onto the site at once to 60 (Kinzel 2021, 103). At the site itself, another shop and café with a parking area for the shuttle buses, wooden walkways, and viewpoints are located.

Survey methods and data evaluation

I surveyed four main zones; the excavation area, the surrounding plateau, the road from the tepe to the visitor center, and the visitor center itself. The contemporary structures were described and photographed. Within the survey zones, I concentrated on several investigation areas that contain, in turn, activity areas. On the smallest scale, I defined several 5x10 m or 10x10 m units in which I collected modern artifacts. Neolithic objects were not recorded or taken. The finds were sorted, documented, counted, photographed, and then discarded.⁸ I recorded the type, the material, and where possible dates of production and/or expiration that were printed on the objects. The latter help with dating the objects as the date of production forms a *terminus post quem* for the moment of discard, whereas the date of expiration is the *terminus ante quem* since I assume that the products were normally not consumed after this point.

The collected objects (n=991 in total) were highly diverse. Therefore, I concisely categorized the materials into material categories; bone, inseparable and separable composite materials,⁹ glass, metal, paper/ cardboard, plastic, textile, and wood. In a next step, I assigned them to the particular spheres of interaction. This must be taken

8 Unfortunately, I was not able to store the modern materials I collected during this survey, so they had to be discarded. For future research, however, I strongly support equal documentation of both ancient and modern artifacts.

9 Inseparable composite materials are, for example, disposable coffee cups or tetrapaks that consist of two or more materials but cannot be separated from one another. Separable composite materials include mixtures of two materials than can be separated such as cables (copper and plastic).

in relation with the location of the findings – for example, a water bottle may have been thrown away by someone or transported by the wind from one place to another. Hence, whilst it cannot always be clearly identified but some spheres can be ruled out, for instance areas where tourists are not allowed to trespass.

Through an intra-site comparison of the documented structures and the collected objects, the impact on the stratigraphy of Göbekli Tepe caused by different interaction spheres can be evaluated. This allows for assumptions regarding the perceptibility of the material remains caused by the interactions in the future. However, the quantity of finds should not be considered in isolation, as it varies considerably due to the different materials. A single plastic object, for example, degrades into successively smaller pieces, whereas a metal object retains its original form for longer. Besides the find quantity, I therefore evaluate their impact on the stratigraphy, as well. I differentiate between low (–), medium (+) and high impact (++) materials. Materials that decompose faster (wood, paper) have a lower impact (–) than glass or metal (+). I define plastic as the highest impact material (++) as it causes pollution, injures and kills animals and remains permanently in the soil as microplastics (Arpia et al. 2021). Additionally, questions on the durability and decomposition of modern materials must be answered in detail, which is part of my future research.

Investigation area: Protective shelter GT2

The construction of two permanent shelters (GT1 and GT2) was carried out between 2017 and 2019 (Clare 2020). Shelter GT1 covers the southeast hollow with special buildings A–D. GT2 is located at the northeast hollow and covers Buildings H and J as well as several domestic structures, a large Neolithic cistern and water channels (O. Dietrich et al. 2014a, 12–14, 2014b, 133). For both shelters, deep trenches were excavated down to the bedrock that now function as foundations for the beams of the roofs (O. Dietrich et al. 2014, 11–12). These foundations were drilled into the bedrock and then embedded in concrete (Fig. 2). Whereas GT1 opened to the public shortly after its completion, GT2 is still inaccessible for tourists due to security reasons and the absence of a walkway that still needs to be constructed. Excavations have not been carried out at this area since the completion of the shelter.

