

## Contribution

**Benz & Bauer**  
*Early Neolithic Medialities*

## News Section

**Book Reviews**  
Baysal, *Adornment Catalhöyük*  
Kinzel, *James Mellaart*  
Braun & Schönicke, *The Fox*

**Obituaries**  
for Paul Sanlaville  
for Carole McCartney

**Conferences**  
*OnliNEOLITHIC &*  
*Revisiting the Hilly Flanks*

**New Theses**  
Sisa-López de Pablo, *Social Spaces*  
Braun, *Göbekli Tepe*  
Gündüzalp, *Beginning of Pottery*  
Cartolano, *Neolithic Representations*

## New Publications

# NEO-LITHICS 21

The Newsletter of Southwest  
Asian Neolithic Research



# NEO-LITHICS

## The Newsletter of Southwest Asian Neolithic Research

from 1994-2001: The Newsletter of Southwest Asian Lithics Research

founded in 1994 by Hans Georg Gebel and Gary O. Rollefson,  
following the 1<sup>st</sup> Workshop on the PPN Chipped Lithic Industries (Berlin 1993)

### *Neo-Lithics Editorial Board (Co-editors)*

Emma Baysal, Trakya University, Edirne  
Marion Benz, ex oriente and Free University of Berlin  
Fanny Bocquentin, CNRS, UMR7041, Nanterre  
Amy Bogaard, School of Archaeology, Oxford  
Ferran Borrell, Spanish National Research Council (IMF-CSIC), Barcelone  
Hans Georg K. Gebel, ex oriente and Free University of Berlin  
Osamu Maeda, University of Tsukuba  
Ianir Milevski, Israel Antiquities Authority, Jerusalem

### *Former Managing/ Co-Editors*

Gary O. Rollefson, Jürgen Baumgarten and Dörte Rokitta-Krumnow

### *Neo-Lithics Advisory Board*

Anna Belfer-Cohen, Hebrew University, Jerusalem  
Frank Hole, Yale University  
Necmi Karul, Istanbul University  
Bernd Müller-Neuhof, DAI Berlin  
Maysoon al-Nahar, Jordan University Amman  
Mehmet Özdoğan, Istanbul University  
Tobias Richter, Copenhagen University  
Danielle Stordeur, Archéorient, CNRS, Jalès

### *Neo-Lithics Publishing House*

ex oriente Publishing House (head/ management: Hans Georg K. Gebel)  
Karl-Marx-Str. 14, 16356 Ahrensfelde-Lindenberg, Germany

### *Technical and Coordination Services*

*Typesetting:* Stephanie Merten, Kiel University  
*DOI-Coordination and PR:* Martin Renger, Heidelberg University  
*Cover Layout:* Hans Georg Gebel, Avi Gopher and the TAVO Cartography (from 1994),  
revised by Martin Renger (2020)

### *Online Publication/ Download of Neo-Lithics*

<https://www.exoriente.org/downloads/neolithics.php> (all issues since 1994)  
<https://journals.ub.uni-heidelberg.de/index.php/nl/> (from 2021 onwards)

### *Email/ Tel. Contacts of Neo-Lithics*

Marion Benz, [marion.benz@fu-berlin.de](mailto:marion.benz@fu-berlin.de)  
Hans Georg K. Gebel, [hggebel@zedat.fu-berlin.de](mailto:hggebel@zedat.fu-berlin.de), Tel.: 0049 30 98 311 246

© ex oriente e.V., Berlin - ISSN 1434-6990, eISSN 2750-2910  
DOI: 10.48632/nl.2021.1

A service by FID Propylaeum, hosted by the Heidelberg University Library  
Neo-Lithics is published and distributed by ex oriente e.V., Berlin.

<b>Editorial</b>	4
<b>Contribution</b>	
<b>Marion Benz and Joachim Bauer</b> <i>Aligning people: the social impact of early Neolithic medialities</i>	7
<b>News Section</b>	
<b>Emma L. Baysal</b> <i>Review of Milena Vasić, 2020. Personal adornment in the Neolithic Middle East: a case study of Çatalhöyük</i>	A1
<b>Moritz Kinzel</b> <i>Review of Alan C. Mellaart and other contributors, E. Baysal (ed.), 2020. James Mellaart – the journey to Çatalhöyük</i>	A6
<b>Joaquim Sisa-López de Pablo</b> <i>Social spaces during the Neolithization process in Southwest Asia: a habitat representation from a microstratigraphic approach</i>	A9
<b>Éric Coqueugniot and Olivier Aurenche</b> <i>In memoriam Paul Sanlaville</i>	A13
<b>Güneş Duru and Mihriban Özbaşaran</b> <i>OnliNEOLITHIC: lectures on the Neolithic in the New Abnormal</i>	A17
<b>Tobias Richter and Hojjat Darabi</b> <i>Revisiting the Hilly Flanks: the Epipalaeolithic and Neolithic Periods in the Eastern Fertile Crescent</i>	A20
<b>Ricarda Braun and Julia Schönicke</b> <i>Review of Konrad N. Godtfredsen and Moritz Kinzel, 2020. The fox: a tale from Neolithic Shkārat Msaied</i>	A22
<b>Ricarda Braun</b> <i>The demythologization of landscape: landscape research in the context of prehistoric societies – the example of the Neolithic site of Göbekli Tepe</i>	A26
<b>Sidar Gündüzalp</b> <i>Beginning and development of pottery use in Upper Mesopotamia in the light of Sumaki Höyük data</i>	A29
<b>Vasiliki Kassianidou, Laurence Astruc and François Briois</b> <i>In memoriam Carole McCartney</i>	A32
<b>Mattia Cartolano</b> <i>Animal and human representations in the Pre-Pottery Neolithic of the Near East</i>	A37
<b>ex oriente</b> <i>New publication by Yoshihiro Nishiaki, Farhad Guliyev and Seiji Kadowaki (eds.), 2021. Hacı Elamxanlı Tepe: the archaeological investigations of an early Neolithic settlement in West Azerbaijan</i>	A40
<b>Aydin Abar and Johannes Köhler</b> <i>New publication by Editorial Collective (eds.), 2021. Pearls, politics and pistachios: essays in anthropology and memories on the occasion of Susan Pollock's 65<sup>th</sup> birthday</i>	A41
<b>Masthead</b>	A42
<b>SENEPSE Publication List</b>	A43

## Editorial on the Current Threats to Neolithic Research

While we were writing this editorial, darkness and agony have fallen over Europe, accompanied by tremendous solidarity and awakening humanity. Universal human values and rights are daily violated and suspended. Our thoughts and sorrow are with the people of Ukraine.

Hardly recovered from the Corona Crises, the Ukrainian tragedy again plainly raises the focus of what matters in our lives? It intensifies once again the earlier question – which had already recently strengthened – of how to answer students and young colleagues why they should stay in Neolithic research? What good and honest arguments do we have that are not supported solely by our desire for a new research generation and assistance in our research? Is our devotion to Neolithic subjects a sufficient and responsible reason to lure students or young colleagues onto uncertain professional paths? Are our investigations into the Neolithic more than just a passion? We are convinced that understanding long-term developments, many of which started with sedentary life and led to fundamentally new concepts of living together, may help us in better understanding even the most recent developments and perhaps help us to conceive a better future.

This editorial is not about pessimism. Although we are not able to present suggestions to solve the problems, we will try to responsibly identify these problems and their structural constraints. This may help to a better and more alerted handling of the powerful and troubling developments in research or, at least, to mitigate them.

In recent years we have seen an unprecedented intensification and acceleration in existing and emerging problem areas of our research that, taken together, may become existentially threatening to Neolithic research in southwest Asia, or that had already become destructive in some national academic contexts.

In our view, the currently intensifying structural (1.1-5), divisive (2.1-3) and political (3.1) problem areas in Near Eastern Neolithic research are:

1.1 Few internationally active commercial publishing houses influence and set research standards and agendas by their market power. They are able to create and maintain mainstream research markets by controlled review regimes, organized topic volumes or article acquisition. Submitted contributions are often confronted with non-transparent and selective preferences. Publishers determine technical hurdles/ filters in pre-publication procedures, and they frequently sell our very own research to fellow researchers at high costs, or to make matters worse, they demand high sums for open access options. They have established their influence in deciding academic futures and success – and young colleagues are made to believe that they would be successful in their careers only if they served these structures.

1.2 Often, due to economic constraints, academic institutions, including funding institutions, are forced to aim at high profile research with quick and guaran-

teed outputs. They trust or even cooperate with and rely on the market-guided influence of publishing houses and their review regimes and impact point regimes.

1.3 Administrative tasks for ever shorter projects become burdens for scientists. Support of the administrative offices would be fundamentally necessary, but instead administrative attacks on “unprofitable” research areas or on the “small subjects” threaten their existence. In Germany, *e.g.*, we hardly dare to ask how it is possible that administrative staff hold permanent posts, ironically being partly financed by the overhead of funds raised by short-term projects?

1.4 There is a general lack of social and academic security in prehistoric research and of funding in general.

1.5 There are shifting preferences in research that follow *Zeitgeist* issues or subjects on account of basic research as, for example, basic empiric analyses are financed by part-time, temporary contracts, while high-profile genetic research receives comparably high funding. But what if no one provides clearly contextualised samples for the specialists’ studies? Have the mantras of contextual archaeology lost their power? Balanced funding policies and cooperation on a more equitable level would be more promising for integrative approaches.

2.1 The above-mentioned financial and structural constraints and highly competitive milieus often force researchers to care only for their own projects or to focus on highly specialized fields in Neolithic research. There is hardly any time and money for beneficial long-term research attention and transdisciplinary cooperation. This includes also an increasingly observed resignation against downgrading or closing research institutions and the suspension of positions.

2.2 A variety of schismatic impacts include, for example, the continued post-colonial attitudes and structures of foreign archaeological research in Near Eastern countries (the dig-and-run mentalities instead of long-term research strategies); absence or neglect for opportunities to train local students and to cooperate with local colleagues on equal levels; impacts such as from the western “cancel culture” discussions and their stress on research autonomy.

2.3 While the Corona pandemic brought up new paradigms in intensified internationalised exchange (the Zooming facilities and related advantages), much field and lab work became halted and research programs were delayed, not to speak of divisive impacts by hidden mental and social stress for research careers.

3.1 The reduction of our Near Eastern working areas and the consequent failure to introduce the next generation into fieldwork is the result of continuing instability (the Arab Rebellion and related conflicts) in some of the host countries of Neolithic research. In addition, there are the political impacts of interstate conflict situations that can spill over into foreign field research policies by the host countries, and *vice versa*. While the shelves and archives are full of unstudied materials and samples, this situation of reduced working areas has led to a reduction of student numbers, accordingly

followed/ to be followed by reduced funding and institutional support.

What do these issues mean and demand from us? We from *ex oriente* see them as wake-up calls for more and sustained engagement in preserving and protecting Near and Middle East Neolithic research, an engagement that must go beyond our immediate project and institutional interests. The threat to our discipline and its research areas has progressed to the point where a mere opportunistic “carry on” is no longer a responsible behaviour. Parallel to our research, we have to unite in lobbying for our research on all personal, national and international levels, neglecting all dividing sentiments and obstacles. To rescue our disciplines, engagement and a critical positioning against commercial control of research agendas and administrative demands is needed not only by researchers but particularly by established institutions. The enduring value of unstudied collections and materials as well as preserving cultural heritage should be recognized more strongly by funding institutions. Respectful, open-minded collegial cooperation would not only mean synergies on the basic level of logistic and administrative resources, but above all the advancement of methodological and scientific exchange. We all stand on broad shoulders. Nobody has to invent the wheel anew, or follow the popular media’s lead to sell old wine as sensations for profit. Neolithic research will only succeed if acknowledging ideas of others, and sharing knowledge is not hampered because of fears of losing positions but considered as gaining strength as well as autonomy against influential non-archaeological stakeholders.

During the pandemic, wishes to return to real exchange and cooperation intensified enormously. Two Turkish research groups seized the initiative: OnliNeolithic initiated by Mihriban Özbaşaran and Güneş Duru (see their article in this volume) went in its second series in 2021/22 promoting the inspiring multivocality of Neolithic research in Southwest Asia, while the World Neolithic Congress, initiated by Mehmet Özdoğan was announced in Urfa in September 2021 for autumn 2023. It will foster the needed global perspective, and introduces the world-wide scale to unite for Neolithic research. Both events splendidly show how fruitful the exchange of ideas can be and how, by uniting our efforts, we can counteract the threatening developments.

Two fundamental insights may be learned from Neolithic developments. Mitigation is one of our key capacities to aggregate and cooperate in larger communities on a permanent scale. We need to defend these outstanding productive capacities of the Neolithic achievements if we want to live and cooperate in ever larger communities. However, Neolithic people also ran into path-dependencies and severe entanglements with things. If we start to understand these developments, we will be able to stand up for sustainable research solidarity.

Marion Benz and Hans Georg K. Gebel

Postscript: Gary Rollefson has improved the language of this editorial, as he did it for many others before. We also thank Gary for his continued support of Neo-Lithics.



# Aligning People: The Social Impact of Early Neolithic Medialities

Marion Benz and Joachim Bauer

**Abstract:** With increasing sedentism, many early Holocene communities of Southwest Asia experienced an unprecedented increase in medial priming, in various ways and on many levels. Here, we combine new research from the social neurosciences and investigations on mediality to trace the social impact of early Neolithic symbolism in Southwest Asia. We have analysed three case studies: the sedentary hunter-gatherer-fisher communities from Northern Mesopotamia of the 10<sup>th</sup> to 9<sup>th</sup> millennium BCE as well as the village farming communities of the Levant and Central Anatolia of the 9<sup>th</sup> to 7<sup>th</sup> millennium BCE. Our studies show that the increase in medial priming was not linear, but was rather driven by changing social conditions and human decisions concerning how to address the social challenges of increasing population densities. The novel mediality supported new relationships between people and places, between past and present, and strengthened new interpersonal relations. Outwardly similar symbols had different effects in varied social contexts. In the long run, we have observed a shift from integrative relations between humans and nature, to the dominance and representation of human groups, as well as a greater use of symbols within domestic households. Ever since this shift occurred, symbols have played a crucial role in creating commitment and aligning people.

**Keywords:** Early Neolithic, Southwest Asia, social neurosciences, medial priming, iconic power

## Introduction

At the beginning of the early Neolithic in Southwest Asia, *representations* of symbols<sup>1</sup> increased exponentially as monumental architecture, elaborate burial rituals and expressive figurative symbols emerged. The clear increase in such representations was not only due to a greater use of stone, resulting in better preservation of building ornamentation and artefacts, but also to the more intensive working of various raw materials to create artificial forms such as sophisticated tools or prestige objects, or even to imitate natural objects such as animal teeth (*e.g.*, Alarashi 2014; Belfer-Cohen and Goring-Morris 2017; Benz *et al.* 2019; Vasić 2020; Gebel *et al.* 2022). An increased demonstration of symbols and symbolic behaviour can be observed during this period, above all in architecture and ritual remains. These fundamental changes in mediality (Benz and Bauer 2013; Morenz 2014; Benz 2017) offer enormous potential for new insights into early Neolithic societies. The novel mediality created new relationships between people and places, between past and present, and possibly also strengthened new interpersonal relationships. The style of monumental architecture and the nature of the symbols allow us to discriminate between different modes of symbolic creation of communal memory in Southwest Asia during the early Neolithic. The new quality and quantity of symbols indicate the social and psychological challenges with which these early sedentary communities had to cope. The quality of the rituals and imagery testify to the deep roots of these communities in the Epipaleolithic, but they also mirror social and ethical innovations that go far beyond the more flexible social networks of small-scale communities.

For a long time, archaeological interpretation of prehistoric symbols has adhered to the methods of

semiotics and iconology (*e.g.*, Schmidt 2006; Morenz 2014; Dietrich and Notroff 2016), often struggling with Panofsky's first level of interpretation: the "primary or natural subject matter" an image was meant to represent. These difficulties prevented many interpretations of prehistoric imagery proceeding to the second and third level, wherein the meaning of an image and intentions of the artist are considered. Approaches guided by structuralism have always searched for binary structures, implicitly assuming that identical relational and structuring principles are maintained in different contexts (*e.g.*, Hodder 1990; Cauvin 1997). New approaches to the agency of images, such as the capacity of imagery to influence people's minds and moods, have been largely neglected in archaeology (Merleau-Ponty 1964; Boehm 1994, 2010; Gell 1998; Sauerländer 2012). One of the reasons for this may be the strong paradigm of cultural relativism. This paradigm emphasises the uniqueness of individual perception and behaviour, as well as of cultures, and categorically rejects the search for anthropological commonalities. Within cultural relativism, social environments become prime factors in the formation of social and personal identities (*e.g.*, Durkheim 1912; Berger and Luckman 2016). In contrast, ethological, medical, neurobiological, and psychological approaches emphasise the existence of basic patterns of emotional and biological reactions common to many humans, even when their personal characteristics, experiences, and socialization lead to considerable differences (for a rare application of such an approach see *e.g.*, Müller-Neuhof 2019). Phenomenological approaches (*e.g.*, Tilley 2004) have been dismissed as unscientific. The obvious subjectivity of such approaches makes it impossible to replicate empirical evidence.

Support for the idea that human communities were first and foremost influenced by environmental and material contexts has been provided by the new theory of materialism, which is essentially based on the ideas of Pierre Bourdieu (2009) and Bruno Latour (Knappett 2005; cf. Boivin 2008; Hahn and Weiss 2013). This contextual approach explores the relationships between visible and invisible things and analyses the means by which human communities create their identities, binding human agency in a more or less tightly knit “meshwork” (Ingold 2010), or within “entanglements” (Hodder 2012). The constraints and affordances these relationships create can lead into “path dependencies”, a concept developed in the field of economics during the 1970ies (for a review see Witt 1997). Adaptations of this approach in archaeology have led to models of co-evolution (Rindos 1990). The more socially oriented path-dependency models granted greater agency to humans (Benz 2000). However, in most of the models on Neolithisation, human agency and intentionality have been neglected, thereby veiling patterns of behaviour that are common to almost all of us, and also obscuring the creativity inherent in human behaviour.

In this paper, we will reintroduce these two specifically human dimensions – our common human nature and the creative agency of humans – to aid in the interpretation of early Neolithic symbolic systems. These anthropological perspectives may help us to understand the social meanings of symbols in different contexts, and the enormous challenges that growing sedentary communities presented to Neolithic people. The contextual approach allows us to differentiate between the various strategies they used in order to cope with these challenges. Our transdisciplinary approach combines the results of social neuroscientific research from the last 30 years, with a phenomenological focus. It is based on observation of material remains without written sources, respecting the deficiencies and limitations of archaeological sources, as well as on the multivocality and intersubjectivity of symbols (Gillespie 2010; Blumler 2013). As Robert Layton (2007: 49) has pointed out: “Even within a single community ... meaning is constantly negotiated.” Therefore, we do not aim to reconstruct the specific content of any one narrative or the meaning of isolated symbols. Instead, we are seeking to identify recurrent patterns of symbolic behaviour. Our focus lies with the impact and relevance of symbolic behaviour. A detailed study of mediality will provide decisive clues to aid our interpretation of the early Neolithic symbolic systems. Studies on mediality include investigations into the materiality of media, and how people used various media. The main areas of this research are the frequency of symbols, their ubiquity (meaning the presence of symbols in various media), the degree of standardization, and their reflexivity (meaning their potential to interfere with media). ‘Biographies’ of artefacts and their cultural-historical contexts (Hermansen and Gebel 2004; Gebel 2010) provide important evidence regarding the social relevance of symbols.

As stated elsewhere in detail (Benz 2017), symbolic communication is comprised of enacted and encoded symbols. The nature of symbols, as well as various personal qualities and interpersonal relationships, influenced how symbolic systems were incorporated into Neolithic life. The archaeological sources for investigating symbolic representation are manifold, ranging from skeletal evidence to burial processes, magical practices, rituals, and imagery. Comparing these different overlapping aspects of symbolic behaviour may provide evidence for the social relevance of symbolic action and thereby offer new insights for the social relevance of symbolic action and its role in prehistoric communities.

It is beyond the scope of this overview of Neolithic symbolism to examine all the contents and levels that might otherwise be expected in a micro-regional study. Thus, for the illustration of our new approach, we have chosen three contrasting case-studies: The early Pre-Pottery Neolithic communities of Northern Mesopotamia, the Middle to Late Pre-Pottery B village farming communities of the South-Central Levant, and the Late Pre-Pottery Neolithic B and early Pottery Neolithic communities of Central Anatolia. The contextual analyses of these three examples will show how outwardly similar symbols might have had different social impacts. Our investigations will be restricted to burial rituals, art, and architecture.<sup>2</sup> Before describing the archaeological records, the relevant discoveries of neurobiological research are outlined briefly below.

### Neurobiological Basics

Five aspects of human biology form the basis of our method.

1) Premature birth: compared to newborns of other higher mammalian species, humans are born premature (this does not refer to irregular preterm births, but rather the fact that humans are born incapable of independent movement, feeding and so on) and are completely dependent on assistance (Piantadosi and Kidd 2016; Bauer 2019). At first sight, this may seem like a drawback. However, it actually represents one of humanity’s main advantages. In order to cope with premature birth, humans have used several strategies:

a) To attract attention and create commitment, caregivers and newborns had to establish a special relationship based on mirroring and resonance (Waytz and Mitchell 2011; Meltzoff 2013; Bauer 2019). On this basis, beyond early childhood humans develop a high degree of empathy. Pro-social behaviour has evolutionary advantages and is rewarded by positive bodily reactions (Fredrickson *et al* 2013; Bauer 2021). Humans primarily aim at social community and cooperation, whereas social deprivation is experienced akin to pain and results in aggressive reactions (Eisenberger *et al.* 2003; for a review, see Bauer 2008, 2011).<sup>3</sup> These empathic (intuitive and cognitive) capacities allow humans to communicate, interact, and socialize on much higher



levels than any other primate (Tomasello 2009). Nonetheless, modern humans – as has been shown by Dunbar and his team on a worldwide scale – have a rather fixed upper limit of the number of people (~ 150) with whom they can keep close contact. Communities crossing this number need special rules, media, or forms of control to avoid fission (Dunbar 1992, 2013; Gowlett *et al.* 2012).

b) Due to their physical and mental immaturity at birth, humans are born to learn: their capacities to imitate, interpret, memorize, and recombine information appear to outstrip those of other species. Dependent on how much and what they learn, the brains of children, but also of adults, are in constant transformation (“neuroplasticity”: Eisenberg 1995; for a review, see Bauer 2015a). This adaptive capacity makes human intelligence outstanding, and allows for the intergenerational accumulation and transmission of knowledge. Against the background of the intrinsic desire for social acceptance and reward (Point 1a), it can also become one of their most vulnerable points: the possibility to influence the human mind by external stimulation, deeply and over an extended period, facilitates mental indoctrination.

2) Shared evolutionary legacy of humanity: evolution is a continuous, but very slow, process. We therefore assume that the basic functions of our contemporary brains do not differ from the brains of *Homo sapiens* during the Neolithic period, although the cognitive capacities developed during a human’s lifespan were different, due to differing tasks, affordances, and exigencies (Eisenberg 1995; Bauer 2015b). Evolutionarily older, limbic parts of the brain, where emotional reactions are processed and stored, should react in similar ways in all humans, even though they are (generally) subject to the top-down control of the neocortex. The neocortex primarily serves as the area where acquired knowledge and competences are stored. In particular, the self – and its relationship to the social world – is constructed in the prefrontal cortex (PFC) (Kelley *et al.* 2002; D’Argembeau *et al.* 2007; Kitayama and Park 2010; D’Argembeau 2015; Bauer 2019). Recent neuroimaging studies have shown that, in humans, the neuronal networks that are activated when we think about ourselves overlap with networks that are activated when we think about significant others (Mitchell *et al.* 2006; Jenkins *et al.* 2008; Krienen *et al.* 2010; Ma *et al.* 2012). From a neuroscientific perspective, an individualistic identity is thus a mirage. It is impossible to think about the self without mentalizing others. In other words, the personal self is always a social self. We experience ourselves to a great extent as we are (and have been) seen by significant others. The social groups to which we belong possess an implicit power to impose their views on us, in such a way that we think these views are our own (Bauer 2019).

3) Priming of emotions, socially shared affects, and emotional contagion: there exist at least four basic emotions (happiness; anger/ disgust; fear/ surprise; sadness) inherited from earlier stages of evolution common to almost all humans. Many studies have shown that these

emotions are reflected in facial expressions and can be recognized with high accuracy by others (Ekman 1992; Eskine *et al.* 2012; Jack *et al.* 2014; *cf.* Gendron *et al.* 2014). The ability to mirror and become ‘infected’ by emotions and bodily states (see Point 1a) enables most humans to assess and experience the mood of others (Waytz and Mitchell 2011). In communities with a strong social self-consciousness, there exists an expectation that both intuitive and cognitive empathic skills will be high. Joy and sadness are distinguishable worldwide and can be discerned by the vast majority of humans, with the exception of certain neurodiverse individuals. Not only laughing and crying, but also anxiety, yawning, and even pain are contagious (Hutchison *et al.* 1999). Moreover, watching, listening to, or even just imagining non-neutral pictures, sounds, or experiences might cause bodily reactions in the recipient. In combination with the transmission of meaning onto objects (Point 4 below), the presence of such things (a song, a picture, or any other symbolically laden thing or activity) may act as stimuli and trigger emotions, including reactivated emotions that were experienced in earlier times and other places. These intuitive aspects of empathy thus make humans sensitive to emotional contagion and “priming” – the external manipulation of emotions (*e.g.*, Kay *et al.* 2004; *cf.* Doyen *et al.* 2012). Fear is one of these basic emotional reactions. It is well known that anxious people are more willing to abide by rules and to follow leaders than those who exhibit greater courage (Krohne 2010). Behaviour and emotions influence the flow of the body’s endogenous messenger substances (neurotransmitters), which may then further influence (albeit unconsciously) our perception, decisions, and behaviour (*e.g.*, Domes *et al.* 2009; Eisenegger *et al.* 2011; Graustella and MacLeod 2012; Jiménez *et al.* 2012; Lischke *et al.* 2012; Wittig *et al.* 2014). Experiences, biological bodily reactions, and behaviour are thus dialectically interrelated (for a summary see Franks and Smith 1999 with further literature). Emotions (and the attempt to influence them) play a key role in socialization (Bauer and Benz 2013).

4) Reflexivity: The prefrontal cortex (PFC) distinguishes human brains significantly from other primates. The dorsal parts of the PFC enact self-observation and enable humans to think reflexively. Together with the self-other overlap in the ventromedial PFC, this enhances our capacity to reflect upon what others might think (“theory of mind”) (Waytz and Mitchell 2011; for a review see Bauer 2015b). Human behaviour is therefore not only steered by automatised reactions and social environments, but also by individual reflexive thinking and intentionality. The human perspective tends to ascribe this intentionality and agency not only to other living beings, but also to things and natural processes. Things can thus be symbolically laden with narratives, or with social or personal identities, blurring the artificially drawn segregation between things and beings. Things can store information independently from personal transmission by relying on conventions (what has been called “extended/ distributed mind”) (Donald

2001; Renfrew 2005; Dunbar *et al.* 2010; Bauer 2018). 5) Memory: memorization is more than a controllable or conscious act, in that it can be deeply rooted in the body and reactivated in certain circumstances. Highly arousing, rhythmic, or unexpected events and personal experiences are remembered more actively than monotonous, passive observations, or routines (Watkins 2012; Páez *et al.* 2015; Rennung and Göritz 2015, 2016; Wightman 2015; Tambini *et al.* 2017). Memories (even unconscious memories) might influence human behaviour for a lifetime (Bauer 2015a). Moreover, memorization is a social act, determined by the individual's capacity for memorization but guided by social experiences, expectations, relationships, and perspectives (Connerton 1989: 37). Personal memory can even be changed retrospectively if it does not match with a generally accepted view of past events (Edelson *et al.* 2011). The capacity to influence and enhance collective memory is thus key in creating loyalty and social commitment.

### Cognitive and Emotional Impact of Imagery

The consequences of these five points for the impact of symbolic behaviour are evident. Due to the plasticity of the human brain, environments – whether social, artefactual or natural – influence humans considerably. The extraordinary human capacity for imitation, and their desire for social acceptance empower idols, habits, traditions, and social structures to play a major role in the formation of personal and social identities. Infants begin to formulate an idea of their self in the first years of life, in the first two years mostly operating within dyadic relationships (Tomasello 2009; Meltzoff 2013; Bauer 2016, 2019; see also Courtney and Meyer 2020). Within Neolithic *habitus* communities, according to the meaning proposed by Gebel (2017), it is to be expected that social self-constructions are dominant and that socialization into the group holds a high value and plays an important role.

Pictures as well as recurrent magic and ritual practices can prime people, meaning they can influence people's perception, emotional and bodily reactions, and their behaviour. This does not necessarily imply (but may facilitate) a top-down education, wherein some kind of 'elite' manipulates or instructs members of a group. The wish to be socially accepted is a primary human instinct (Insel 2003). The motivation to become a respected member of a group may promote the willingness to adopt cultural rules and norms. Rituals, considered here as symbols-in-action occurring within a special framing, and as structured communal events they were probably more intensively memorized than daily practices (Brosius *et al.* 2013; Rennung and Göritz 2015, 2016). With the increasing use of material things as symbols, these things became more important for displaying (or faking) social (and to a minor extent also personal) identities and belonging, irrespective of factual commitments, skills, or preferences (Steffens *et*

*al.* 2013). We consider the formation of identities as a multifaceted process: identities are never monolithic or static, but rather multiple, contextual, intersubjective, and in constant transformation (Benz 2017).

The high capacity of humans for emotional contagion, which is one (but not the sole) component of empathy, makes them sensitive to the manipulation of their emotions by various media: most effectively by other humans (or their representations), but also by music, colours and light, architecture, or symbolic devices that can activate emotions and memories. Processes of contagion occur when emotions or emotionally-associated symbols are communicated to others. More than this, they might transform individual feelings into collective experiences. Having outlined these anthropological characteristics, it can be suggested that the impact of symbols does not only depend on their actual content, but also to a great extent on the social context in which they are used, and the emotional impact they provoke. Certain types of mediality may promote the attribution of agency to things, but irrespective of outward appearances, loading things with meaning remains a socio-cultural or even personal choice. Once a symbolic system has been established, small reminders suffice to activate the whole paradigm via associative thinking.

To conclude these theoretical considerations, it should be emphasised that we will never be able to describe potential individual reactions of people who lived more than nine thousand years before the present. However, even if we simply succeed in grasping some broad trends, this might nonetheless provide valuable additions to existing interpretations of Early Neolithic symbolism.

### Neolithic Symbolic Systems in Context: the Evidence from Three Case-Studies

Valuable and impressive examples of Neolithic symbolic systems are given in recent reviews (*e.g.*, Helmer *et al.* 2004; Morenz 2014; Belfer-Cohen A. and Goring-Morris 2017; Becker *et al.* 2019, Cartolano n.d.). We have chosen the three best known regions and periods for our case-studies, to illustrate our method and provide evidence on possible regional and temporal differences in the use of symbols during the Pre-Pottery Neolithic in Southwest Asia. The earliest case-study examined here is Northern Mesopotamia, with its megalithic architecture and figurative symbolism (Çelik *et al.* 2011; Erim-Özdoğan 2011; Hauptmann 2011; Schmidt 2011; Mazurowski and Kanjou 2012; Yartah 2013; Stordeur 2015; Karul 2020). The second case study analyses the mega-sites and other contemporary settlements in the Levant (Nissen *et al.* 2004; Byrd 2005; Gebel *et al.* 2006; Kinzel 2013; see also the articles in Bienert *et al.* 2004 and Kuijt 2000), and the latest case-study presented here consists of the village farming communities of Central Anatolia (for an overview see the articles in Özdoğan *et al.* 2012). The

	<b>Northern Mesopotamia</b> ~ 9600-8800 cal BCE	<b>Central and Southern Levant</b> ~ 8300-6800 cal BCE	<b>Central Anatolia</b> ~ 8500-6500 cal BCE
<b>Cultural context</b>	(Semi-) sedentary hunter-fisher-gatherer communities; incipient cultivation and animal management (?)	Village farming communities with high pastoral shares	Village farming communities
<b>Material</b>	Increased use of stone in ornaments, symbolism and architecture; bone, shell, ochre (red and yellow), gypsum, antler/horn cores	Clay, lime plaster, shells, few, but increasing use of (exotic, semi-precious) minerals, colour pigments, few wall paintings	Clay, bone/ horn/ antler, colour pigments, wall paintings, semi-precious minerals and shells for ornaments
<b>Ubiquity</b>	High	Low	Low, except for Çatalhöyük
<b>Visibility</b>	High	Low	Low in public spaces, high in domestic spaces at Çatalhöyük
<b>Frequency</b>	High	Low in imagery, high in burial rituals	Low, except for Çatalhöyük
<b>Scale</b>	Megalithic to miniature	Life-size to miniature	Almost all sub-life size, except for plastered animal skulls.
<b>Reflexivity<sup>4</sup></b>	Low in megalithic imagery and stone vessels, but highly impressive rituals of communal house burying and deliberate destruction of objects.	Unless there were no taboos, middle to high but remains difficult to assess <sup>5</sup>	High in art, low in domestic architecture
<b>Style</b>	Figurative and geometric; emphasis on powerful/ dangerous animals and parts of animals (e.g., claws, teeth, horns, and beak), threatening postures.	Dominance of geometric designs, few figurative sculptures, sub-life-sized human figures	Figurative and geometric; emphasis on powerful/ dangerous parts of animals (claws, horns and beak)
<b>Standardisation</b>	Locally high standardisation of architecture, motif patterns and designs with regional adaptations; high differentiation in burial rituals	Low, many ad-hoc items	Individualistic in style, but high in social structuring principles (e.g., segmentation of houses); differentiated household corporate identities
<b>Degree of represented sociality</b>	Individual, with few exceptions, emergence of corporate identities and duality	Individual and collective, duality	Individual in the frame of corporate household identities; duality and collective activities in art
<b>Use of symbols</b>	Public and in-house burial rituals; deliberate fragmentation and burial of things, communal or personalised (?) memory tokens	Public and domestic, in-house burial rituals; caching and hiding of complete objects; Personalised	Domestic, in-house burial rituals; overplastering of animal skeletons in domestic units Personalised
<b>Animal representations and motif combinations</b>	Dominance of wild animals, snakes/ water/ lightning, birds, foxes, boars, feline predators; few scorpions, spiders, insects (?), aurochs, wild goats and sheep, abstract symbols and geometric patterns, very few humans and unidentified animals.	Dominance of geometric designs; few figurative representations in form of human and animal figurines.	Humans and animals; collective activities with humans surrounding isolated animals; dominance of cattle, geometric motifs; some bear, leopards, birds, sheep, boars; few deer, fox, and weasels modelled in clay.
<b>Human representations</b>	Few; in imagery, humans are integrated in the animal world; on special sites such as Göbekli Tepe incipient human emancipation/ mastery of the animal world; possibly: humans in metamorphose, but without weapons, few exceptions.	Focus on human representations in figurines and skull plastering;	Dominance over animals evidenced by incorporation and display of animal parts in the house and in imagery; humans with weapons

Table 1 Summary of medial aspects in the three investigated regions and periods. Information given is based on the following sources. For Northern Mesopotamia: Ibáñez 2008; Coqueugniot 2014; site reports in Özdoğan *et al.* 2011a, 2011b; Mazurowski and Kanjou 2012; Miyake *et al.* 2012; Miyake 2013, 2016; Özkaya *et al.* 2013; Yartah 2013; Abbès 2014; Stordeur 2015; for the Levant: Kenyon 1981; Grindell 1998; Rollefson 2000; site reports in Bienert *et al.* 2004; Nissen *et al.* 2004; Byrd 2005; Goring-Morris 2005; Gebel *et al.* 2006; Kuijt 2008; Schmandt-Besserat 2013 and for Central Anatolia: Hodder 2006; site reports in Özdoğan *et al.* 2012.

main characteristics of symbols found in these three regions are given in Table 1. It should be emphasised that our selection of case-studies does not claim to stand for a general trajectory of people becoming aligned

by means of communally accepted symbolic systems. Our hypotheses will need to be tested against future evidence, and more refined evidence, from prehistoric communities.

### *The Symbolic and Territorial Alignment of People – the Example of Communities from Northern Mesopotamia in the 10<sup>th</sup> and Early 9<sup>th</sup> Millennium*

The earliest Holocene communities in Northern Mesopotamia witnessed a considerable increase in figurative symbols, as well as the emergence of monumental stone architecture. Here, many of the animals depicted by sculptors were male, and were shown in threatening postures, displaying their natural predatory and offensive features: panthers, hyenas, and boars present their sharp teeth and/or claws, while bulls display their horns (Fig. 1; Helmer *et al.* 2004, Peters and Schmidt 2004). Birds are represented with sharp beaks, occasionally holding human heads in their talons; snakes crawl across vessels, heads, and pillars, and scorpions appear on stone pillars, vessels, and bone platelets (Schmidt 2010, 2011; Stordeur 2010; Hauptmann 2011; Hodder and Meskell 2011; Bauer and Benz 2013; Siddiq *et al.* 2021). At first sight, waterfowl and foxes do not seem to fit into this imagery. Although some of the foxes show their male genitals, they are not depicted as predatory or aggressive. A worldwide comparison of animals related



Fig. 1 Priming of emotions: the selection and attitudes of the animal depictions at Göbekli Tepe would possibly have evoked awe in ritual participants, as well as pride at being part of a powerful community that was able to master these animals. (Photo: N. Becker; DAI Orientabteilung)

to shamanic beliefs and practices has shown that waterfowl, snakes, birds, and foxes can act as supporting spirits in shamanic rituals since they are able to cross the spheres, water (underworld), earth, and air (heaven) (Benz and Bauer 2015). The depiction of a fox above the elbow of the anthropomorphically formed eastern central pillar in enclosure D at Göbekli Tepe is most interesting in this respect (Fig. 2). It creates the impression that the fox had been tamed. Moreover, the loin-cloth of the same anthropomorphic pillar appears to be made of a fox pelt (Schmidt 2010: 244-245).

Appropriating and reclaiming the power and skills of these dangerous and sometimes lethal animals might provide the appropriator with respect and esteem, but the situation could also become fatal if control over these powers were lost. The act of representing these animals in a ritual context may suggest some kind of mastery and may have served to establish – or at least contribute to – the power of the represented humans. However, the relationship remains ambivalent, since encountering such predatory or aggressive animals in the wilderness was naturally dangerous. Similarly, in shamanic rituals the shaman<sup>6</sup> faces dangers and risks



Fig. 2 Neither waterfowl nor foxes seem to fit into the repertoire of threatening animals. In later and more recent shamanic contexts, they often act as supporting spirits. Central pillar of Enclosure D, Göbekli Tepe, holding a fox in his arms and standing on a row of birds. (Lidar Scan: Hochschule Karlsruhe, DAI Berlin)

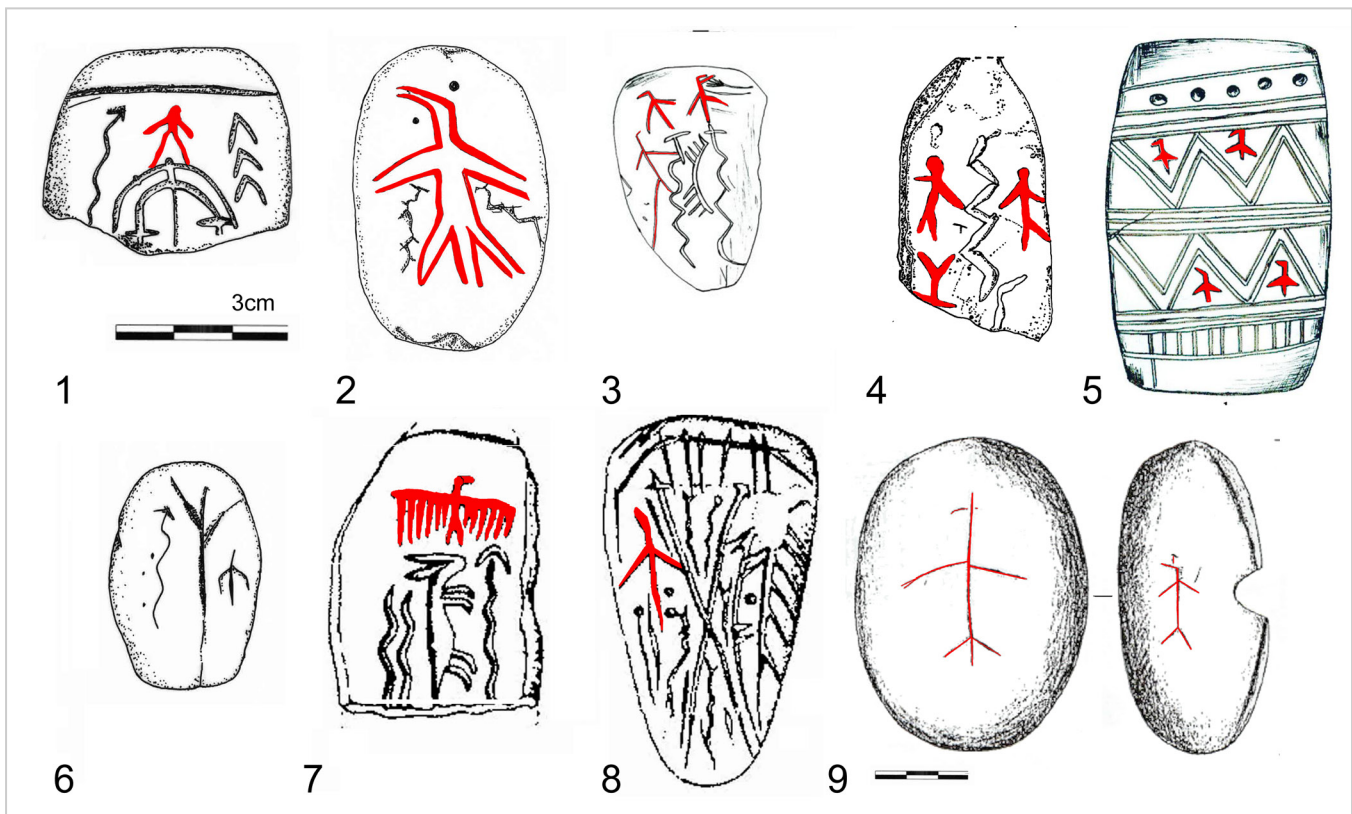


Fig. 3 Humans or birds? The combination of birds and/ or humans with snakes is a recurrent theme (cf. Fig. 4.2). None of the chlorite plaquettes are identical: 1-5 - Tell 'Abr 3 (Yartah 2013: 182.3, 185.3, 187.1-3); 6 - Göbekli Tepe (Köksal-Schmidt and Schmidt 2007: 107); 7-8 - Jerf el Ahmar (Stordeur 2015:4.3-4) and Tell Qaramel (Mazurowski and Kanjou 2012: Pl. 72.2). All are reproduced at the same scale, except N° 9. (Modifications: M. Benz)

his own life. During his ritual trances, he meets with malevolent powers in order to liberate an individual or community from illness, perhaps a curse or bane, or bad fortune.