Below the roof, I surveyed two 10x10 m units north and south of the excavation trenches respectively. Here, the results of the southern unit (find collection GT22_PS_GT2_02) are presented (Fig. 3). A total of 154 objects was recorded (Fig. 4). The finds clearly reflect the construction works of the protective shelter, but some are also related to fieldwork. Hence, they are assigned to the interaction spheres of excavation and conservation, or, if unclear, to both. The majority of the finds are attributed to the

interaction spheres of conservation (n=120, 77.9%) and excavation/conservation (n=29, 18.8%). Objects from the interaction spheres of excavation (n=2, 1.3%) and agriculture (n=1, 0.6%) are quite rare. Most of the objects are composite materials (n=69, 44.8%), followed by metal (n=48, 31.2%). A total of 18.2% (n=28) of the objects are made from different kinds of plastic, and 3.2% (n=5) are textile (probably synthetic and/or a mixture of synthetic and natural materials).

The most common objects were used welding electrodes (n=63). They consist of mineral coated metal rods and were utilized for the electric welding. Also common are grinding wheel fragments (n=9) from abrasive machining operations such as cutting steel. Some milled steel fragments (n=4) are likely connected with the latter. Other finds related to the roof construction are screws (n=9), washers (n=8), and nuts (n=2) made of steel, additionally some cable fragments (n=4), pieces of wire and barbed wire (n=8) as well as bits/pieces of textile and string (n=5). Two pieces of plastic probably originate from a warning sign indicated by the colors (yellow, red, black) to prevent trespassing into the construction site.

The second most frequent finds are iron nails (n=12) that were probably used for the wooden construction that covered the excavated areas for protection. Some pieces of wood (n=3) were also found that might originate from this earlier cover.

During fieldwork at Göbekli Tepe, the excavated soil is put into buckets. Each bucket has a wooden label on which the area, locus, and date are noted in pencil. This follows the tradition of the Nevalı Çori excavations under the direction of Harald Hauptmann. I found one of these wooden labels within the survey unit coming from area K10-44, Loc. 200. K10-44 is located to the southeast of Building H in Building J. Excavations in this area were carried out from 2010 to 2014. The date on the label is not readable. Unfortunately, there is no documentation on Loc. 200 in K10-44 as the 2014 field diary ends with Loc. 38. Also attributed to fieldwork is an iron rod that was used as a marker for the corners of the trench.

A used and empty shotgun shell marks a single find attributed to hunting which I assign to the interaction sphere of agriculture. Two pieces of plastic were undefinable and not attributable (n=2, 1.3%).



Fig. 2. Beams of protective shelter GT2 drilled into the surface of the bedrock (left) and into the bottom of a Neolithic cistern that was cut into the bedrock. Photo: Julia Schönicke.

Fig. 3. Southern survey unit under GT2 prior to surveying. Building H is located to the north. Photo facing northwest. Photo: Julia Schönicke.

Fig. 4. Finds collection from the southern survey unit below GT2 (GT22_PS_GT2_02). The wooden locus label is visible in the lower right corner. Photo: Julia Schönicke.

Investigation area: Excavation containers

Several work containers (portacabins) are located on the tepe and utilized as work areas, a kitchen, tool storage, as well as accommodation for the guard. The main working areas of the excavation team are at the central part of the mound within the trees of the northwestern olive grove. The containers were placed on wooden blocks and are not fixed to the ground. Activities such as dry sieving, flotation, heavy fraction sorting, and the breakfast take place in the exterior space around these containers.

I surveyed a 10x10 m unit behind the container that is currently being used as an office and kitchen (Figs. 5 and 6).

Southwest of the unit, the drying tables for the heavy fraction are located. A compact trampled surface around here was documented that represents the former flotation area. Olive trees grow in the eastern half of the unit.

In total, 55 objects were recorded (collection GT22_CT_02, Fig. 7). As visitors are not allowed in this area, I assume that the finds can be attributed to the interaction spheres excavation or excavation/conservation. The olive trees also protect the area from the wind. Additionally, the wind mostly blows from the northwest, so it is unlikely that things from the main excavation area or the café are blown over to this



Fig. 5. Kitchen and office container of the excavation team located in the olive grove. Photo: Julia Schönicke.



Fig. 6. Survey unit at the backside of the kitchen and office container, prior to surveying. The drying tables for the heavy fraction are visible on the left. Note the trampled surface from former flotation work in front of the tables. Photo facing southeast. Photo: Julia Schönicke.