It is important to remember that none of the represented animals were domesticated during this period except the dog, and that these species were also not preferred game: most of the animal bones found at Göbekli Tepe were from gazelle, and most of the meat came from aurochs (Peters and Schmidt 2004). Red deer, onager, goats, and sheep were rarely depicted, although they too contributed to the diet. The imagery may have had an instructional character, but may also point to a possible mythological or shamanic context (Schmidt 2006, 2010). The relationship of these animals to humans as displayed in the imagery provides further clues for the interpretation of the relationships between humans and their natural environments (cf. below).

The monumentality of the “special buildings” in these communities and their megalithic style contrast strongly with the small contemporary domestic buildings (Özkaya and Coşkun 2011; Schmidt 2011; Stordeur 2015; Yartah 2016). The placement of monumental architecture on hilltops possibly allowed them to function as territorial markers (Sütterlin and Eibl-Eibesfeldt 2013; cf. Braun 2021). The segregation of special ritual buildings, which created and prescribed a certain order, governed movement within the building, and controlled

access to ritual places (John 2010) indicates that ritual activities were possibly restricted to a selective social group. The high level of local standardisation in ritual architecture and symbolic design, as well as the low reflexivity facilitated by these media, impeded any form of individual flexibility and indicated emerging corporate or predetermined social identities (Benz *et al.* 2017).

Individuality is displayed in burial rituals and in the use of small stone plaquettes. The latter were probably made using sherds from chlorite vessels, which were deliberately destroyed during highly arousing, possibly noisy burial rituals (Benz *et al.* 2018). Most of the small stone plaquettes have a unique design, though these designs do recombine motifs from a common repertoire (Fig. 3; for more examples see Benz and Bauer 2013). A series of plaquettes with almost identical figurative designs is exceptional in its representation of an enigmatic unidentified animal. The series was discovered in one grave at Körtiktepe (Özkaya and Coşkun 2011: Fig. 31). Recently, two plaquettes with the same motif were discovered around 60km away at Gusir Höyük (Karul 2020: Fig. 17), indicating remarkably close regional relationships. The intentional destruction of stone vessels during burial rituals transformed the sherds “into important meaningful and symbolic elements” (Verhoeven 2013: 24). It seems clear that these artefacts would have helped to maintain and enliven personal memories. Moreover, about 400km to the west of Körtiktepe, at Tell Qaramel and Tell 'Abr 3

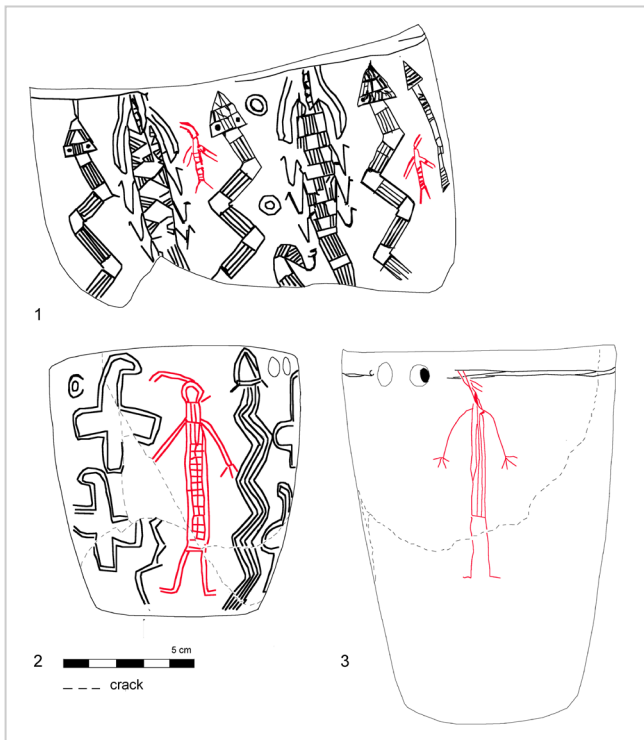


Fig. 4 Representations of humans on different stone vessels from Körstiktepe. Despite differences in engraving style and in the size of the human figures, the main characteristics are represented clearly: a long coat and some kind of headgear. Note that Fig. 4.3 is represented with a beak-like mouth (cf. Fig. 3.2). (Drawings after Özkaya and San 2002: Fig. 3; Özkaya *et al.* 2013: 58; Benz *et al.* 2016: Fig. 7b; modifications: M. Benz)

in northern Syria, isolated sherds from the specific and elaborate Körstiktepe vessel type with concentric circles were discovered (Mazurowski and Kanjou 2012: plate 83.7-8; Yartah 2013: Fig. 34). However, no identical complete vessels have been found at any of these sites to date, but only smaller examples in a less elaborate form and style (Benz *et al.* 2018). Possibly these sherds were saved – similar to the stone plaquettes – from burial rituals as tokens of memory, recalling spatially and temporally distant communal events, as well as social belonging that could overcome spatial distance.

However, without further investigations into the biography of these artefacts (provenience, production, usage and disposal contexts), such a scenario remains speculative.

Animal representations are dominant in figurative design, not only in terms of frequency but also in terms of size. Human representations are rare (see below for the exception of Göbekli Tepe). They are very schematic but interestingly, a particular form of headgear, a long coat, or a special kind of movement were significant attributes, which were represented even in tiny sketches (Benz and Bauer 2015) (Fig. 4). At Körstiktepe and at Göbekli Tepe, none of the human representations holds a weapon or other object. There are only two exceptions from Tell ‘Abr 3, one on a stone slab and another on a small chlorite vessel (Fig. 5). Both representations show a possible hunting scene (Yartah 2013: Fig. 173; Fig. 194.3). Most of the humans are depicted enacting some kind of movement, holding the arms stretched outward from the body (shamanic/ dancing gestures?; Özkaya and San 2004: Fig. 3b; Miyake 2013: 45; Özkaya and Coşkun 2013: 32; Özkaya *et al.* 2013: 58, 61; Yartah 2013: Figs. 173, 182.3, 194.3; Stordeur 2015: Fig. 3.2); most of them are represented in isolation moving through a universe of animals that are larger than themselves. A recurrent combination is snakes, humans, and birds, whereby it is not always possible to distinguish human representations from those of birds. Perhaps this ambiguity was deliberate, and was meant to indicate some kind of identification with birds as human alter-egos, or perhaps as guiding or supporting spirit animals that were significant to shamanic practices (Schmidt 2006; Benz and Bauer 2015).

Göbekli Tepe provides contrasting evidence on many of the above points: here, the anthropomorphic design of the stone piers encircling the two central anthropomorphic pillars suggests both shared leadership (duality) and communality. The size of the pillars (max. 5.5m) at Göbekli Tepe is almost three times the estimated size of contemporary humans. Their stature is static and calm. However, neither the pillars nor the human depictions on the stone vessels here seem to have a personal identity: their faces remain anonymous. They

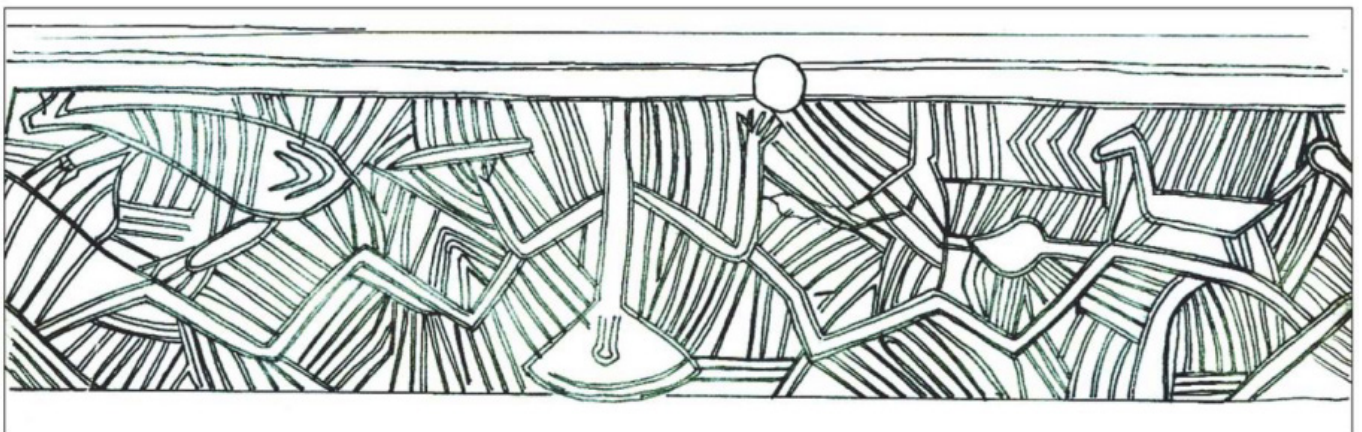


Fig. 5 Hunting scene from Tell ‘Abr 3: this is a rare exception within the imagery of early Pre-Pottery Neolithic communities (Yartah 2013: Fig. 194.3, drawing: T. Yartah)

thus probably represented a certain type or role – indicated by the dress mentioned above – but not individual, personalised group members (Schmidt 2010: 244). It seems that at Göbekli Tepe, humans started to consciously differentiate or emancipate themselves from the animate world, although humans and animals were still intensively interwoven. This might point to the changing role of ritual leaders and to the emergence of traits which are characteristic of religion, such as authority and dogma, in some communities (Gebel *et al.* forthcoming). The increasing emphasis on group events (rituals?) with some kind of organisation is also seen in some depictions on small stone objects from Tell ‘Abr 3 (*cf.* Fig. 4.3-5).<sup>7</sup>

Overall, this first example shows deep symbolic roots in a holistic, animistic<sup>8</sup> world view. Humans are represented as integrated into and interacting with the real or conceived world of animals. The “special buildings” convey a strong contrast to this world view on several levels: their monumentality, the emerging corporate identities, spatial segregation, and standardisation, as well as the fixing of symbols in stone and the strong differentiation of ritual space from domestic areas would have facilitated the establishment of shared convictions (or dogmas) and initiated a dominant role for those who controlled the medial tools. This is in contrast to the typical open-access territories, high social and spatial flexibility, opportunistic behaviour, and equality that are considered characteristic of small-scale, mobile hunter-gatherer communities. Differences between the ideas encoded in imagery and daily life are clearly visible (Bauer and Benz 2013; Benz *et al.* 2016).

Extraordinary events, such as the smashing of stone objects during burial rituals (Benz *et al.* 2018)<sup>9</sup>, communal gatherings at remote sacred places (Dietrich *et al.* 2012), and the deliberate burning and backfilling of “special buildings” (*e.g.*, Özdoğan and Özdoğan 1998; Schmidt 2006; Coqueugniot 2014; Stordeur 2015; Karul 2021; *cf.* Kinzel *et al.* 2020)<sup>10</sup> would have created intense impressions and lasting memories. We therefore suggest that symbols were used to increase each individual’s commitment to permanent, ever larger groups by creating strong episodic communal memories and marking territorial claims using monumental architecture. The monumentality of the buildings, and the low reflexivity of the symbols fixed in stone that these buildings allowed, contributed to the permanence of transgenerational social identities. This mediality also created the impression that changing this prefigured ‘world’ was only possible with great effort (deliberate destruction of things or ‘interment’ of buildings). The high frequency with which the same symbols appeared over a wide region, and the ubiquity of these symbols across various media sustained the naturalisation of the symbolic system.<sup>11</sup> The unifying symbolic system may be taken as indirect evidence for the need to bond larger groups of people. A strong symbolic system can of course promote coherence within the group, but at the same time it creates distance from others who do not use the same system. However, it should

be emphasised that none of the early Holocene depictions here shows an unfriendly encounter or any conflict between different social groups. This is in strong contrast to many depictions originating from Bronze Age communities in Mesopotamia where coordinated armed conflicts are a recurrent theme.

The social and psychological challenges of groups with more than 150 members have been outlined above. The presence of unambiguous figurative motifs also reflects these challenges. Irrespective of social and individual backgrounds, many people would have been able to grasp the basic meanings of these motifs. However, the deeper significance of the abstract signs representing these meanings (for example, those on the belts and dresses of the anthropomorphic stone pillars), as well as the complete narratives connected with them, were probably only understood by those who were in some way initiated or specially educated.

The emphasis on the dangerous aspects of the animals depicted might reflect two intentions: on the one hand, carving animals in stone clearly displays the technical mastery of the artist or of the group (Bauer and Benz 2013). Creating something dangerous, even if only in a representational or symbolic sense, may transfer the power of the dangerous object to the artistic master. On the other hand, the use of the symbols (especially those based on birds, snakes, and predators) emerging from the walls in monumental, most likely sombre, communal buildings probably evoked emotions of awe or at least respect, perhaps even humbleness or fear, creating haunting memories (Bloch 2008, 2010). In particular, when a predatory animal was represented as if it were about to attack, the spectator is cast automatically into the role of prey. As outlined above, fearful or anxious people are more willing to abide by set rules than self-confident individualists. Below, we show how the use of impressive, emotionally laden motifs was repeated at Catalhöyük, but in a different context. However, the communities of the Middle to Late Pre-Pottery Neolithic of the Levant chose another strategy – possibly no less impressive – to strengthen group identities.

### ***Creating Genealogies – the Social Meaning of Pre-Pottery Neolithic Symbols in the Central and Southern Levant***

In the central and southern Levant, the occurrences of figurative art from the Middle and Late PPNB (M/LPPNB) are rare. At first sight, this may seem an astonishing difference to the earlier communities of Northern Mesopotamia, especially in light of the wealth, diversifying ritual expressions, and the initial social stability indicated by LPPNB mega-sites (Gebel 2004, 2017). The famous, almost life-sized figurines from ‘Ain Ghazal, and smaller examples from Jericho and Ramad, as well as some small clay and stone figurines of animals and humans are rather exceptional (Hermansen 1997; Mahasneh and Bienert 1999; de Contenson 2000; Hansen 2007; Schmandt-Besserat 2013; Becker *et al.*

2019). The current evidence does not reflect largely coherent and widespread patterns in rituality and symbolism, rather it appears that we are dealing here with regional and/ or ephemeral traditions: a regionality in rituality which apparently includes local *ad hoc* ritual expression. Even the almost human-sized sculptures from ‘Ain Ghazal have distinctive traits, although all of them follow specific production modes and at first sight, seem to be similar. Extraordinary buildings existed, but they were integrated into the settlements and most of them lack the monumentality of the Early Pre-Pottery communities in the Northern Levant (Rollefson 2000; Byrd 2005).<sup>12</sup> Socialisation was above all determined by household structures (Gebel 2010; Goring-Morris and Belfer-Cohen 2013). Isotope studies indicate local communities, which were often clustered in densely occupied, circumscribed settlements. Non-morphological traits on teeth and the preliminary results of a-DNA analyses lead us to suppose that genetic relations may also have been decisive for social belonging (Alt *et al.* 2013; Skourtanioti and Feldman in prep.).

Particular group members were buried either beneath house floors, in public spaces between houses, or in burial areas in abandoned houses (*e.g.*, Kenyon 1981; Kuijt 2000; Berner and Schultz 2004; Byrd 2005; Gebel *et al.* 2006, 2020; Benz *et al.* 2019). The focus on the local community was supported by the so-called skull cult. The skulls of selected individuals were removed from the grave after a period of time. A few skulls were then plastered in a very elaborate and individualistic style and put on display, also for an undefined period of time (for a review see *e.g.*, Bonogofsky 2006; Kuijt 2008; Khawam 2014; Bocquentin *et al.* 2016). Two things are important to note for our analysis; first, this practice had its origins in the Epipaleolithic of the Levant (Bonogofsky 2006; Benz 2010), and only became more sophisticated during the Neolithic, and second, most of the skulls were reburied collectively, with only a few exceptions that were deposited in single graves. The remains of young infants were uncovered either on top of or within the grave-pit of reburied skulls, indicating intergenerational relationships (Benz 2012).

Whereas in Northern Mesopotamia it seems that memories of these deceased group members were kept alive by symbolically laden small artefacts, in the Levant the past was visibly integrated into the present by the display of skulls. These personalised intergenerational relationships provided a strong medium for the creation of social commitment (Kuijt 2008; Benz 2012; Sütterlin 2017).

Important performances of the LPPNB medialities in the Southern Levant include burying, hiding, fragmentation and burning, magical practices and rituals designed to facilitate mutual comprehension and thus encourage or provoke social alignment. These practices were clearly often of an ephemeral and *ad hoc* nature, and may have utilised the power of knowledge concerning the invisible. Traces of non-sepulchral magic and ritual fragmentation, hiding and burying of items as well as the burning of rooms in Ba`ja and Basta,

have for example been found in the intramural deposition of hammerstones, celts, ground stone fragments, and of one child burial (Basta only); in-floor bone arrangements and stone bowlet depositions; intermural animal bone deposits; stone-protected skull deposits (Basta only); buried figurine *i.a.* hoards (one case in Basta and Ba`ja); a covered wall painting (Ba`ja only); *in situ* fragmentation of burial goods/ cover slabs; burning of household inventories and other isolated evidence (*e.g.*, Hermansen 1997; Gebel 2002, Gebel *et al.* 2017, forthcoming; Benz *et al.* 2019).

The results of the medial analyses here thus underline the suggestions made by Gebel (2017). In contrast to Northern Mesopotamia, territorial claims and corporate identities were not created by the omnipresent display of symbols and monumental architecture here, but rather by domestic socialisation (household tradition and habits) and by personal relationships serving as a medium for group identities, described as *habitus* communities by Gebel. Communal memory was thus more intensively based on habit-memory than on episodic, high-arousal events. The densely packed villages of the LPPNB probably appeared as homogeneous, firmly circumscribed entities in the Neolithic landscapes. They may therefore have signalled territorial claims and social commitment, as did the monumental cult buildings in Northern Mesopotamia. In the Levant, the intensive display of a standardised symbolic imagery was not necessary in order to create commitment and loyalty. These observations corroborate the results of recent statistical analyses, which determined that there is no significant correlation between absolute population densities<sup>13</sup> and the intensity of the use of symbols (Cartolano n.d.).

### ***Domesticating the Wild – Conventionalised Medialities in the Pre-Pottery Neolithic B and Pottery Neolithic of Central Anatolia***

Our third example considers the huge Neolithic settlements of Central Anatolia, where “special buildings” were generally integrated into the settlement. The domestic dwelling unit could be used for both ritual and daily practices. Sites devoted to special tasks and special ritual structures, such as the site of Musular, seem to be rather exceptional (Özbaşaran *et al.* 2012). As outlined in the case of the Levantine mega-sites, at Aşıklı Höyük (Özbaşaran 2012) village life seems so firmly established that it was clearly not considered necessary to display corporate identities via impressive symbolism. Close genetic ties may have played a certain role in establishing and maintaining group identities (Yaka *et al.* 2021). In burial rituals, there is almost no visible segregation of particular groups or individuals. Yet there were strong traditions concerning the construction of houses. Houses were built precisely on top of each other for several generations, indicating a fixed concept of the domestic unit (see also Hodder 2006; Baird *et al.* 2012). Other, more elaborate and larger buildings with special features such as wall paintings or red stained





Fig. 6 Cooperation was conjured up in the wall painting from Çatalhöyük, Konya, when facing the aurochs/ bull. Despite the representation of communal effort, individualisation cannot be hidden. Every human figure has his/ her own style and accessories. (Drawing: Omar Hoftun ©)

floors can be distinguished from ‘ordinary’ houses, but their specific function remains enigmatic (Duru 2012; Özbaşaran 2012; Özbaşaran *et al.* 2012: 161).

The famous site of Çatalhöyük in the Konya Plain (Hodder 2006, 2012) is another example of strong household traditions in art and architecture. As in Aşıklı, houses were repeatedly built on top of each other. Micro-morphological analyses by Wendy Matthews show that up to 450 layers of plastering were applied to one wall (Hodder 2006: 128). Despite this strong tradition, every house also had individual features. The dead were buried in specific places beneath floors and benches. Wall paintings were repainted several times. Despite many similarities to other sites in Central Anatolia, the frequent display of symbolic devices inside houses at Çatalhöyük is extraordinary.

Most of the impressive art comes from the later levels of Çatalhöyük, dated to the middle of the 7<sup>th</sup> millennium BCE. Many motifs, like the aurochs, leopards and vultures in the wall paintings seem to recall the ancient imagery of the early Holocene sites in Northern Mesopotamia. The style and movement of this bull in a wall painting from Çatalhöyük (Fig. 6) is almost identical to an example from Göbekli Tepe. Emphasis on the predatory or offensive body parts of the animals was so important that, for example, red paint was added repeatedly to the claws and teeth of the relief depiction of two leopards (Cutting 2007: 127). Despite these obvious reminiscences in style, and the selection of single motifs from the 10<sup>th</sup> millennium (Hodder and

Meskel 2011), the motifs appear here in a completely different context. This difference is not only evident in the combination of motifs – the animals are surrounded by groups of people at Çatalhöyük – but also by their location: here, all art occurs in domestic contexts within a village farming community. Socialisation took place inside the house. Children saw these images and sculptures every day, and perhaps even crawled on the plastered bucrania (Hodder 2006: 128). This familiarity probably caused a different emotional impact to the one engendered by the monumental, segregated art and architecture of the Northern Mesopotamian sites. At Çatalhöyük, encoded ideas emphasise groups of humans rather than individual ones, even though every person is represented with individual traits in the wall paintings. The bull is dominant over the humans in terms of size and takes a central place in the picture, but it is surrounded by many people, some of them equipped with weapons. The relationship between humans and animals is thus reversed when compared to the imagery from Körtiktepe and Göbekli Tepe. Whereas hunting scenes were barely represented in the art of Northern Mesopotamia, at Çatalhöyük hunting had become a prestigious event for the identity of the whole group. Archaeozoological analyses show that aurochs played an important role in feasting (Hodder 2006: 52), but were not for daily consumption.

Just as some motifs recall ancient Northern Mesopotamian traditions, the paired figures from Çatalhöyük also recall the larger paired figurines from ‘Ain

Ghazal. Plastered skulls from Çatalhöyük (Hodder 2012) and Köşk Höyük (Öztan 2012) may also represent a kind of renaissance of the Levantine skull cult. Yet at Çatalhöyük, the reburial of the plastered skulls occurred in a different context. As mentioned, most plastered skulls in the Levant were reburied collectively, whereas the ones from Çatalhöyük were rare and reburied in association with single primary burials (Haddow and Knüsel 2017). Here again, it might be possible to see an emphasis on individualisation at the expense of established communal identities (for further areas where this trend is visible, see Hodder 2006: 126-129). The meaning of symbolic reminiscences in both general imagery and burial rituals was therefore probably different in Central Anatolia, compared with the two other regions. However, the frequent display of symbolic items might have again become necessary to regain commitment, at least at the household level, whenever there was a threat of segregation. Remarkably, according to first genetic analyses of ancient DNA and dental phenotypes (Pilloud and Larson 2011; Yaka *et al.* 2021), corpses buried beneath benches inside houses were not closely genetically related. This indicates that genetic affiliations were not primarily decisive for integration into the social community, but that people from a larger genetic pool were integrated.

### Interpreting Early Neolithic Medialities

The aim of our transdisciplinary contribution has been to interpret the social impact and relevance of symbolic behaviour in different regions of Southwest Asia during the early Neolithic. In the transition to sedentary communities in Northern Mesopotamia, more widespread cooperation and larger communication networks were sustained by the intense usage of common figurative and abstract symbols. Scenes and subjects indicating threat probably primed people's emotions, evoking feelings of respect, awe, and perhaps fear. Spatial segregation of such representations from daily life enhanced these feelings, since the architecture of these extraordinary contexts induced movements that differed from movements used in daily routines. However, as mentioned in the section on neurobiology, the alignment of views as well as the synchronisation of movements and rhythms during rituals would have established and enhanced social affiliation, and may have facilitated automated behaviour. Conscious reflection may also have been harmonised within the group. Bearing in mind the psychological effects on behaviour that a sense of affiliation and fear can generate, group members might have then become more willing to abide by given rules, or to accept changes that contradicted the common ethos of equality (Widlök 2013: 175). People remained an integral part of their natural environments, and their social identities were probably still largely determined by the communally experienced exposure to these natural environments. This leads us to suggest that their imagery was deeply rooted in animistic – possibly also shamanic – concepts,

but the monumentality and the fixing of symbols in stone led to new relationships with the past and may have created feelings of social belonging.

The monumental cult architecture built in exceptional natural places turned certain locations into fixed foci of communal rituals and memory (Çelik *et al.* 2011; Schmidt 2011), thus binding a ritual community to special places by a strong physical reinforcement of extraordinary, and probably enduring (see point 5), experiences and memories. Besides establishing and maintaining emotional bonds to other group members by means of synchronised behaviour during rituals, territorial bonds and identification with certain places would also have been enhanced (Godelier 2007). It is of course clear that stronger in-group bonds enhance alterity with other groups. Therefore, new means of integration and mitigation had to be developed to avoid alienation between groups.

Territorial marking and the emotionally laden symbolic system were not only used as a display of mastery of threatening situations, but also as a means to strengthen regional common identities during times of considerable social changes (Sütterlin 2017). Tensions and contradictions between encoded ideas and daily life were clearly visible, *i.e.*, segregation of ritual communities, monumentality of special architecture, and the consolidation of concepts within flexible, egalitarian communities (Benz 2017). The high standardisation of architecture and art, as well as the naturalistic style in which they were executed, would have made it possible even for non-local people to recognise the presence of a cohesive social assembly and to understand at least the basics of the symbolic communication displayed. This communication may have promoted mutual respect, and possibly also reciprocal understanding between regional groups despite local differences. The fixed repertoire of encoded signs and ideas would on the one hand indicate belonging in social and ritual contexts, but on the other hand, could also open the door for indoctrination and dogmatic coercion.

In contrast, the corporate identities of village farming communities in the central and southern Levant during the Middle to Late Pre-Pottery Neolithic were strengthened through intra- and intergenerational personal relationships by (quite literally) re-presenting and including deceased members of the community in daily life. Whereas the display of communal symbolic identities was probably not as ubiquitous and frequent as it had been during the late 10<sup>th</sup> millennium in Northern Mesopotamia, these representations of 'ancestors' – whether biological or not – were probably more important. Due to the importance of the face as a prime marker of identity and emotions (see Point 1a of the Neurological Basics), it can be surmised that personal relationships caused greater empathy and a stronger social commitment than the rather impersonal group identities built on the basis of a common symbolic system and confined territories in Northern Mesopotamia. Moreover, the house and households became implicit aspects of culture and gained importance in the formation and

maintenance of social identities. Living in village communities seems to have been a well-established pattern, possibly supported by prescriptive mating rules (Alt *et al.* 2013; Skourtanioti and Feldman in prep.). The tight relationship with deceased group members thus only prolonged what had been experienced in daily life. In contrast to the monumental self-idealizations found at Göbekli Tepe, in the Levant these imagined and social identities appeared to be closely related, and probably stabilised and legitimised social structures and daily practices.

The same holds true for Aşıklı Höyük in Central Anatolia. During the 8<sup>th</sup> millennium BCE, villages seem well established as focal points of communal identities. However, towards the end of the Pre-Pottery Neolithic at Çatalhöyük, the intensive display of symbolic items inside domestic houses might hint at emerging conflicts resulting from the increasing importance of the household unit during the early Pottery Neolithic (Hodder 2006:139, 232). It seems clear that it became necessary to keep families together by displaying a common symbolic identity, in order to ultimately ensure their socio-economic sustainability and thus continued existence. The imagery evokes the importance of cooperation and demonstrates duality through figures representing a human couple (Hodder 2012: Fig. 17-18). In both fields, and in both enacted (*e.g.*, burial rituals) and encoded ideas (*e.g.*, imagery), very ancient practices and motifs were chosen in order to relate the present to a remote (possibly mythological) past. However, this ‘renaissance’ of motifs from the Levant and Northern Mesopotamia cannot disguise the major differences between the village farming groups and the ancient hunter-gatherer communities. Hunting had lost its meaning as an essential subsistence practice, but it still played an important role in rituals. Elements of foraging symbolism were inscribed in the Pre-Pottery and Pottery Neolithic cultural memory and practices. It seems that both the function and potential of evoking this collective memory was recognised as a successful means for aligning people and sustaining cultural identities.

In a similar vein, there is hardly any archaeological evidence that the wall painting which depicted the removal of human heads by vultures – or by humans disguised as birds(?) – was actually intended to depict ritual practices (Hodder 2006: 50, Fig. 57; Cutting 2007:130). Although the imagery on display at Çatalhöyük may have thus conjured up communal identities from ancient times, an emerging individualism is evident in the architecture, the burial rituals, and in the finer details of the hunting scenes themselves. In contrast to the remote and segregated monumental cult buildings of Göbekli Tepe and other sites with special cult buildings, here symbols and rituals were transferred to the daily, domestic sphere, with infants growing up in intimate contact with this imagery. There was nothing extraordinary or exaggerated in that imagery: instead, it formed a familiar part of the household’s identities, a kind of ‘implicit culture’. Besides the arousing rituals that may have taken place, symbolic

behaviours could thus represent what Connerton called “habit-memory” (Connerton 1989: 25). Wild animals were symbolically “domesticated”, bound into the house, thereby demonstrating the dominance of humans over animals (Hodder 1990; Helmer *et al.* 2004; Stordeur 2010).

Despite these fundamental differences with regard to the impact of symbols, the examples of Çatalhöyük and Northern Mesopotamia also show interesting structural similarities. Both examples allow us to reasonably suggest that intensive displays of communal symbols were used during periods of heightened tensions between the existing ethos and social reality, *e.g.*, when segmentation endangered cooperation or when larger communities had to be immunised against alienation and the threat of fission. Under such critical conditions, the display of communal strength and reminders of possible threats may well have served to reaffirm a sense of belonging, to impress people, and to (re-)gain their commitment by subliminally influencing their emotions and behaviour.

In both periods, pictures of non-daily experiences were chosen to bind people to an imagined common reality. The imagery evoked idealised conditions in order to influence people’s minds. At Çatalhöyük, we were able to trace the origins of these figures to a remote past, but for Göbekli Tepe archaeological evidence from the Epipaleolithic remains rare. Nonetheless, it has been shown that many aspects of these representations refer to an animistic world view, where human and animal identities merged – even though they were never considered identical (*e.g.*, Willerslev 2007).

## Prospects

Our investigations into mediality in early sedentary communities open up new pathways for our understanding of the social impact of symbolic behaviour during the fundamental transition from mobile hunter-gatherer groups to sedentary village farming communities. These early Holocene communities experienced an unprecedented increase in medial priming, in many ways and on many levels. This increase was not linear, but was rather driven by changing social conditions, and human decisions concerning how to address the social challenges these changes presented. The three case-studies outlined here show that people of the early Holocene used different forms of medial influence to maintain larger sedentary communities. While in the Levant burial rituals created strong social relations even beyond death, the standardised symbolic systems, both in Northern Mesopotamia and at Çatalhöyük, apparently conjured up a social ethos that no longer existed. Despite a revival of Levantine and Northern Mesopotamian symbolism at Çatalhöyük, the social impact of symbols was different in this well-established farming community. The domestication of symbols increased their importance for the socialisation of children. The imagery became an unquestioned part

of the ‘implicit culture’. Sedentary life, symbols fixed in stone, and last but not least, the use of symbols inside the house thus paved the way for conformism. In light of the social dimension of the self, the role of medial priming is crucial. Opportunistic, resilient behaviour became ever more difficult.

Here, we could only present a short overview of the changing medialities and their supposed social impact. Many aspects remain to be investigated in detail; for example, it is evident that colours and certain materials had a high symbolic meaning in all three periods (e.g., Hodder 2006: 51; Ronen 2010; Özkaya and Coşkun 2011: 51; Baird *et al.* 2012: 226; Yartah 2013: Fig.11; Cocqueugniot 2014). Providing empirical evidence for the emotional impact of the imagery remains a pending task for future transdisciplinary projects between archaeology and social neurosciences.

*Acknowledgements:* This article is an updated version of our 2017 contribution to the planned publication of Trevor Watkins on the “The Long Revolution”, prepared for the John Templeton Foundation Project “Our Place. Our Place in the World” (project organisation: Trevor Watkins and the late Klaus Schmidt). Unfortunately, the publication of this important book was not possible for unforeseen reasons. We are thus all the more grateful to Trevor Watkins for his invitation to participate in the two related conferences in Urfa and Berlin. Participating in the Templeton Project was a great opportunity and an inspiring challenge. Special thanks are due to Hans Georg K. Gebel and Trevor Watkins for their valuable discussions and supportive cooperation. We are also grateful to Gary Rollefson for editing the former version of our text, and to Rubymaya Jaeck for her thorough and diligent proofreading of the revised version. All remaining mistakes are ours.

**Marion Benz**  
marion.benz@fu-berlin.de

**Joachim Bauer**  
University of Freiburg  
and  
International Psychoanalytic University Berlin  
prof.joachim.bauer@posteo.de

## Endnotes

<sup>1</sup> This is not the place to discuss the meaning of the term *symbol*. The differentiation between icon, index, and symbol in prehistoric communities is fluid and does not help much in understanding ancient communities. Every sign can become a symbol. A symbol is considered here to be any action or thing that stands for something else, whereby its meaning is based on minimal communal consensus, even though individual interpretation may vary considerably (Layton 2007; Wagoner 2010).

<sup>2</sup> Technological traditions, diet, muscular markers, dimorphisms, or other bodily markers indicating specific activities would provide further important evidence. However, primary proxies for a systematic comparative meta-analysis of these data are still missing.

<sup>3</sup> This is in strong contrast to still prevailing socio-biological theories and neoliberal discourses, which still believe in the Hobbesian theory that the original nature of humans was brutal, aggressive and selfish (cf. Axelrod 1995).

<sup>4</sup> For a definition in mediality studies (Simon 2011).

<sup>5</sup> The main communal symbolic behaviour seems to have been focused on handling the dead. The reflexivity, the possibility to interfere during and after burial rituals, depends on prescribed rules. For example, it is unclear whether everyone was allowed to extract a skull, to plaster and to re-plaster it or whether this task was restricted to special groups or individuals with a special status. Since this is unknown, an assessment on the reflexivity is hardly possible. The same holds true for the interaction with figurines, as well as for caching and hiding things. Was their ‘burial’ an individual act or a public event? Once buried, it is difficult to interfere with them, unless removal was not taboo.

<sup>6</sup> We have argued elsewhere that the archaeological data attest to the deep roots in shamanic practices (Benz and Bauer 2015). However, – from a religious-historical perspective – it may be possible that the role of ritual leaders was changing during the 10<sup>th</sup> millennium BCE and that ritual leaders combined “shamanic practice” with the power of a common, enacted and encoded system of symbols. Such a dogmatic use of symbols would contradict shamanic concepts. For the discussion of this understanding of ritual leadership see Gebel *et al.* (forthc.)

<sup>7</sup> Two humans and a snake were possibly also depicted on a stone artefact at Tell Qaramel (Mazurowski and Kanjou 2012: Pl. 73), but unfortunately it is broken. The stratigraphical provenience of the famous limestone vessel fragment with the scene of two humans and a “tortoise” is currently debated. It might come from a more recent occupation phase but not from the Pre-Pottery Neolithic B levels (pers. comm. M. Morsch). It is therefore no longer considered here.

<sup>8</sup> There are several reasons why we suggest an animistic ethos for the people of Göbekli Tepe (Benz and Bauer 2013). In the strict sense of the word, totemism presupposes the existence of clan structures, which are hardly provable in archaeology without aDNA analyses. Furthermore, there is no exclusive use of certain symbols for specific groups. Even if some animal depictions dominate in certain enclosures at Göbekli Tepe, their use is never exclusive.

<sup>9</sup> For a general summary on the deliberate destruction of things during the Neolithic see Chapman 2000; Voigt 2000: 256; Verhoeven 2013.

<sup>10</sup> Recently, Kinzel *et al.* (2020) argued for natural processes and collapsing buildings that were responsible for the “backfilling” of the “special buildings” at Göbekli Tepe, instead of intentional, purely anthropogenic backfilling.

<sup>11</sup> Gebel (2013, see also 2017) has suggested the term “ideocratic” for a form of Neolithic social organisation, which is based *i.a.* on the rule of encoded and enacted symbols and rituals. Although he defined it for the Neolithic, we prefer not to use this term, since it is generally used in con-

nection with (totalitarian) state organisations and runs the risk of evoking the wrong associations.

<sup>12</sup> It seems that certain locations such as Kfar Ha-Horesh were reserved for burials (Goring-Morris 2005; cf. Garfinkel 2006); see also the development of special burial areas at the Pre-Pottery Neolithic site of Aswad (Khawam 2014). The ritual character of the special installation at the edge of the Neolithic village of Beidha remains controversial (cf. Byrd 2005).

<sup>13</sup> Such calculations based on absolute numbers per site, can be considered a first rough approach, but they do not consider the population pressure people may have felt due to increasing population densities. In our view, such calculations should consider the proportional increase of population densities, since this is what people realized.