Fig. 7. Find collection from the backside of the kitchen and office container (GT22_CT_02). Note the feet on the fragment of the warning sign. Photo: Julia Schönicke.

investigated area. Almost half of the finds are assigned to the interaction sphere excavation ($n=24$, 43.6%), and whilst the majority could not be explicitly addressed as excavation or conservation, they are listed as both (excavation/ conservation, $n=31$, 56.4%).

Most of the finds are plastic ($n=37$, 67.3%), followed by paper ($n=8$, 14.5%) and textile ($n=3$, 5.5%). Separable ($n=2$, 3.6%) and inseparable composite materials (disposable coffee cup, $n=1$, 1.8%) appeared only rarely. Almost a third of the plastic finds belong to the same object: a warning sign with black and red colors on a white background. One piece has an image of human feet, so it was most likely a sign to warn against trespassing. Four fragments are perforated indicating that it was tied to a fence or similar. The plastic degraded into very small pieces when I touched it, hence, I was not able to collect all fragments of the sign. The second most frequent finds were undefined pieces of plastic foil ($n=9$).

One piece of paper was presumably the cover page of a field notebook. The label of a carpet brush indicates the previous presence of a brush, one of the most common archaeological tools. Clearly connected to the kitchen area are a teaspoon, a dishcloth, a fragment of a colored plastic bowl, and a piece of animal bone. One water bottle was recorded that was produced April 24, 2022, and expires February 17, 2023. As I conducted my survey in June 2022, this marks a quite recent find.

Investigation area: Visitor center

Due to the protected nature of the site and the surrounding landscape, the visitor center was constructed outside of this buffer zone. However, the line created by the buffer zone is artificial. Around the visitor center, the landscape is covered with boulders of basalt that the inhabitants of Göbekli Tepe used as a raw material source to produce grinding stones (Braun 2020, 104; L. Dietrich 2021, 32), so

this area is still a Neolithic interaction sphere. However, a large part of the basalt landscape was levelled for agricultural use and for the construction of the visitor center. In this area, visitors arrive in their private cars or as groups in buses that have to be parked and left there where the people then need to board shuttle buses that will take them up the hill to the site itself. As there are no toilets at the excavation site, two bathroom containers are located in the parking lot south of the main entry-exit road. A coffee counter serves hot and cold drinks and snacks, and several rubbish bins are placed in the vicinity.

In this area, I recorded the finds in a 10x10 m unit (Fig. 8). To the northwest, the unit is limited by a low wall that encircles the parking lot. Parallel to the wall, a shallow rainwater drainage was constructed that is now overgrown with plants. It was in this area that most of the finds had accumulated. The southeastern three-quarters of the unit are gravel surface. The collection from this area comprises of 130 objects (GT22_VC_01, Fig. 9) that are almost completely attributed to the interaction sphere of tourism (n=125, 96.2%). Only four fragments of a construction site fence belong to the interaction sphere of conservation (3.1%), and one object may derive from excavation/conservation (piece of a working shirt, 0.8%).

Plastic is the predominant material (n=90, 69.2%), mostly belonging to water bottles in 0.5 and 1.5 l sizes but also small water cups with a volume of 0.2 l (n=20). The dates of production water bottles are very recent and range from 09/2021 to 05/2022. As they expire after one year, I assume that they were all discarded this year. In contrast to the many plastic ones, only one glass bottle was found. Also, numerous plastic lids and sleeves of water bottles were recorded as well as single-use plastic forks and straws. Wrappings of sweet and salty snacks (n=17) and cigarette butts (n=14) occurred frequently as well. However, I did not collect or record all cigarette butts as there were just too many.