## References

- Abbès F.  
2014 Le Bal’as, un autre scénario de la néolithisation. In: C. Manen, T. Perrin and J. Guilaine (eds.), *Transition en Méditerranée ou comment des chasseurs devinrent agriculteurs*: 13-27. Aix en Provence: Errance.
- Alarashi H.  
2014 *La parure épipaléolithique et néolithique de la Syrie (12e au 7e millénaire avant J.-C.) : techniques et usages, échanges et identités*. PhD Thesis. Lyon: Université Lumière-Lyon 2.
- Alt K.W., Benz M., Müller W., Berner M.E., Schultz M., Schmidt-Schultz T.H., Knipper C., Gebel H.G.K., Nissen H.J. and Vach W.  
2013 Earliest evidence for social endogamy in the 9,000-year-old-population of Basta, Jordan. *PLoS ONE* 8(6):e65649. DOI: 10.1371/journal.pone.0065649 PMID: 23776517.
- Axelrod R.  
1995<sup>3</sup> *Die Evolution der Kooperation*. Scientia Nova. Munich, Vienna: Oldenbourg.
- Baird D., Fairbairn A., Martin L. and Middleton C.  
2012 The Boncuklu Project: the origins of sedentism, cultivation and herding in central Anatolia. In: M. Özdoğan, N. Başgelen and P. Kuniholm (eds.), *Central Turkey. The Neolithic in Turkey*. New Excavations and New Research 3: 181-218. Istanbul: Archaeology and Art Publications.
- Bauer J.  
2008 *Prinzip Menschlichkeit. Warum wir von Natur aus kooperieren*. Munich: Wilhelm Heyne.  
2011 *Schmerzgrenze. Vom Ursprung alltäglicher und globaler Gewalt*. Munich: Karl Blessing.  
2015a<sup>6</sup> *Das Gedächtnis des Körpers. Wie Beziehungen und Lebensstile unsere Gene steuern*. Munich: Piper.  
2015b *Selbststeuerung. Die Wiederentdeckung des freien Willens*. Munich: Karl Blessing.  
2016 Der Beitrag der „Sozialen Neurowissenschaften“ zum Verständnis der Psyche. *Psychotherapie-Wissenschaft* 1: 41-51.  
2019 *Wie wir werden, wer wir sind. Die Entstehung des menschlichen Selbst durch Resonanz*. Munich: Blessing.  
2021 *Das empathische Gen. Humanität, das Gute und die Bestimmung des Menschen*. Freiburg: Herder.
- Bauer J. and Benz M.  
2013 Epilogue. Archaeology meets neurobiology. The social challenges of the Neolithic process. *Neo-Lithics* 2/13: 65-69.
- Becker J., Beuger C. and Müller-Neuhof B. (eds.)  
2019 *Human iconography and symbolic meaning in Near Eastern Prehistory*. OREA 11. Vienna: Austrian Academy of Sciences Press.
- Belfer-Cohen A. and Goring-Morris N.  
2017 “Moving around” and the evolution of corporate identities in the Late Epipalaeolithic Natufian of the Levant. In: M. Benz, T. Watkins and H.G.K. Gebel (eds.), *Neolithic corporate identities. Studies in Early Near Eastern Production, Subsistence, and Environment* 20: 59-80. Berlin: ex oriente.
- Benz M.  
2000 *Die Neolithisierung im Vorderen Orient. Theorien, archäologische Daten und ein ethnologisches Model*. Studies in Early Near Eastern Production, Subsistence, and Environment 7. Berlin: ex oriente.  
2010 Beyond death – the construction of social identities at the transition from foraging to farming. In: M. Benz (ed.), *The principle of sharing – segregation and construction of social identities at the transition from foraging to farming*. Studies in Near Eastern Production, Subsistence, and Environment 14: 249-275. Berlin: ex oriente.  
2012 “Little poor babies” – creation of history through death at the transition from foraging to farming. In: T.L. Kienlin and A. Zimmermann (eds.), *Beyond elites. Alternatives to hierarchical systems in modelling social formations*. Universitätsforschungen zur Prähistorischen Archäologie 215: 169-182. Bonn: Rudolf Habelt.  
2017 Changing medialities. Symbols of Neolithic corporate identities. In: M. Benz, T. Watkins and H.G.K. Gebel (eds.), *Neolithic corporate identities. Studies in Early Near Eastern Production, Subsistence, and Environment* 20: 135-156. Berlin: ex oriente.
- Benz M. and Bauer J.  
2013 Symbols of power - symbols of crisis? A psycho-social approach to early Neolithic symbol system. *Neo-Lithics* 2/13: 11-24.  
2015 On scorpions, birds and snakes – evidence for shamanism in Northern Mesopotamia during the early Holocene. *Journal of Ritual Studies* 2: 1-24.
- Benz M., Alt K.W., Erdal Y.S., Şahin F.S. and Özkaya V.  
2018 Re-presenting the past. Evidence from daily practices and rituals at Körük Tepe. In: I. Hodder (ed.), *Religion, History and Place in the Origin of Settled Life*. Boulder, CO: University Press of Colorado, Utah State University Press.
- Benz M., Erdal Y.S., Şahin F.S., Özkaya V. and Alt K.W.  
2016 The equality of inequality. Social differentiation among the hunter-fisher-gatherer community of Körük Tepe, southeastern Turkey. In: H. Meller, H.P. Hahn, R. Jung and R. Risch (eds.), *Rich and poor - competing for resources in prehistory*. Tagungen des Landesmuseums für Vorgeschichte Halle 13: 147-164. Halle: Landesamt für Denkmalpflege und Archäologie Sachsen Anhalt – Landesmuseum für Vorgeschichte Halle (Saale).
- Benz M., Gresky J., Štefanisko D., Alarashi H., Knipper C., Purschwitz C., Bauer J. and Gebel H.G.K.  
2019 Burying power: new insights into incipient leadership in the late Pre-Pottery Neolithic from an outstanding burial at Ba’ja, southern Jordan. *PLoS ONE* 14(8) :e0221171.
- Benz M., Watkins T. and Gebel H.G.K. (eds.)  
2017 *Neolithic corporate identities. Studies in Early Near Eastern Production, Subsistence, and Environment* 20. Berlin: ex oriente.
- Berger P.L. and Luckmann T.  
2016<sup>26</sup> *Die gesellschaftliche Konstruktion der Wirklichkeit*. Frankfurt/M.: Fischer.
- Berner M. and Schultz M.  
2004 Demographic and taphonomic aspects of the skeletons from the late Pre-Pottery Neolithic B population from Basta, Jordan. In: H.-D. Bienert, H.G.K. Gebel and R. Neef (eds.), *Central settlements in Neolithic Jordan*. Studies in Early Near Eastern Production, Subsistence, and Environment 5: 241-258. Berlin: ex oriente.
- Bienert H.-D., Gebel H.G.K. and Neef R. (eds.)  
2004 *Central settlements in Neolithic Jordan*. Studies in Early Near Eastern Production, Subsistence, and Environment 5. Berlin: ex oriente.

- Bloch M.  
2008 Why religion is nothing special but is central. *Philosophical Transactions of the Royal Society B* 363: 2055-2061.  
2010 Is there religion at Çatalhöyük ... or are there just houses? In: I. Hodder (ed.), *Religion in the emergence of civilization*: 146-162. Cambridge: Cambridge University Press.
- Blumler H.  
2013 *Symbolischer Interaktionismus. Aufsätze zu einer Wissenschaft der Interpretation*. Frankfurt: Suhrkamp.
- Bocquentin F., Kodaş E. and Ortiz A.  
2016 Headless but still eloquent! Acephalous skeletons as witnesses of Pre-Pottery Neolithic North-South Levant connections and disconnections. *Paléorient* 2016, vol. 42(2): 33-52.
- Boehm G.  
1994 Die Bilderfrage. In: G. Boehm (ed.), *Was ist ein Bild*: 325-343. Munich: Fink.  
2010<sup>3</sup> *Wie Bilder Sinn erzeugen. Die Macht des Zeigens*. Berlin: University Press.
- Boivin N.  
2008 *Material cultures, material minds. The impact of things on human thought, society, and evolution*. Cambridge: Cambridge University Press.
- Bonogofsky M.  
2006 Complexity in context: plain, painted and modelled skulls from the Neolithic Middle East. In: M. Bonogofsky (ed.), *Skull collection, modification and decoration*. BAR International Series 1539: 15-28. Oxford: Archaeopress.
- Bourdieu P.  
2009<sup>2</sup> *Entwurf einer Theorie der Praxis*. Frankfurt a.M.: Suhrkamp.
- Braun R.  
2021 The demythologization of landscape: landscape research in the context of prehistoric societies – the example of the Neolithic site of Göbekli Tepe. *Neo-Lithics* 21: A26-28.
- Brosius C., Michaels A. and Schrode P.  
2013 Ritualforschung heute - ein Überblick. In: C. Brosius, A. Michaels and P. Schrode (eds.), *Ritual und Ritualdynamik*: 9-24. Göttingen: Vandenhoeck and Ruprecht.
- Byrd B.  
2005 *Early village life at Beidha, Jordan: Neolithic spatial organization and vernacular architecture*. British Academy Monographs in Archaeology 14. Oxford: Oxford University Press.
- Cartolano M.  
n.d. *Animal and human symbolism in the Pre-Pottery Neolithic of the Near East*. Unpub. PhD Thesis. Liverpool: Liverpool University.
- Cauvin J.  
1997 *Naissance des divinités. Naissance de l'agriculture*. Paris: CNRS Éditions.
- Çelik B., Güler M. and Güler G.  
2011 A new Pre-Pottery Neolithic settlement in southeastern Turkey: Taşlı Tepe. *Anatolia* 37: 228-236.
- Chapman J.  
2000 *Fragmentation in archaeology: people, places and broken objects in the prehistory of south eastern Europe*. London: Routledge.
- Connerton P.  
1989 *How societies remember*. Cambridge: Cambridge University Press.
- Coqueugniot E.  
2014 Dja'de (Syrie) et les représentations symboliques au IX<sup>e</sup> millénaire cal BC. In: C. Manen, T. Perrin and J. Guilaine (eds.), *La transition néolithique en Méditerranée*: 91-108. Aix en Provence: Errance.
- Courtney A.L. and Meyer M.L.  
2020 Self-other representation in the social brain reflects social connection. *The Journal of Neuroscience* 40(29): 5616-5627. DOI: 10.1523/JNEUROSCI.2826-19.2020
- Cutting M.  
2007 Wandmalereien und -reliefs im anatolischen Neolithikum. Die Bilder von Çatal Höyük. In: Badisches Landesmuseum Karlsruhe (ed.), *Vor 12.000 Jahren in Anatolien. Die ältesten Monumente der Menschheit*: 126-134. Stuttgart: Theiss.
- D'Argembeau A.  
2015 Self-knowledge. In: A.W. Toga (ed.), *Brain mapping* 3: 35-39. Cambridge, MA: Academic Press.
- D'Argembeau A., Ruby P., Collette F., Degueldre C., Baeteau E., Luxen A., Maquet P. and Salmon E.  
2007 Distinct regions of the medial prefrontal cortex are associated with self-referential processing and perspective taking. *Journal of Cognitive Neuroscience* 19(6): 935-944.
- de Contenson H.  
2000 *Ramad, site néolithique en Damascène (Syrie) aux VIII<sup>ème</sup> et VII<sup>ème</sup> millénaires avant l'ère chrétienne*. Bibliothèque archéologique et historique 157. Beyrouth: Institut Français d'Archéologie du Proche-Orient.
- Dietrich O. and Notroff J.  
2016 A decorated bone 'spatula'. *Neo-Lithics* 2/16: 22-31.
- Dietrich O., Heun M., Schmidt K., Zarnkow M. and Notroff J.  
2012 The role of cult and feasting in the emergence of Neolithic communities. New evidence from Göbekli Tepe, south-eastern Turkey. *Antiquity* 86: 674-695.
- Domes G., Heinrichs M., Gläscher J., Büchel C., Braus D.F. and Herpertz S.C.  
2007 Oxytocin attenuates amygdala responses to emotional faces regardless of valence. *Biological Psychiatry* 62: 1187-1190.
- Donald M.  
2001 *A mind so rare. The evolution of human consciousness*. New York, London: Norton.
- Doyen S., Klein O., Pichon C.-L. and Cleeremans A.  
2012 Behavioral priming: it's all in the mind, but whose mind? *PLoS ONE* 7(1): e29081. DOI: 10.1371/journal.pone.0029081
- Dunbar R.I.M.  
1992 Coevolution of neocortex size, group size and language in humans. *Behavioral and Brain Sciences* 16: 681-735.  
2013 What makes the Neolithic so special. *Neo-Lithics* 2/13: 25-29.
- Dunbar R.I.M., Gamble C. and Gowlett J. (eds.)  
2010 *The social brain and the distributed mind*. Proceedings of the British Academy 158. Oxford: Oxford University Press.
- Durkheim E.  
1912 *Les formes élémentaires de la vie religieuse*. German edition: *Die elementaren Formen des religiösen Lebens*. Frankfurt: Verlag der Weltreligionen (2007).
- Duru R.  
2012 The Neolithic of the Lakes Region. Hacilar, Kuruçay, Höyücek, Bademağacı Höyük. In: M. Özdoğan, N. Başgelen and P. Kuniholm (eds.), *Western Turkey. The Neolithic in Turkey. New Excavations and New Research* 5: 1-65. Istanbul: Archaeology and Art Publications.
- Edelson M., Sharot T., Dolan R.J. and Duda Y.  
2011 Following the crowd: brain substrates of long-term memory conformity. *Science* 333(6038): 108-111.
- Eisenberg L.  
1995 The social construction of the human brain. *The American Journal of Psychiatry* 152(11): 1563-1575.

- Eisenberger N.I., Lieberman M.D. and Williams K.D.  
2003 Does rejection hurt? An fMRI study of social exclusion. *Science* 302: 290-292.
- Eisenegger C., Haushofer J. and Fehr E.  
2011 The role of testosterone in social interaction. *Trends in Cognitive Sciences* 15(6): 263-271.
- Ekman P.  
1992 An argument for basic emotions. *Cognition and Emotions* 6(3-4): 169-200.
- Erim-Özdoğan A.  
2011 Çayönü. In: M. Özdoğan, N. Başgelen and P. Kuniholm (eds.), *The Tigris Basin. The Neolithic in Turkey. New Excavations and New Research* 1: 185-269. Istanbul: Archaeology and Art Publications.
- Eskine K.J., Kacirik N.A. and Prinz J.J.  
2012 Stirring images: fear, not happiness or arousal, makes art more sublime. *Emotion* 12(5): 1071-1074. DOI: 10.1037/a0027200.
- Franks D.D. and Smith T.S. (eds.)  
1999 *Mind, brain, and society: toward a neurosociology of emotion. Social Perspectives on Emotion* 5. Stanford: JAI Press.
- Fredrickson B.L., Grewen K.M., Coffey K.A., Algoe S.B., Firestone S.M., Arevalo J.M.B., Ma J. and Cole S.W.  
2013 Gene expression and well-being. *Proceedings of the National Academy of Sciences* 110(33): 13684-13689. DOI: 10.1073/pnas.1305419110
- Garfinkel Y.  
2006 The burials of Kfar HaHoresh – a regional or local phenomenon? *Journal of the Israel Prehistoric Society – Mitekufat Haeven* 36: 109-116.
- Gebel H.G.K.  
2002 Walls. Loci of forces. In: H.G.K. Gebel, B.D. Hermansen and C.H. Jensen (eds.), *Magic practices and ritual in the Near Eastern Neolithic. Studies in Early Near Eastern Production, Subsistence, and Environment* 8: 119-132. Berlin: ex oriente.  
2004 Central to what? The centrality issue of the LPPNB Mega-Site Phenomenon in Jordan. In: H.-D. Bienert, H.G.K. Gebel and R. Neef (eds.), *Central settlements in Neolithic Jordan. Studies in Near Eastern Production, Subsistence, and Environment* 5: 1-19. Berlin: ex oriente (2004).  
2010 Commodification and the formation of early Neolithic social identity. The issues seen from the southern Jordanian Highlands. In: M. Benz (ed.), *The principle of sharing. Segregation and construction of social identities at the transition from foraging to farming. Studies in Near Eastern Production, Subsistence, and Environment* 14: 31-80. Berlin: ex oriente.  
2013 The territoriality of early Neolithic symbols and ideocracy. *Neo-Lithics* 2/13: 39-41.  
2017 Neolithic corporate identities in the Near East. In: M. Benz, T. Watkins and H.G.K. Gebel (eds.), *Neolithic corporate identities. Studies in Early Near Eastern Production, Subsistence, and Environment* 20: 57-80. Berlin: ex oriente.
- Gebel H.G.K. (ed.)  
2020 Household and death 3: preliminary results of the 13<sup>th</sup> season (Spring 2019) at Late PPNB Ba'ja, southern Jordan. *Neo-Lithics Special Issue* 20: 3-41.
- Gebel H.G.K., Benz M., Purschwitz C. and Bauer J. forthc. The thanatological dimensions of the Ba'ja and Basta burials (Southern Transjordanian LPPNB, 7500-7000 BCE). A novel approach to sepulchral environments. In: D. Ackerfeld and A. Gopher (eds.), *Dealing with the dead. Studies in Early Near Eastern Production, Subsistence, and Environment* 23. Berlin: ex oriente.
- Gebel H.G.K., Benz M., Purschwitz C., Kubiková B., Štefanisko D., al-Souliman A.S., Tucker K., Gresky J. and Abuhelaleh B.  
2017 Household and Death: preliminary results of the 11<sup>th</sup> season (2016) at Late PPNB Ba'ja, Southern Jordan. *Neo-Lithics* 1/17: 18-36.
- Gebel H.G.K., Nissen H.J. and Zaid Z. (eds.)  
2006 *Basta II. The architecture and stratigraphy*. bibliotheca neolithica Asiae meridionalis et occidentalis, Yarmouk University Monograph of the Faculty of Archaeology and Anthropology 5. Berlin: ex oriente.
- Gebel H.G.K., Purschwitz C., Štefanisko D. and Benz M.  
2022 The Ba'ja daggers. Type, technology and commodification of a LP-PNB burial object. In: Y. Nishiaki, O. Maeda and M. Arimura (eds.), *Tracking the Neolithic in the Near East. Lithic perspectives on its origins, development and dispersals*: 87-106. Leiden: Sidestone Press.
- Gell A.  
1998 *Art and agency. An anthropological theory*. Oxford: Clarendon Press.
- Gendron M., Roberson D., van der Vyver J.M. and Feldman Barrett J.  
2014 Perceptions of emotion from facial expressions are not culturally universal: evidence from a remote culture. *Emotion* 14(2): 251-262.
- Gillespie A.  
2010 The intersubjective nature of symbols. In: Wagoner B. (ed.), *Symbolic transformation. The mind in movement through culture and society*: 24-37. London, New York: Routledge.
- Godelier M.  
2007 *Au fondement des sociétés humaines: ce que nous apprend l'anthropologie*. Paris: Albin Michel.
- Goring-Morris A.N.  
2005 Life, death and the emergence of differential status in the Near Eastern Neolithic: evidence from Kfar HaHoresh, Lower Galilee, Israel. In: J. Clarke (ed.), *Archaeological perspectives on the transmission and transformation of culture in the Eastern Mediterranean. Levant Supplementary Series* 2: 89-105. Oxford: Oxbow Books.
- Goring-Morris A.N. and Belfer-Cohen A.  
2013 Houses and households: a Near Eastern perspective. In: D. Hofmann and J. Smyth (eds.), *Tracking the Neolithic house in Europe. Sedentism, architecture, and practice*: 19-44. New York: Springer.
- Gowlett J., Gamble C. and Dunbar R.I.M.  
2012 Human evolution and the archaeology of the social brain. *Current Anthropology* 53(6): 693-722.
- Graustella A.J. and MacLeod C.  
2012 A critical review of the influence of oxytocin nasal spray on social cognition in humans: evidence and future directions. *Hormones and Behavior* 61: 410-418.
- Grindell B.  
1998 *Unmasked equalities: an example of mortuary practices and social complexity in the Levantine Natufian and Pre-Pottery Neolithic*. PhD Thesis. Ann Arbor: University of Arizona, University Microfilms.
- Haddow S.D. and Knüsel C.  
2017 Skull Retrieval and Secondary Burial Practices in the Neolithic Near East: Recent Insights from Çatalhöyük, Turkey. *Bioarchaeology International* 1(1-2): 52-71. DOI: 10.5744/bi.2017.1002
- Hahn H.P. and Weiss H.  
2013 Introduction: biographies, travels and itineraries of things. In: H.P. Hahn and H. Weiss (eds.), *Mobility, meaning and transformations of things*: 1-14. Oxford, Oakville: Oxbow.
- Hansen S.  
2007 *Bilder vom Menschen der Steinzeit. Untersuchungen zur anthropomorphen Plastik der Jungsteinzeit und Kupferzeit in Südosteuropa*. Archäologie in Eurasien 20. Mainz: Philipp von Zabern.
- Hauptmann H.  
2011 The Urfa Region. In: M. Özdoğan, N. Başgelen and P. Kuniholm (eds.), *The Euphrates Basin. The Neolithic in Turkey. New Excavations and New Research* 2: 85-138. Istanbul: Archaeology and Art Publications.

- Helmer D., Gourichon L. and Stordeur D.  
2004 À l'aube de la domestication animale. Imaginaire et symbolisme animal dans les premières sociétés néolithiques du nord du Proche-Orient. *Anthropozoologica* 39(1): 143-163.
- Hermansen B.D.  
1997 Art and ritual behaviour in Neolithic Basta. In: H.G.K. Gebel, Z. Kafafi and G.O. Rollefson (eds.), *The prehistory of Jordan II. Perspectives from 1997*: 333-343. Berlin: ex oriente.
- Hermansen B.D. and Gebel H.G.K.  
2004 Towards a framework for studying the Basta industries. In: H.J. Nissen, M. Muheisen and H.G.K. Gebel (eds.), *Basta I. The human ecology*. bibliotheca neolithica Asiae meridionalis et occidentalis and Yarmouk University, Monograph of the Faculty of Archaeology and Anthropology 4: 175-186. Berlin: ex oriente.
- Hodder I.  
1990 *The domestication of Europe*. Oxford: Basil Blackwell.  
2006 *The leopard's tale. Revealing the mysteries of Çatalhöyük*. New York: Thames and Hudson.  
2012 Renewed work at Çatalhöyük. In: M. Özdoğan, N. Başgelen and P. Kuniholm (eds.), *Central Turkey. The Neolithic in Turkey*. New Excavations and New Research 3: 245-277. Istanbul: Archaeology and Art Publications.
- Hodder I. and Meskell L.  
2011 A curious and sometimes a trifle macabre artistry: some aspects of symbolism in Neolithic Turkey. *Current Anthropology* 52(2): 235-263.
- Hutchison W.D., Davis K.D., Lozano A.M., Tasker R.R. and Dostrovsky J.O.  
1999 Pain-related neurons in the human cingulate cortex. *Nature Neuroscience* 2: 403-405.
- Ibáñez J.J. (ed.)  
2008 *Le site néolithique de Tell Mureybet (Syrie du Nord) I*. BAR international series 1843 (II). Oxford: Archaeopress.
- Ingold T.  
2010 *Bringing things to life: creative entanglements in a world of materials*. ESRC National Centre for Research Methods Working Paper Series 05/10: 1-14. Aberdeen: University of Aberdeen.
- Insel T.R.  
2003 Is social attachment an addictive disorder? *Physiology and Behavior* 79: 351-357.
- Jack R.E., Garrod O.G.B. and Schyns P.G.  
2014 Dynamic facial expressions of emotion transmit an evolving hierarchy of signals over time. *Current Biology* 24(2): 187-192.
- Jenkins A.C., Neil Macrae C. and Mitchell J.P.  
2008 Repetition suppression of ventromedial prefrontal activity during judgments of self and others. *Proceedings of the National Academy of Sciences* 105(11): 4507-4512. DOI: 10.1073/pnas.0708785105
- Jiménez M., Aguilar R. and Alvero-Cruz J.R.  
2012 Effects of victory and defeat on testosterone and cortisol response to competition: evidence for same response patterns in men and women. *Psychoendocrinology* 37: 1577-1581.
- John E.  
2010 The fixed versus the flexible - or how space for rituals is created. In: M. Benz (ed.), *The principle of sharing. Segregation and construction of social identities at the transition from foraging to farming*. Studies in Early Near Eastern Production, Subsistence, and Environment 14: 203-212. Berlin: ex oriente.
- Karul N.  
2020 Beginnings of the Neolithic in southeast Anatolia: upper Tigris Basin. *Documenta Praehistorica* 47: 76-95.  
2021 Buried buildings at Pre-Pottery Neolithic Karahantepe. *Türk Arkeoloji ve Etnografya dergisi* 82: 21-31.
- Kay A.C., Wheeler C.S, Bargh J.A. and Ross L.  
2004 Material priming: the influence of mundane physical objects on situational construal and competitive behavioral choice. *Organizational Behavior and Human Decision Processes* 95(1): 83-96.
- Kelley W.M., Macrae C.N., Wyland C.L., Caglar S., Inati S. and Heatherton T.F.  
2002 Finding the self? An event-related fMRI study. *Journal of Cognitive Neurosciences* 14(5): 785-794. DOI: 10.1162/08989290260138672
- Kenyon K.  
1981 The architecture and stratigraphy of the tell. In: T.A. Holland (ed.), *Excavations at Jericho* 3,1: 1-393. London: British School of Archaeology in Jerusalem, The British Academy.
- Khawam R.  
2014 *L'homme et la mort au Néolithique précéramique B: l'exemple de Tell Aswad*. Unpub. PhD Thesis. Lyon: University of Lyon.
- Kinzel M.  
2013 *Am Beginn des Hausbaus. Studien zur PPNB-Architektur von Shkārat Msaied und Ba'ja in der Petra-Region, Süd-Jordanien*. Studies in Early Near Eastern Production, Subsistence and Environment 17. Berlin: ex oriente.
- Kinzel M., Clare L. and Sönmez D.  
2020 Built on rock – towards a reconstruction of the “Neolithic” topography of Göbekli Tepe. *Istanbul Mitteilungen* 70: 9-46.
- Kitayama S. and Park J.  
2010 Cultural neuroscience of the self: understanding the social grounding of the brain. *Social Cognitive and Affective Neuroscience* 5(2-3): 111-129.
- Knappett C.  
2005 *Thinking through material culture. An interdisciplinary perspective*. Pennsylvania: University of Pennsylvania Press.
- Krienen F.M., Tu P.-C. and Buckner R.L.  
2010 Clan mentality: evidence that the medial prefrontal cortex responds to close others. *The Journal of Neuroscience* 30(41): 13906-13915. DOI: 10.1523/JNEUROSCI.2180-10.2010
- Krohne H.W.  
2010 *Psychologie der Angst. Ein Lehrbuch*. Stuttgart: W. Kohlhammer.
- Kuijt I.  
2008 The regeneration of life. Neolithic structures of symbolic remembering and forgetting. *Current Anthropology* 49(2): 171-197.
- Kuijt I. (ed.)  
2000 *Life in Neolithic farming communities. Social organization, identity, and differentiation*. New York: Kluwer Academic, Plenum Publisher.
- Layton R.  
2007 Art, language and the evolution of spirituality. In: C. Renfrew and I. Morley (eds.), *Image and imagination. A global prehistory of figurative representation*: 49-56. Cambridge: McDonald Institute for Archaeological Research/ University of Cambridge.
- Lischke A., Berger C., Prehn K., Heinrichs M., Herpertz S.C. and Domes G.  
2012 Intranasal oxytocin enhances emotion recognition from dynamic facial expressions and leaves eye-gaze unaffected. *Psychoneuroendocrinology* 37: 475-481.
- Ma Y., Bang D., Wang C., Allen M., Frith C.D., Roepstorff A. and Han S.  
2012 Sociocultural patterning of neural activity during self-reflection. *Social Cognitive and Affective Neuroscience* 9(1). DOI: 10.1093/scan/nss103.
- Mahasneh H.M. and Bienert H.D.  
1999 Anthropomorphic figurines from the Early Neolithic site of eş-Sifīye (Jordan). *Zeitschrift des Deutschen Palästina-Vereins* 115(2): 109-126.



- Mazurowski R.F. and Kanjou Y. (eds.)  
2012 *Tell Qaramel 1999-2007. Protoneolithic and Early Pre-Pottery Neolithic settlement in Northern Syria*. PCMA Excavation Series 2. Warsaw: University of Warsaw.
- Meltzoff A.  
2013 Origins of social cognition – bidirectional self-other mapping and the “Like-Me”- hypothesis. In: M. Banaji and S. Gelman (eds.), *Navigating the social world: what infants, children, and other species can teach us*: 139-144. New York: Oxford University Press.
- Merleau-Ponty M.  
1964 *Le visible et l’invisible*. Paris: Gallimard.
- Mitchell J.P., Macrae C.N. and Banaji M.R.  
2006 Dissociable medial prefrontal contributions to judgments of similar and dissimilar others. *Neuron* 18(50.4): 655-663. DOI: 10.1016/j.neuron.2006.03.040
- Miyake Y.  
2013 Hasankef Höyük/ Batman. Dicle'nin İlk Köyü. *ArkeoAtlas* 1: 40-37.  
2016 11500 yıl önce. Dicle Havzası'nın ilk yerleşik köyü. *Aktüel Arkeoloji* 53: 28-39.
- Miyake Y., Maeda O., Tanno K., Hongo H. and Gündem C.Y.  
2012 New excavations at Hasankef Höyük: a 10<sup>th</sup> millennium cal. BC site on the Upper Tigris, Southeast Anatolia. *Neo-Lithics* 1/12: 3-7.
- Morenz L.D.  
2014 *Medienrevolution und die Gewinnung neuer Denkräume. Das frühneolithische Zeichensystem (10./9. Jt. v. Chr.) und seine Folgen*. Studia Euphratica 1. Berlin: EB Verlag.
- Müller-Neuhof B.  
2019 Signals from the past: gestures in south-west Asian anthropomorphic iconography – preliminary observations. In: J. Becker, C. Beuger and B. Müller-Neuhof (eds.), *Human iconography and symbolic meaning in Near Eastern Prehistory*. OREA 11: 131-150. Vienna: Austrian Academy of Sciences Press.
- Nissen H.J., Muheisen M. and Gebel H.G.K. (eds.)  
2004 *Basta I. The human ecology*. bibliotheca neolithica Asiae meridionalis et occidentalis and Yarmouk University, Monograph of the Faculty of Archaeology and Anthropology 4. Berlin: ex oriente.
- Özbaşaran M.  
2012 Aşıklı. In: M. Özdoğan, N. Başgelen and P. Kuniholm (eds.), *Central Turkey*. The Neolithic in Turkey. New Excavations and New Research 3: 135-158. Istanbul: Archaeology and Art Publications.
- Özbaşaran M., Duru G., Kayacan N., Erdoğan B. and Buitenhuis H.  
2012 Musular. The 8<sup>th</sup> millennium cal BC satellite site of Aşıklı. In: M. Özdoğan, N. Başgelen and P. Kuniholm (eds.), *Central Turkey*. The Neolithic in Turkey. New Excavations and New Research 3: 159-180. Istanbul: Archaeology and Art Publications.
- Özdoğan M., Başgelen N. and Kuniholm P. (eds.)  
2011a *The Tigris Basin*. The Neolithic in Turkey. New Excavations and New Research 1. Istanbul: Archaeology and Art Publications.  
2011b *The Euphrates Basin*. The Neolithic in Turkey. New Excavations and New Research 2. Istanbul: Archaeology and Art Publications.  
2012 *Central Turkey*. The Neolithic in Turkey. New Excavations and New Research 3. Istanbul: Archaeology and Art Publications.
- Özdoğan M. and Özdoğan A.  
1998 Buildings of cult and the cult of buildings. In: G. Arsebük, M. Melink and W. Schirmer (eds.), *Light on top of the Black Hill. Studies presented to Halet Çambel*: 581-593. Istanbul: Ege Yayınları.
- Özkaya V. and Coşkun A.  
2011 Körtik Tepe. In: M. Özdoğan, N. Başgelen and P. Kuniholm (eds.), *The Tigris Basin*. The Neolithic in Turkey. New Excavations and New Research 1: 89-127. Istanbul: Archaeology and Art Publications.
- 2013 Körtik Tepe/ Diyarbakır. Yerleşik Yaşamın Başlangıcı. *ArkeoAtlas* 1: 30-39.
- Özkaya V. and San O.  
2004 Excavations at Körtik Tepe 2001. In: N. Tuna, J. Öztürk and J. Velibeyoğlu (eds.), *Salvage project of the archaeological heritage of the Ilisu and Carchemish Dam Reservoirs activities in 2001*: 669-693. Ankara.
- Özkaya V., Coşkun A. and Soyukaya N.  
2013 Körtik Tepe: The first traces of civilization in Diyarbakır (Istanbul), <<http://www.diyarbakirkulturturizm.org/yayinlar/19/>>, last access 20.9.2015.
- Öztan A.  
2012 Köşk Höyük. A Neolithic settlement in Nigde-Bor Plateau. In: M. Özdoğan, N. Başgelen and P. Kuniholm (eds.), *Central Turkey*. The Neolithic in Turkey. New Excavations and New Research 3: 31-70. Istanbul: Archaeology and Art Publications.
- Páez D., Rimé B., Basabe N., Włodarczyk A. and Zumeta L.  
2015 Psychosocial effects of perceived emotional synchrony in collective gatherings. *Journal of Personality and Social Psychology*. DOI: 10.1037/pspi0000014
- 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): 179-204.
- Piantadosi S.T. and Kidd C.  
2016 Extraordinary intelligence and the care of infants. *Proceedings of the National Academy of Sciences* 113: 6874-6879.
- Pilloud M.A. and Larsen C.S.  
2011 “Official” and “practical” kin: Inferring social and community structure from dental phenotype at Neolithic Çatalhöyük, Turkey. *American Journal of Physical Anthropology* 145: 519-530.
- Renfrew C.  
2005 Mind and matter: cognitive archaeology and external symbolic storage. In: C. Renfrew and C. Scarre (eds.), *Cognition and material culture: the archaeology of symbolic storage*: 1-6. Oxford: Oxbow Books, McDonald Institute Monographs.
- Rennung M. and Göritz A.S.  
2015 Facing sorrow as a group unites. Facing sorrow in a group divides. *PLoS ONE* 10(9): e0136750. DOI: 10.1371/journal.pone.0136750  
2016 Prosocial consequences of interpersonal synchrony (Review). *Zeitschrift für Psychologie* 224: 168-189.
- Rollefson G.O.  
2000 Ritual and social structure at Neolithic ‘Ain Ghazal. In: I. Kuijt (ed.), *Life in Neolithic farming communities. Social organization, identity, and differentiation*: 165-190. New York: Kluwer Academic, Plenum Publisher.
- Ronen A.  
2010 The symbolic use of basalt in the Levantine Epipalaeolithic and the emergence of socioeconomic leadership. In: M. Benz (ed.), *The principle of sharing. Segregation and construction of social identities at the transition from foraging to farming*. Studies in Early Near Eastern Production, Subsistence, and Environment 14: 213-222. Berlin: ex oriente.
- Sauerländer W.  
2012 *Iconic turn? Eine Bitte um Ikonoklasmus*. Iconic Turn – Felix Burda Memorial Lectures, 23.8.2012, <[https://www.youtube.com/watch?v=WDQofLTY\\_2k](https://www.youtube.com/watch?v=WDQofLTY_2k)>, last access: 22.7.2015.
- Schmandt-Besserat D. (ed.)  
2013 *Symbols at ‘Ain Ghazal*. ‘Ain Ghazal Excavation Reports 3. bibliotheca neolithica Asiae meridionalis et occidentalis/Yarmouk University, Monograph of the Faculty of Archaeology and Anthropology. Berlin: ex oriente.

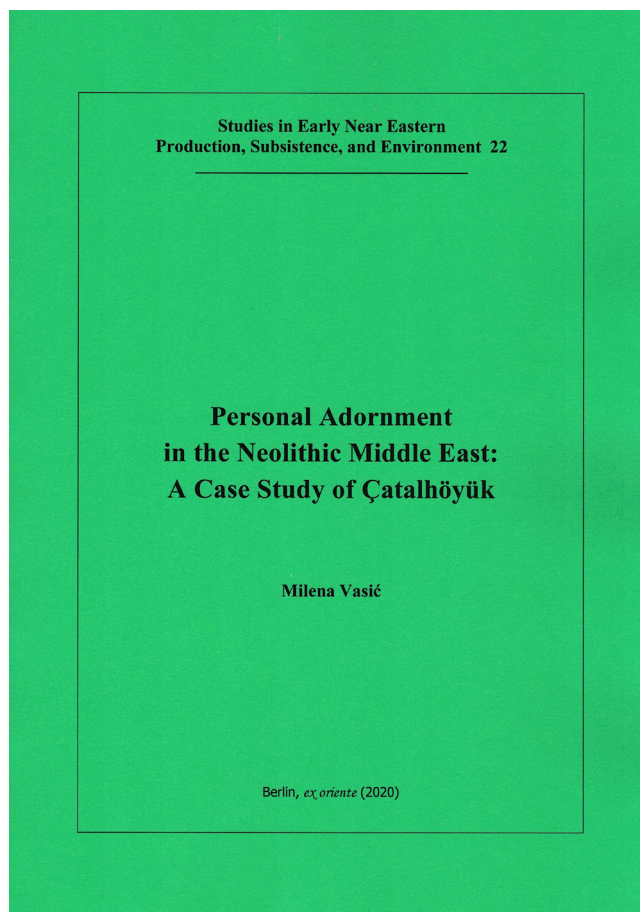
- Schmidt K.  
2006 *Sie bauten die ersten Tempel*. Munich: Beck.
- 2010 Göbekli Tepe – 2010. The Stone Age sanctuaries. New results of ongoing excavations with a special focus on sculptures and high reliefs. *Documenta Praehistorica* 27: 239-256.
- 2011 Göbekli Tepe. In: M. Özdoğan, N. Başgelen and P. Kuniholm (eds.), *The Euphrates Basin*. The Neolithic in Turkey. New Excavations and New Research 2: 41-83. Istanbul: Archaeology and Art Publications.
- Siddiq A.B., Şahin F.S. and Özkaya V.  
2021 Local trend of symbolism at the dawn of the Neolithic: the painted bone plaquettes from PPNA Körtiktepe, southeast Turkey. *Archaeological Research in Asia* 26: 100280. DOI: 10.1016/j.ara.2021.100280
- Simon U.  
2011 Reflexivity and discourse on ritual. Introductory reflexions. In: A. Michaels (ed.), *Ritual dynamics and the science of ritual IV*. Reflexivity, media, and visuality: 3-23. Wiesbaden: Harrassowitz.
- Skourtanioti E. and Feldman M.  
In prep. The archaeogenetic evidence. (working title) In: M. Benz, J. Gresky, C. Porschwitz and H.G.K. Gebel (eds.), *Death in Ba'ja*. *Sepulchral identity and symbolism in an early Neolithic community of the Transjordanian Highlands*. *Household and Death in Ba'ja* 2.
- Steffens N.K., Haslam S.A. and Reicher S.D.  
2013 Up close and personal: evidence that shared social identity is a basis for the “special” relationship that binds followers to leaders. *Leadership Quarterly* 25(2): 296-313. DOI: 10.1016/j.leaqua.2013.08.008
- Stordeur D.  
2010 Domestication of plants and animals, domestication of symbols? In: D. Bolgar and L.C. Maguire (eds.), *The development of pre-state communities in the ancient Near East*. *Studies in Honour of Edgar Peltenburg*: 123-130. Oxford: Oxbow Books.
- 2015 *Le village de Jerf el Ahmar (Syrie, 9500-8700 av. J.-C.)*. *L'architecture, miroir d'une société néolithique complexe*. Paris: CNRS Éditions.
- Sütterlin C.  
2017 Cultural memory: symbols, monuments and rituals sustaining group identity. In: M. Benz, H.G.K. Gebel and T. Watkins (eds.), *Neolithic Corporate Identities*. *Studies in Early Near Eastern Production, Subsistence, and Environment* 20 (2017): 157-174. Berlin: ex oriente.
- Sütterlin C. and Eibl-Eibesfeldt I.  
2013 Human cultural defense: means and monuments of ensuring collective territory. *Neo-Lithics* 2/13: 42-48.
- Tambini A., Rimmel U., Phelps E.A. and Davahi L.  
2017 Emotional brain states carry over and enhance future memory formation. *Nature Neuroscience* 20(2): 271-278
- Tilley C.  
2004 *The materiality of stone*. *Explorations in landscape phenomenology*. Oxford, New York: Berg.
- Tomasello M.  
2009 *Why we cooperate*. Cambridge, MA: MIT Press.
- Vasić M.  
2020 *Personal adornment in the Neolithic Middle East: a case study of Çatalhöyük*. *Studies in Early Near Eastern Production, Subsistence, and Environment* 22. Berlin: ex oriente.
- Verhoeven M.  
2013 The passage of matter. Transformations of objects and ritual meanings in the Neolithic of the Near East. In: V.G. Koutrafour and J. Sanders (eds.), *Ritual failure, archaeological perspectives*: 23-36. Leiden: Sidestone Press.
- Voigt M.  
2000 Çatal Höyük in context: ritual at early Neolithic sites in central and eastern Turkey. In: I. Kuijt (ed.), *Life in Neolithic farming communities*. *Social organization, identity and differentiation*: 253-293. New York: Kluwer Academic, Plenum Publishers.
- Wagoner B.  
2010 Introduction. What is a symbol? In: B. Wagoner (ed.), *Symbolic transformation*. *The mind in movement through culture and society*: 1-15. London: Routledge.
- Watkins T.  
2012 Household, community, and social landscape: maintaining social memory in the early Neolithic of Southwest Asia. In: M. Furholt, M. Hinz and D. Mischka (eds.), *'As time goes by?'*—*Monumentality, landscapes and the temporal perspective*. *Universitätsforschungen zur Prähistorischen Archäologie* 206: 23-44. Bonn: Habelt.
- Waytz A. and Mitchell J.P.  
2011 Two mechanisms for simulating other minds: dissociations between mirroring and self-projection. *Current Directions in Psychological Science* 20(3): 197-200.
- Widlok T.  
2013 Ritualökonomie. In: C. Brosius, A. Michaels and P. Schrode (eds.), *Ritual und Ritualdynamik*: 171-179. Göttingen: Vandenhoeck and Ruprecht.
- Wightman G.J.  
2015 *The origins of religion in the Paleolithic*. Lanham: Rowman and Littlefield.
- Witt U.  
1997 “Lock-in” vs. “Critical Masses” – industrial change under network externalities. *International Journal of Industrial Organization* 15: 753-777.
- Wittig R.M., Crockford C., Deschner T., Langergraber K.E., Ziegler T.E. and Zuberbühler K.  
2014 Food sharing is linked to urinary oxytocin levels and bonding in related and unrelated wild chimpanzees. *Proceedings of the Royal Society B* 7: 281177820133096.
- Yaka R., Mapelli I., Kaptan D., Doğu A., Chyleński M., Erdal Ö.D., Kop- tekin D., Vural K.B., Bayliss A., Mazzucato C., et al.  
2021 Variable kinship patterns in Neolithic Anatolia revealed by ancient genomes. *Current Biology* 31(11): 2455-2468.e18.
- Yartah T.  
2013 *Vie quotidienne, vie communautaire et symbolique à Tell 'Abr 3 - Syrie du Nord*. *Données nouvelles et nouvelles réflexions sur l'horizon PPNA au nord du Levant 10 000-9 000 BP*. PhD Thesis. Lyon: University of Lyon.
- 2016 Bâtiments communautaires à Tell 'Abr 3. *Neo-Lithics* 2/16: 29-49.