Inseparable composite materials (n=20, 15.4%) were also found frequently, many of which contain plastic, as well. In this category, 13 aluminum lids from water cups are included (11 of them were found together with the cups). Pieces of paper are the third-most recovered material (n=15, 11.5%) and included items such as entrance tickets, payment and payout receipts (from the cash machine) and even the business card of a dentist in Şanlıurfa. The hygiene requirements during the COVID-19 pandemic are reflected in the presence of a facemask. A pink sticker with the writing “just believe” (in capital letters) leaves the door open as to exactly what it is. Altogether, whilst the finds from the visitor center are highly diverse, the majority are connected with drinking and eating.

Comparison

At Göbekli Tepe, the Neolithic layers are due to erosion detectable directly below the modern surface.¹⁰ Even though the mound is regularly cleaned of rubbish, high quantities of rubbish objects were recorded. They have been trampled into the surface of the mound. This illustrates how easily smaller objects infiltrate the uppermost Neolithic layers forming a mixed Neolithic-Anthropocene horizon.

The structures of the investigated areas as well as the finds from three 10x10 m units have varying impact on the stratigraphy of Göbekli Tepe (Tab. 1). The materials recorded also differ distinctly and are clearly connected with the associated interaction spheres (Fig. 10). Below the protective shelter GT2, the highest number of objects was recorded (n=154). This is remarkable, since after the completion of the construction works the area below the roof was thoroughly cleaned several times. Most of the finds are metal and separable composite objects with medium impact that are related to the construction works of the roof and hence to the interaction sphere conservation or excavation/conservation. Only few reflect the sphere of excavation as fieldwork under this roof stopped in 2014. The protective shelter itself, however, marks the highest impact on the stratigraphy of the site on the macro scale. The beams drilled into the bedrock and stabilized with concrete will be permanently recognizable as an Anthropocene interaction.

The survey at the excavation team container yielded the lowest number of objects (n=55) with plastic being the dominant material. They reflect the interaction spheres of excavation and excavation/conservation and activities such as fieldwork and food consumption. As the containers themselves are not anchored in the ground, their impact is partly reversible. The overall impact of this interaction sphere is medium to high.

A completely different picture can be found at the visitor center. Here, the second highest number of finds was recorded (n=130). The vast majority of the objects are made of plastic or contain plastic in inseparable composite materials. Striking is the presence of single use plastic as water bottles and cups as well as snack wrappings. Almost all finds are attributed to the interaction sphere of tourism, which is a high impact category.

Throughout all surveyed units, the interaction sphere of agriculture is, regarding to finds, not as visible as the others. Only one find (a shotgun shell) reflects hunting activities. However, some dry-stone walls and clearance

10 The uppermost layer of the mound is often described in the older literature as “plough horizon” or “Layer I” (O. Dietrich et al. 2013, 36) which is, however, not applicable anymore as it contains both Neolithic architecture and objects (Kinzel and Clare 2020, 34; Schönicke 2022, 233).



Fig. 8. Survey unit next to the visitor center on a parking lot. Note the rubbish bins in the background. Photo facing north. Photo: Julia Schönicke.



Fig. 9. Find collection from the visitor center survey unit (GT22_VC_01). Note the abundance of plastic bottles, cups, and wrappings. The construction site fence fragments are visible in the upper right next to the piece of shirt. Photo: Julia Schönicke.

cairns as well as olive groves on the mound still bear evidence of farming and agriculture activities. The olive trees in particular are high impact as their roots disturb the stratigraphy of the mound. The clearing and furrowing to plant the trees initially may have also affected the upper layers and favored erosion. The possible use of fertilizers and irrigation in both the olive groves and the cropland is also relevant according to the geophysical nature of the archaeological remains as well as their preservation. Yet, the Neolithic layers proved to be fertile for growing crops (Schönicke in preparation) which is also reflected

geochemically in high Phosphate levels (compared to those off site) (Schönicke 2022, 230–32). It is therefore not clear if additional fertilizer has been used by the farmers which can therefore only be analyzed by future geochemical sediment analyses. As stones have been moved for the construction of dry-stone walls, Neolithic materials were displaced. This may have impacted environmental factors such as erosion. Bringing all these factors into consideration, it appears that small scale agriculture leaves traces that appear to be less alien than plastic and metal objects, and may decompose faster. But