**Baysal, Emma L.**

Review of Milena Vasić, 2020. *Personal adornment in the Neolithic Middle East: a case study of Çatalhöyük*. Studies in Early Near Eastern Production, Subsistence, and Environment 22. Berlin: ex oriente. ISBN: 978-3-944178-17-2. € 54.

Personal ornaments, an element of archaeological material culture often overlooked, encapsulate some of the richest potential sources of information about many aspects of the prehistoric past, including trade, technology, know-how and skill, economy, belief and identity among others. Studies of the personal ornaments at Çatalhöyük have a history as long as the excavation itself, starting with Mellaart's initial observations in the 1960s and progressing through a series of variously themed and detailed specialist reports during the subsequent Hodder excavations. Until now the biggest drawback has been a lack of regional contextualization of the finds, which is a necessity given both the temporal and spatial similarities and continuities within personal ornaments at regional and interregional levels in the Neolithic of southwest Asia. As the author of this volume, Milena Vasić, points out, Çatalhöyük is an ideal example through which to look at personal ornamentation because of the extraordinary level of detail in the excavation methodology, the duration of the project and consequent abundance of material.

This book is derived from a PhD thesis and is a broad view of evidence for ornamentation recovered at Çatalhöyük using the author's own studies as well as existing data gathered by a range of specialists. The data set is large and challenging, encompassing many centuries of varied occupation deposits as well as the multiple materials used in personal ornamentation. The book does not have a typical introduction, but instead begins with a literature review taking in some debates around human appearance and its study in the archaeological record. A couple of paragraphs give a brief introduction to the book, indicating that burials will be a central source of evidence in the subsequent chapters. While the proliferation of personal adornment with the onset of settled life is highlighted (3), this apparent increase in ornament use probably has more to do with the available data, particularly in Turkey where excavations of Epipalaeolithic contexts are sparse, than with the reality of prehistoric life. The introduction to the meaning of ornamentation (4) would have been strengthened by reference to existing work on the subject (e.g. Kuhn and Stiner 2007; Stiner 2014), and while it is true that discussion relating to ornamentation (beyond typology and technology) was inadequate 20 years ago, this is certainly no longer the case. There is a lively and active research interest in ornamentation in the region that is rapidly helping to make up for the previous slowness of research and publication in terms of both basic data and debate about use and meaning of ornaments within Neolithic communities.



The next chapter aims to contextualise the site of Çatalhöyük with a description of the Neolithic, leaning into some of the prolific theoretical debate about neolithization and focusing on Anatolia and a slightly wider region of southwest Asia. A description of research at Çatalhöyük is followed by an overview of previous work on the site's various ornament assemblages, including adjacent studies, faunal finds, wall paintings *etc.* The chapter finishes with a discussion of the methodology used in the book. Subsequent chapters move on to an exploration of Çatalhöyük's personal ornaments from various angles, starting with a laudably broad exposition of everything that might be considered part of ornamentation, including clothing and pigments, based on findings of previous research. References to key texts on several subjects including typology, fluorapatite (Bursali *et al.* 2017a, b), marble bracelets (Ünlüsoy 2002) and early copper technology, could have been used to strengthen the discussion. Fluorapatite, for example, is a material of very limited source, undoubtedly brought to Çatalhöyük as part of long-distance distribution networks, the typology and particularly technology of which is somewhat confused throughout the remainder of the book (e.g. 24, 28, 98), leading to the material's wider significance being missed. The knock-on effect is that conclusions, for example about material preferences in bead manufacture (98), that have already been discussed by others (see detailed data and discussions in Bursali *et al.* 2017a, b) are presented as new. There is some uncritical use of

terminology, particularly in the word “fake” to refer to imitation of red deer canine beads – a subject that has already been debated in terms of the intentions of bead makers (Choyke 2001).

The next two chapters (4 and 5) focus on the contexts of ornaments from non-burial and burial deposits at Çatalhöyük (Fig. 1). The non-burial deposition of ornaments, particularly deliberate deposition and identification of the end of use life (such as disposal in middens) is crucial to thinking about the types of value attributed to different items. This is a complex subject as a result of the many contexts, often with interpretational problems, such as house fills and secondary deposition in architectural materials, and the discussion presented is interesting and important. The short section on workshop areas (53) is tantalising – there is obviously much more still to be said on this subject, particularly relating to what they contain, and the scale of use of different materials. Given that object biography is of vital importance in interpretation, particularly when looking at value and identity, there are further references that would have provided more contextualization in terms of re-use, re-shaping and re-combination (such as examples in Chapman and Gaydarska 2015; Karul 2018).

The next chapter presents what is effectively the heart of the book, the ornaments found within burial contexts at Çatalhöyük (Fig. 2). Burial at the site was under floors in houses and often involved multiple individuals

buried in a single space during a sequence of separate burial events over time. As a result, the role of ornaments within the grave context is frequently difficult to define on an individual basis because of the disruption caused by multiple episodes of burial activity and post depositional processes. The author has succeeded in disentangling as much evidence as possible from these complex graves, taking care to emphasise quality over quantity in order to draw valid conclusions, and presents results by area of the body followed by a general discussion of funerary practice. As with other chapters, the reader needs a good knowledge of the site (or access to previous publications by the team) to get the most from this due to the complexity of the relationships between the many structures and levels. The overall impression is that there was little in the way of standardized behaviour in the association of personal ornaments with the dead, and often surprisingly sparse use of ornamentation which is an important finding, given elaborate ornamentation use in earlier Neolithic burial contexts, particularly in northern Mesopotamia. As with other chapters there are issues in the details – evidence of painted decoration associated with the human body from burials at Körtik Tepe and Hasankeyf Höyük (Miyake *et al.* 2012; Erdal 2015) could have helped with the question of pigment use. Likewise, there is much evidence for the use of “spacer” beads from other sites which adequately answers some of the questions about how they were used (Özdoğan 1994; Karul 2018).



Fig. 1 Artefacts found in the neck region of an infant (skeleton 17457) in the North Area. (Photo: J. Quinlan, Çatalhöyük Research Project)



Fig. 2 Beads found in association with a child (Skeleton 10529) in the South Area of Çatalhöyük. (Photo: J. Quinlan, Çatalhöyük Research Project)

Chapter six is a discussion of ornament chronology and temporality. The tables are useful here – making it obvious that the disc bead is predominant in every period of the site, while most other ornament types are comparatively very rare indeed. It is notable that beads are associated with both fill contexts and middens throughout time, implying a high level of abandonment of items of ornamentation. Many of the ornaments were made at other locations, and materials were procured from elsewhere, information which could, in future, be used to construct a more nuanced interpretation of chronological activity at Çatalhöyük. Evidence from Aşıklı (Yelözer 2018; Yelözer and Sönmez 2018) and Boncuklu Höyüğü would add significantly here to a diachronic perspective on changes in bead use, as both sites show much about what happened in the lead up to the settlement of Çatalhöyük, including existing technologies, material use, and formal preferences that likely influenced what took place at the latter site.

The final chapter is a general discussion of what is currently known about the production and use of ornaments at Çatalhöyük and some tentative interpretation. The reader is left with the feeling that much of the author's work is being held back for forthcoming publications, which are referenced frequently. While there was potential here, if only briefly, to put the site in wider context, comparing materials and practices across a wider region, Çatalhöyük is left somewhat isolated. This causes apparent surprise about phenomena

that are already well documented for the Neolithic of southwest Asia such as the longevity of, and slow rate of change within, ornamentation practices (111).

Referring back to the theoretical framework with which the book started would have rounded off the discussion and avoided leaving the reader with unmanaged expectations. In a sense this also affected the contents – several recurring issues revolve around gaps in reading which, if remedied, would have saved the author much work as well as strengthening the results. Terminology causes two significant issues throughout the book. The first is tying the narrative to “the Middle Eastern Neolithic” which implies a geographical unity that is difficult to support with archaeological evidence. This book, quite understandably, makes reference to sites within a small portion of the huge region, therefore generalizations such as “across the Middle East” for most of which region no evidence is presented, needlessly weaken otherwise strong and useful conclusions (see below).

The second terminological obstacle is bead typology. While the author has constructed, in visual and tabular form, a new typology, justifiably aiming for neutrality and avoidance of the interpretational baggage of existing systems, no mention is made of existing literature on the subject (*e.g.* the classic Beck 1928 and Bar-Yosef Mayer 2013). Here again decontextualization of the site in the region rears its head – the formally and technologically distinctive “butterfly” form originating in the

Euphrates Basin, which plays a role in the Çatalhöyük assemblages, as well as details of well-investigated ornament technology, could have been explored through earlier research (e.g. Garfinkel 1987; Calley and Grace 1988; Grace 1990; Altınbilek *et al.* 2001; Caneva *et al.* 2001; Fabiano *et al.* 2004; Gurova *et al.* 2013; Groman-Yaroslavski and Bar-Yosef Mayer 2015).

While I have highlighted some weaknesses in interpretation, overall, the book makes an important further contribution to our knowledge of a significant assemblage of Neolithic ornaments from a large and long-lived site and in many respects is a useful resource, particularly in terms of the data presented. The collation of data from various studies, and their reconsideration in the light of further first-hand study has added new dimensions to existing knowledge of the site's ornamentation-related artefacts and provided a foundation for further interpretation in the light of regional data sets. The burial data is particularly valuable given the regional lack of both suitable contexts/ recording and detailed publication on the subject. Vasić rises well to the task of streamlining the largest and most complex of the region's datasets, highlighting key aspects of how inhabitants of the site interacted with ornaments and beginning to tease out the details of how they might have presented themselves to others.

**Emma L. Baysal**  
Department of Archaeology,  
Ankara University, Ankara  
elbaysal@ankara.edu.tr

## References

- Altınbilek Ç., Coşkunsoy G., Dede Y., Iovino M., Lemorini C. and Özdoğan A.  
2001 Drills from Çayönü. A combination of ethnographic, experimental and use-wear analysis. In: I. Caneva, C. Lemorini, D. Zampetti and P. Biagi (eds.), *Beyond tools. Redefining the PPN lithic assemblages of the Levant*: 137-144. Berlin: ex oriente.
- Bar-Yosef Mayer D.E.  
2013 Towards a typology of stone beads in the Neolithic Levant. *Journal of Field Archaeology* 38(2): 129-142.
- Beck H.  
1928 Classification and nomenclature of beads and pendants. *Archaeologia* 77: 1-76.
- Bursali A., Özbal H., Özbal R., Şimşek G., Yağci B., Yılmaz Akkaya C. and Baysal E.  
2017a Investigating the source of blue color in Neolithic beads from Barcin Höyük, NW Turkey. In: T. Pereira, X. Terradas and N. Bicho (eds.), *The exploitation of raw materials in Prehistory*: 492-505. Cambridge: Cambridge Scholars Publishing.
- Bursali A., Özbal R., Baysal E., Özbal H. and Yağci B.  
2017b Neolithic blue beads in northwest Turkey: the social significance of skeuomorphism. In: M. Cifarelli and L. Gawlinski (eds.), *What shall I say of clothes? Theoretical and methodological approaches to the study of dress in Antiquity*. Selected Papers on Ancient Art and Architecture 3: 123-142. Boston: Archaeological Institute of America.
- Calley S. and Grace R.  
1988 Technology and function of micro-borers from Kumartepe (Turkey). In: S. Beyries (ed.), *Industries lithiques: tracéologie et technologie 1: Aspects Archéologiques*. British Archaeological Reports – International Series 411: 69-81. Oxford: Archaeopress.
- Caneva I., Iovino M., Lemorini C., Özdoğan A. and Zampetti D.  
2001 A combined analysis of the lithic assemblages from Çayönü. In: I. Caneva, C. Lemorini, D. Zampetti and P. Biagi (eds.), *Beyond tools, redefining the PPN lithic assemblages of the Levant*: 165-182. Berlin: ex oriente.
- Chapman J. and Gaydarska B.  
2015 *Spondylus gaederopus/ Glycymeris* exchange networks in the European Neolithic and Chalcolithic. In: C. Fowler, J. Harding and D. Hofmann (eds.), *The Oxford Handbook of Neolithic Europe*: 639-655. Oxford: Oxford University Press.
- Choyke A.M.  
2001 Late Neolithic red deer canine beads and their imitations. In: A.M. Choyke and L. Bartosiewicz (eds.), *Crafting bone: skeletal technologies through time and space. Proceedings of the 2<sup>nd</sup> Meeting of the (ICAZ) Worked Bone Research Group, Budapest, 31<sup>st</sup> August - 5<sup>th</sup> September 1999*. British Archaeological Reports - International Series 937: 251-266. Oxford: Archaeopress.
- Erdal Y.S.  
2015 Bone or flesh: defleshing and post-depositional treatments at Körtik Tepe (southeastern Anatolia, PPNA period). *European Journal of Archaeology* 18(1): 4-32.
- Fabiano M., Berna F. and Borzatti von Löwenstern E.  
2004 Pre-Pottery Neolithic amazonite bead workshops in southern Jordan. In: I. Jadin and A. Hauzeur (eds.), *The Neolithic in the Near East and Europe. Acts of the XIV<sup>th</sup> UISPP Congress, University of Liège, Belgium, 2-8<sup>th</sup> September 2001*. British Archaeological Reports – International Series 1303: 265-273. Oxford: Archaeopress.
- Garfinkel Y.  
1987 Bead manufacture on the Pre-Pottery Neolithic B site of Yiftahel. *Mitekufat Haeven: Journal of the Israel Prehistoric Society* 20: 79-90.
- Grace R.  
1990 The use-wear analysis of drill bits from Kumartepe. *Anatolica* 16: 154-155.
- Groman-Yaroslavski I. and Bar-Yosef Mayer D.E.  
2015 Lapidary technology revealed by functional analysis of carnelian beads from the early Neolithic site of Nahal Hemar Cave, southern Levant. *Journal of Archaeological Science* 58: 77-88.
- Gurova M., Bonsall C., Bradley B. and Anastassova E.  
2013 Approaching prehistoric skills: experimental drilling in the context of bead manufacturing. *Bulgarian e-journal of Archaeology* 3(2).
- Karul N.  
2018 Gusir Höyük Çanak Çömleksiz Neolitik Dönem “dügme-kemer tokaları”. In: M. Arslan and F. Baz (eds.), *Arkeoloji, Tarih ve Epigrafi'nin Arasında: Prof. Dr. Vedat Çelgin'in 68. Doğum Günü Onuruna Makaleler*: 479-485. Istanbul: Arkeoloji ve Sanat Yayınları.
- Kuhn S.L. and Stiner M.C.  
2007 Body ornamentation as information technology: towards an understanding of the significance of early beads. In: P. Mellars, K. Boyle, O. Bar-Yosef and C. Stringer (eds.), *Rethinking the human revolution, new behavioural and biological perspectives on the origin and dispersal of modern humans*: 45-54. Cambridge: McDonald Institute for Archaeological Research.

- Miyake Y., Maeda O., Tanno K., Hongo H. and Gündem C.-Y.  
2012 New excavations at Hasankeyf Höyük: a 10<sup>th</sup> millennium cal. BC site on the Upper Tigris, southeast Anatolia. *Neo-Lithics* 1/12: 3-7.
- Özdoğan A.  
1994 *Çayönü yerleşmesinin çanak çömleksiz Neolitikteki yeri*. Istanbul: Istanbul University. Unpublished Ph.D. Thesis.
- Stiner M.C.  
2014 Finding a common bandwidth: causes of convergence and diversity in Paleolithic beads. *Biological Theory* 9.1: 51-64.
- Ünlüsoy S.  
2002 Neolithische und chalkolithische Steinarmringe: Untersuchungen zur Chronologie und Verbreitung von Steinarmringen im Nahen Osten und in der Ägäis. In: R. Aslan, S. Blum, G. Kastl, F. Schweizer and D. Thumm (eds.), *Mauerschau: Festschrift für Manfred Korfmann*: 543-565. Remshalden-Grunbach: Greiner.
- Yelözer S.  
2018 The beads from Aşıklı Höyük. In: M. Özbaşaran, G. Duru and M. Stiner (eds.), *The early settlement at Aşıklı Höyük: essays in Honor of Ufuk Esin*: 383-404. Istanbul: Ege Yayınları.
- Yelözer S. and Sönmez D.  
2018 Continuity and change through personal ornaments: Aşıklı Höyük, Central Anatolia, Turkey. In: C. Douché and F. Pichon (eds.), *From the Caucasus to the Arabian Peninsula: domestic spaces in the Neolithic*: 169-206. Paris: Routes de l'Orient.

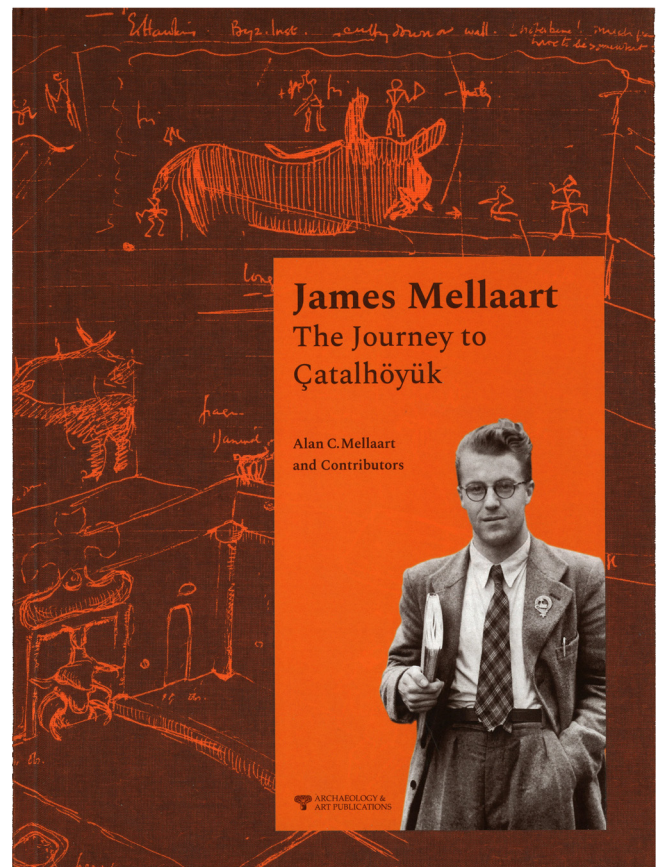
## Kinzel, Moritz

Review of Alan C. Mellaart and other contributors, E. Baysal (ed.), 2020. *James Mellaart – The Journey to Çatalhöyük*. Istanbul: Archaeology and Art Publications. ISBN: 978-605-396-523-7. € 99.

James Mellaart is for sure one of the well-known names in archaeology of the second half of the 20<sup>th</sup> century and especially in the archaeology of prehistoric Anatolia. “James Mellaart – The Journey to Çatalhöyük” was compiled and written by Alan Mellaart and other contributors, edited by Emma Baysal and published in 2020 by Archaeology and Art Publications in Istanbul. It took over seven years to produce this well-illustrated volume which is dedicated to the memory of James and Arlette Mellaart. On its 476 pages it compiles memories, personal accounts, and tributes of colleagues, contemporaries and family members. Naturally, such a personal approach leaves gaps in the picture. However, it does encourage the reader as well to start digging in the published material, libraries, and archives to learn more about the circumstances under which archaeological works took place in the 1950ies and 1960ies. On the other hand it is Alan Mellaart’s attempt to understand his father better and to shed light on his own family history and to piece together the scattered jigsaw puzzle and missing bits of a family history that is closely entangled with the European history of the last century. It is a complex history. There is light: *e.g.* the discovery of nowadays well-known sites like Hacilar and Çatalhöyük or the cosmopolitan life at Safvet Paşa Yalısı at Kanlıca. There is shadow: *e.g.* traumatic World War II events during his childhood and the excuse of illicit trafficking of archaeological finds. There are dramatic twists: *e.g.* the loss of the excavation license for Çatalhöyük or the destruction of the family’s Yalısı at Kanlıca. There is disillusion and imagination, too.