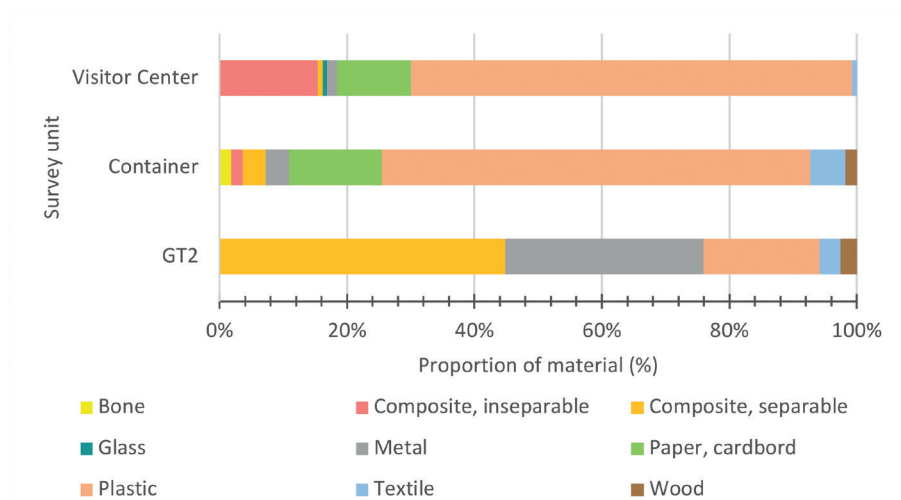


Fig. 10. Proportions of materials from the survey units at protective shelter GT2, the excavation team container, and at the visitor center.

Interaction sphere	Structures/modifications	Quantity of finds	Impact
Agriculture	clearance cairns and walls, olive groves, plough	low	+
Excavation	trenches, containers, working areas	medium	+ to ++
Conservation	protective shelters, terrace walls	high	++
Tourism	visitor center, shops, cafés, walkways, parking lots, traffic, littering	high	++

Tab. 1. Impact of the four interaction spheres on the stratigraphy of Göbekli Tepe.

the agricultural activities themselves have a detectable impact on the stratigraphy of Göbekli Tepe that I define as medium.

In my dissertation, I will further compare these results with those from the other areas and units I surveyed. My initial results demonstrate that it is possible to link the objects to various interactions and to compare their impact on the stratigraphy of Göbekli Tepe, which I see as an indicator for the intensity of Anthropocene interactions.

Present interactions as future ruins

The lowest impact on the stratigraphy of Göbekli Tepe comes from the interaction sphere of agriculture. Farming disturbed only the uppermost Neolithic horizon (often referred to as the plough horizon). The farmers cleaned the surface from stones and piled them to walls and cairns. But their activities left no other material traces, especially not as objects. Regarding plastic deposition it becomes clear that tourism has the highest impact on the stratigraphy of Göbekli Tepe and the surrounding landscape. In the summer heat of Southeast Anatolia, different kinds of plastic degrade to microplastics and nanoplastics very quickly where they remain in this form in the soil as they are non-biodegradable (Arpia et al. 2021). It can therefore be assumed that they are one of the most acute micro markers of Anthropocene interactions at Göbekli Tepe, and at archaeological sites in general.

On a macro scale, the beams of the protective shelters cut through all Neolithic layers and are drilled into the bedrock and, therefore, become the most permanent markers of modern anthropogenic impact. It must also be mentioned, however, that within the fence of the buffer zone numerous animals and plants thrive that would have less space in the otherwise agriculturally managed region. Nevertheless, agriculture is the least detectable interaction sphere at Göbekli Tepe. This demonstrates that we have to differentiate between human impact in general and the effects of specific conditions such as (over-)tourism.

Yet, all of the high impact interactions have their root in the interaction sphere of excavation. Excavating itself removes the archaeological layers permanently, leads to the necessity of conservation works, and attracts tourists. By the inscription of Göbekli Tepe to the UNESCO World Heritage List and the subsequent Year of Göbekli Tepe, the numbers of visitors increased (but were then, of course, limited by the COVID-19 pandemic). A new visitor center was built, journalists and politicians visited frequently, and advertising campaigns were broadcast all over the country and it was used as, and in, advertising material to promote tourism to Türkiye from abroad (often displayed as one of the ‘wonders’ of Türkiye to visit, alongside the Hagia Sofia, the Library of Celsus at Ephesus, and the head statues on Nemrut Dağı, etc.). All of this has contributed towards significantly higher entrance fees. In 2021, the



Fig. 11. Rusty sign from the material depot close to the main excavation area which says “Göbekli Tepe excavation area. Entrance is free” in Turkish and English. Photo: Julia Schönicke.

entrance fee for adults was 60 TL whereas it became 80 TL in 2022 (and seems to be 90 TL now according to the ticket homepage, see Museum Pass n.d.). But the dramatic inflation and reduction of the value of the Turkish lira have also played a prominent role (maybe even the most significant) in these price increases – not just the rising popularity – as prices of everything in the country are rising. Taking this into consideration, it becomes clear that many people probably cannot afford a visit, and thus it becomes a luxury activity or only accessible to the higher socio-economic strata of society. The Capitalocene is, therefore, distinctly recognizable at the site. This was not always the case. An intriguing find during my survey is a rusty sign in a mixed assortment of items from the material depot close to the main excavation area. The sign says in Turkish and English: “Göbeklitepe excavation area. Entrance is free” – all written in capital letters (Fig. 11). So, in the early years of excavation, people could just visit the site without paying any money. While it is true that entrance fees are used for the maintenance and protection of archaeological sites, we must also ask ourselves whether

ever more spectacular and newer visitor centers need to be built as well. These are co-financed with the admission fee, because just seeing the excavation site alone is not possible. This raises ethical and political questions and shows how closely these are intertwined with archaeology (Hamilakis and Duke 2007).

Excavating means constantly deciding which contexts to remove and which to preserve. But instead of only focusing on the past (that we excavate) we must take the present and future impact of our recent interactions into consideration. If we analyze those with the same archaeological methods as the past ones, as demonstrated in this study, it is evident that we have already created a new occupation horizon at Göbekli Tepe in which the Anthropocene is significantly detectable. The hierarchization of anthropogenic materials is reflected in handling modern remains. The objects I collected are commonly referred to as litter, garbage/rubbish or just things people discard. But on the other hand, we document and store the tiniest piece of Neolithic lithic debitage that is ubiquitous at Göbekli Tepe – which is actually the rubbish by-product of

Neolithic tool production. It must therefore be taken into consideration that the litter from today might be referred to as heritage in the future and should be treated equally in archaeology – on Earth and in space (see, amongst others, Rathje and Murphy 2001; Sosna and Brunclíková 2016; for space archaeology see Gorman 2017; Wodke 2022).

The capitalization of ruins limits their inherent manifold potentials for unexpected experiences in ways that people are not able to explore any more, but rather become detached strangers and voyeurs just visiting the place with too many affordances not being perceived or taken. The conventional way of heritage conservation is but one of many – yet conservation itself seems to be an illusion regarding the Anthropocene horizon that we constantly create. Recent discussions point towards new approaches in dealing with ruins including non-capitalist and multispecies alternatives (Harrison et al. 2020). But how do we prevent ruins from being capitalized, so that manifold future ruin interactions can create unimagined nature-culture heritage (Haraway 2003, 3)? If we integrate more open discussions and communal engagement on how to deal with present and future remains, diverse environments with countless ecological and social niches will be created so that something called “loss” does not exist – even in decay. Since the materiality of today represents our future heritage, we need to consider which traces we want to leave that will eventually become the ruins of the Anthropocene – whether it be haunted landscapes, remains of the Capitalocene, or the potentials of the Chthulucene.

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