The volume sets out with a Preface (9-16) by the editors reflecting upon the difficulty to do justice to “such a complicated character and those places and people with which he was – and still is – associated.” This is followed by a Prologue (17-32) with Alan Mellaart’s childhood memories on his days at “the Skeleton Cleaning Club” at Çatalhöyük and the rich social life on the shoreline of the Bosphorus.

The next five chapters are dedicated to the family history. Alan Mellaart presents all the information he has gathered about his parents, starting with his father’s account (33-102): a troubled youth, difficult family circumstances – caused by the early death of his mother as well the death of his aunt in the bombing of Rotterdam in 1940. World War II experiences studying Egyptology at University College London, excavations with Kathleen Kenyon, first steps into Anatolian archaeology. The following years (1951 to 1965) dealing with archaeological survey and excavation work as well the “Dorak Affair” are presented via Jimmy’s own biographical notes. The years in London as a lecturer



after the termination of the excavations at Çatalhöyük are filled with the hope to return to the field; especially the hope to return to Çatalhöyük to continue excavations. As history knows, this was only possible decades later as a visitor, when Ian Hodder had started his re-examination of the site. The next chapter is dedicated to the fascinating family history of his mother Arlette (103-122). Alan’s mother Arlette Mellaart contributes her own reflections on the life at the Safvet Paşa Yalısı at Kanlıca, originally published in a magazine back in 2002 (123-142) (Fig. 1). Due to the fact that this grand Ottoman wooden summer house on the Asian shore of the Bosphorus was a central place of the family and research life of the Mellaarts, consequently a brief excursion written by Sinan Kuneralp looking at the builder of the house Safvet Pasha falls in place here very well (143-160). As the house burned down to the ground in 1976 it is also a closed chapter – especially because a lot of James Mellaart’s notes and documents *etc.* were consumed by the fire as well.

The final chapter of the family history section is dedicated to Arlette’s Cenani family branch, another complex story (161-188).

The next sixteen chapters are – archaeologically speaking – re-contextualizing James Mellaart and his work. This section is starting off with Mehmet Özdoğan’s re-evaluation of Mellaart’s place within archaeology (189-240). Some passages from Seton Lloyd’s autobiography (1986) where James Mellaart is mentioned are shedding light on the close ties to the British Institute at Ankara (241-270). David Stronach



shares his very personal memories of his work with Jimmy and Arlette from 1955 to 1958 on the surveys and at Beycesultan (271-276). Maxime Brami provides a fresh view on Mellaart's research at Hacilar (277-292), while Refik Duru gives his own account on "Jimmy Bey of Hacilar" (293-302). Ian Todd contributes in his notes on the excavations at Çatalhöyük not only valuable insights on the works there but in addition as well many of his marvellous colour and b/w-images taken back then (303-318). His reflections are accompanied by the transcripts of Grace Huxtable's Letters from Çatalhöyük she sent home to her family (319-346). Those letters give a lively insight into the work and daily life on site and her task of drawing all the wall paintings.

Emma Baysal takes a look at the beginning of the Çatalhöyük excavations by examining James Mellaart's notebooks, displaying the speed of work and the excitement about the well-preserved finds (347-392). Revisiting the diaries gives a good insight. The chapter is supplemented by the reproduction of the pages of the note book of the first 13 workdays at Çatalhöyük (Fig. 2). Peder Mortensen recalls his days working with Arlette and James at Kanlıca in 1964 on the lithic and obsidian assemblages from Çatalhöyük and Hacilar; adding as well some rare shots from his archive to the book (393-408). He gives a lively account on the daily rituals, work atmosphere and visitors at Kanlıca. In his short contribution John Ingham tells some memorable anecdotes from his visits to Çatalhöyük and later encounters

with James and Arlette (409-412). In his contribution Ian Hodder presents some of the latest results from his 25 years of archaeological research at Çatalhöyük in comparison with the results from the four seasons of work by Mellaart (413-430). In contrast to Mellaart's speed of excavation and in some cases over-enthusiastic interpretation of features, the long-term project by Hodder worked at a much slower pace and had a much more analytical approach to re-assess earlier interpretations. Hodder states that "many changes in interpretation at Çatalhöyük have resulted from the application of analytical techniques that were not available to Mellaart in the 1960's." Simple methods, which are nowadays a standard procedure, *e.g.* dry sieving of sediments to catch smaller artefacts, bones *etc.*, were not commonly used in the 1960's to provide further insights. The same holds true for the available funding and the size of the team. Mellaart had a small team with a few specialists managed by his wife Arlette. Hodder's team had over 30 research groups with many researchers included.

No work about James Mellaart would be complete without discussing the infamous and still not fully explained "Dorak"-affair. Here the case – caused by Mellaart's publication and the possible disappearance or inexistence of exceptional finds from an unknown Bronze Age culture in Western Anatolia, leading finally to be banned from work in Turkey – is represented through recollections by Seton Lloyd, Kenneth Pearson, Patricia Conner and David Stronach. Despite all the



Fig. 1 James Mellaart and his wife Arlette Mellaart at the Safvet Paşa Yalısı on the Bosphorus in the early 1960s. (Photo: by courtesy A. Mellaart)



Fig. 2 James Mellaart with workman at work at Çatalhöyük.  
(Photo: D. Kirkbride, Diana Kirkbride-Helbæk Archive, University of Copenhagen)

different accounts regarding this case, we have to accept that it will not be solved or explained fully in detail as James Mellaart took the secrets of the events that have taken place to his grave and we only can speculate what really happened (431-444). However, in his account David Strochan is trying to reconstruct the context in which the story took shape and developed around the “search of the Early-Bronze Age in West Anatolia”.

In the following contribution “Gordon Square – London” Donal Easton is remembering Jimmy as a University teacher and his appearance each Monday for his class at the Institute of Archaeology (445-450). In his second contribution Ian Hodder shares some of his personal memories about meetings and various occasions with Arlette and James (451-454). The two last contributions by John Carswell (455-462) and Trevor Watkins (463-467) are reprints of Obituaries and Tributes published in 2012 to commemorate Jimmy Mellaart. John Carswell remembers his first meeting with Jimmy at Kathleen Kenyon’s excavation at Jericho alongside Diana Kirkbride and Neville Chittick in 1952, which all had studied Egyptology and could not work in Egypt due to the political circumstances. Just imagine what the world of archaeology would have missed if all three would have went working in Egypt as initially envisioned. The volume is completed by a full bibliography of James Mellaart’s works (468-473) and an Index (474-476).

Easily “the Journey to Çatalhöyük” could have been an appraisal of the “genius” of James Mellaart. It is not.

Luckily Alan Mellaart and Emma Baysal have collected a great variety of contributions that piece by piece laid out a mosaic that shows the complexity of James Mellaart as a human being and not only the archaeologist. It is a great kaleidoscope, with reflections that avoid to be only black or white. The rich illustrations and reproductions *e.g.* of his notebooks make it a pleasure to turn page by page and give as well an insight into his way of documenting. The high quality paper, the well-made binding, and beautiful layout turn this book not only into a great read, but also into a real pleasure to look at and to dig into.

When Alan and I met shortly after the manuscript of this volume went to the press, we could agree upon that if we would have known the letter correspondence about Çatalhöyük between Diana Kirkbride and Jimmy Mellaart – kept in the Diana Kirkbride Archive at the University of Copenhagen – a bit earlier, it would have made a great addition to this volume – however, we are going to publish this material in not far future somewhere else. At least some of Kirkbride’s images from the 1963 season at Çatalhöyük found their way into the volume.

In conclusion, “the Journey to Çatalhöyük” is a treasure box of anecdotes and reflection of James Mellaart’s life and contribution to the archaeology of Southwest Asia and especially Anatolia. The manifold contributions by friends, colleagues, and his son Alan offer insights into a life with dramatic twists and unforeseen turns, but also dedicated passion for archaeology and the struggle to tell a captive story with convincing narrative. Alan Mellaart and Emma Baysal put the immensely diverse material beautifully together to tell a very complex story. Congratulations!

Or, to put it in James Mellaart’s own words “It’s a corker!” (Letter to Diana Kirkbride, 20.05.1967)

**Moritz Kinzel**

German Archaeological Institute, Istanbul  
Moritz.Kinzel@dainst.de

## References

- Lloyd S.  
1986 *The interval: A life in Near Eastern Archaeology*. Oxford: The Alden Press.

## Sisa-López de Pablo, Joaquim

*Social spaces during the Neolithization process in Southwest Asia: a habitat representation from a microstratigraphic approach/ Los espacios sociales durante el proceso de neolitización en el sudoeste asiático: una aproximación microestratigráfica a la representación del hábitat.* (Working title).

PhD Thesis, Department of Prehistory, Universitat Autònoma de Barcelona.

Supervisors: Miquel Molist, Julia Watez, Rosa M. Poch

This ongoing thesis aims to characterize the organization and use of social spaces as well as their evolution contributing to the technological, social, and economic knowledge of human groups through settlement strategies and their management during the Neolithisation process. Specifically, we will analyse social places according to their architectural features from a technological and functional perspective, focusing on occupation surfaces to understand how space was occupied and, moreover, gain insights into social organization and social relations.

The methodology used is based on the principles of geoarchaeology and, more specifically, soil micromorphology (Bullock *et al.* 1985; Courty *et al.* 1989; Stoops 2003; Stoops *et al.* 2010; Nicosia and Stoops 2017). Therefore, we focus on the study of anthropogenic sediment (intra-site scale), that is, the result of a mixture

of biotic and abiotic components derived from human activities as well as natural processes (Schiffer 1972; Butzer 1982; Berger *et al.* 1999; Karkanas and Goldberg 2018). This approach defines the site formation processes since its planning, use and its fossilization.

In this sense, the study follows the reference models established for Neolithic sites in the southwest of Asia previously studied (Watez and Courty 1996; Matthews *et al.* 1997; Stordeur and Watez 1998) from which it is possible to carry out a technological, functional and taphonomic analysis of the sedimentary records (Fig. 1). Furthermore, these studies also proved the value and potentials of these types of investigations and the need to continue exploring this field. A particular emphasis will be placed on architecture regarding floor sequences, where a technological study is being made to characterize the different techniques employed and their variability to understand the arrangement of social places and, consequently, the variations and changes of space use. This model follows the patterns established from micromorphological studies in Protohistoric (Cammass 2003; Roux and Cammass 2010) and Neolithic (Watez 2003, 2009) sediment. They allow us to understand the mechanisms and construction methods used after the preparation of the raw materials for their implementation and degradation.

The study set comprises samples from sites of different geographical regions and chronologies, where the attention focuses on the middle valley of the Euphrates River and, more specifically, the site of Tell

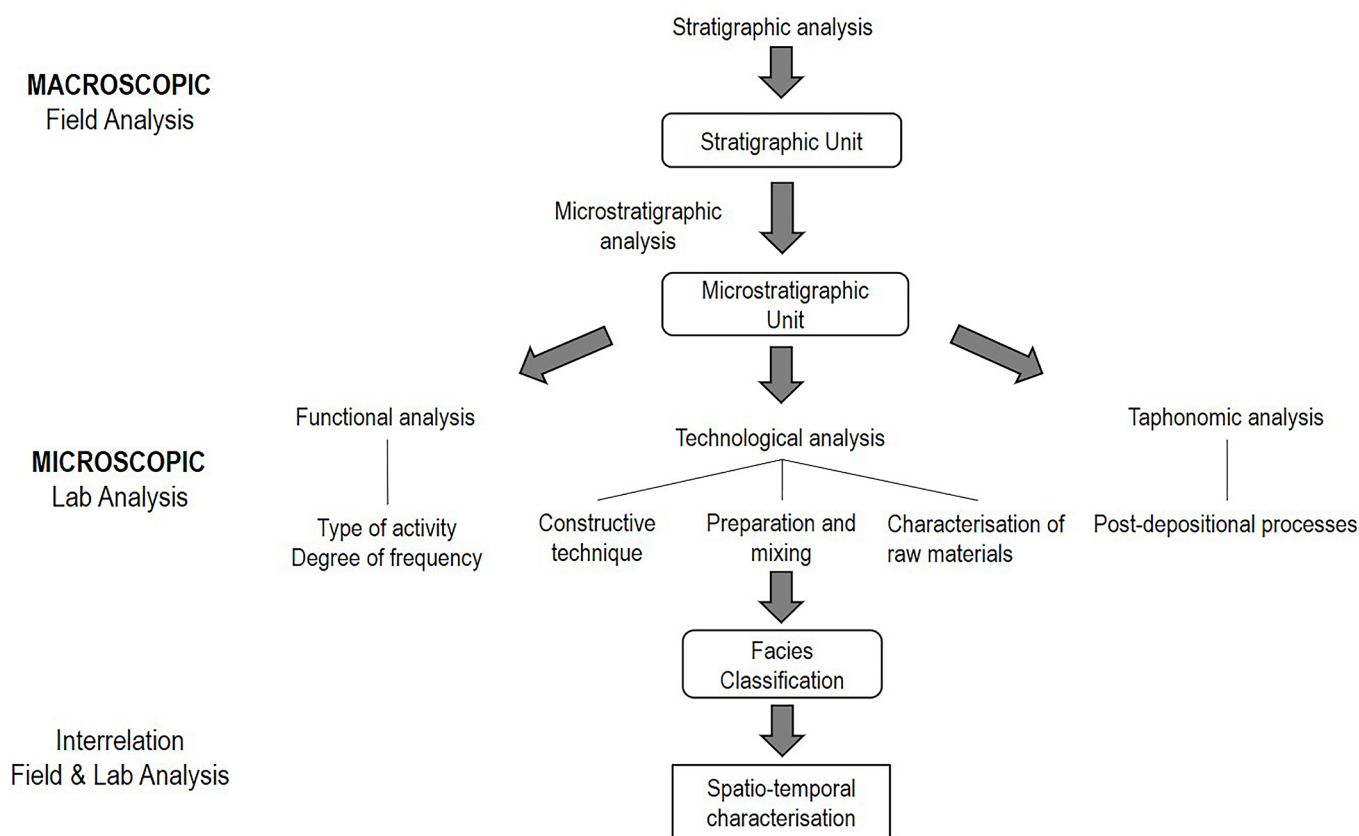


Fig. 1 Summary scheme of the methodological approach. (Graph: Sisa-López de Pablo after Cammass and Watez 2009)

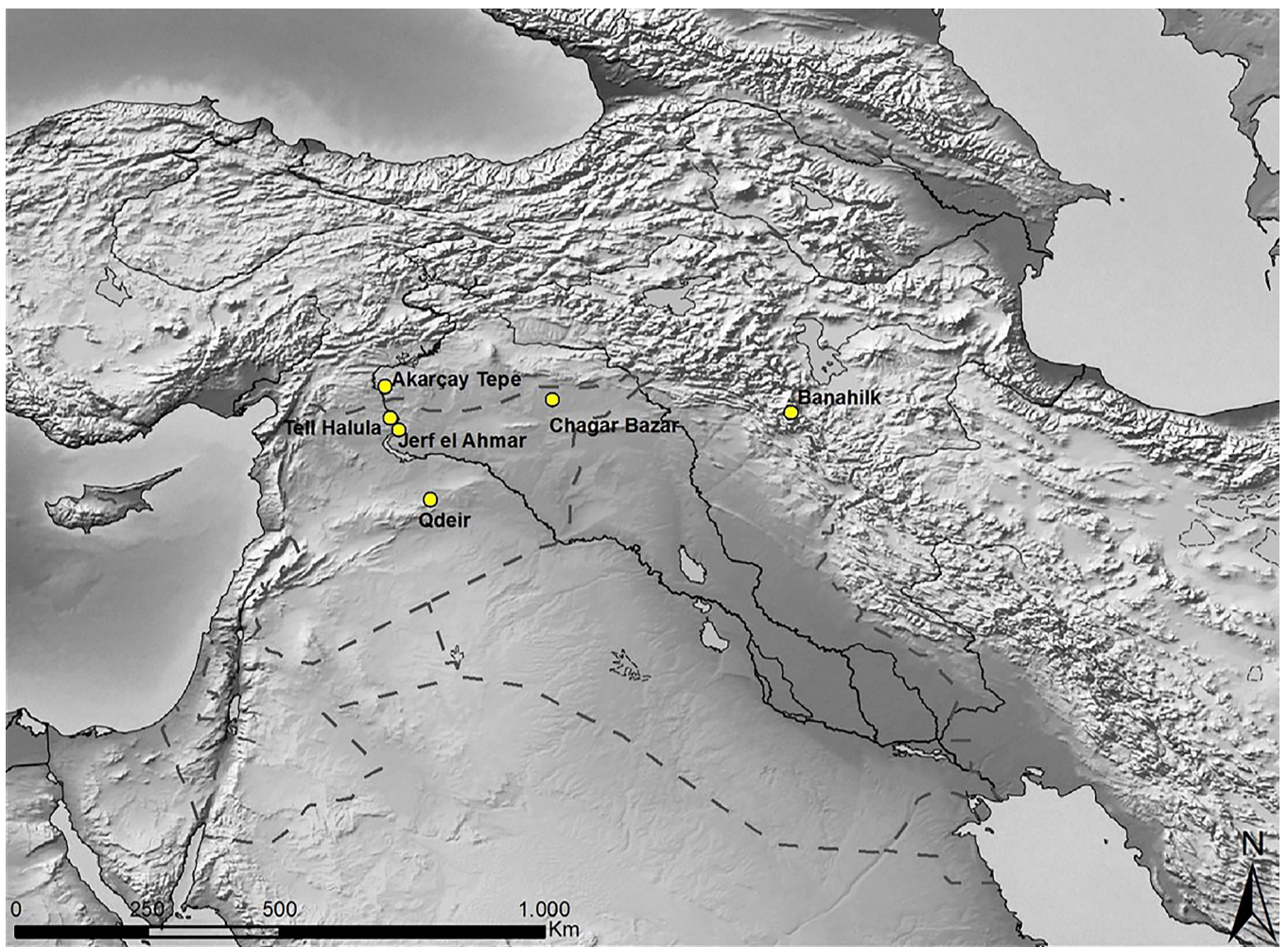


Fig. 2 Location of the sites included in the study. (Map: Sisa-López de Pablo; ArqueoKurd Project)

Halula (middle PPNB - PN). This vision is complemented by the analysis of other archaeological sites such as Jerf el Ahmar, Qdeir, Akarçay Tepe, Çagar Bazar and Gird Banahilk (Fig. 2).<sup>1</sup> Thus, a wide chronological range is covered from the PPNA to the Halaf period, then completing both diachronic and synchronic views of different regions of Southwest Asia (middle valley of the Euphrates River, Jazira, El Kowm oasis and Upper Zagros mountains).

It should be noted that this geographical area concerns different environmental settings, although most of the sites are located in alluvial contexts, some of them are more arid than others. This factor has to be taken into account since the used methodology (pedology) allows us to evaluate how these environments were, how they affected the archaeological deposits and which post-depositional processes took place. It is interesting to add that if we know how the soils were in the past, we can make inferences about the suitability of the construction materials (Houben and Guillaud 2001).

Considering the spatial and temporal framework, a differential series of technological and social changes took place which involved the use of new economic and symbolic practices by human groups. Linked to architecture, some of the most significant traditional changes are variations in the planning of the buildings (from circular to rectangular), the use of new construction

materials (lime, plaster), the trend towards greater uniformity, or the emergence of large “community” structures as they require a large investment of labour (Aurenche 1981; Kuijt and Goring-Morris 2002; Banning 2003, 2011; Stordeur 2015; among others). Consequently, the broad scenario could influence the different production techniques and strategies adopted during the transition into the origins of the Neolithic. Therefore, the social space can be modified over time to satisfy new or changing community needs.

In summary, the variability, recurrence, and different strategies adopted concerning the construction techniques and raw materials used in the different regions will be discussed, as well as the spatial organization to identify possible patterns between the duality represented by the interior/ exterior – private/ public spaces. Likewise, we will emphasize the architectural variability between households to see possible differences within the villages.

Preliminary results show a different executions and treatments of occupation surfaces which go beyond the conventional classifications like “beaten earth floors” or “earthen floors” (Fig. 3). They are only observable on a microscopic scale, as well as the maintenance repairs. These reflect a series of distinct technical procedures that, in turn, correspond to an intentional structural organisation.

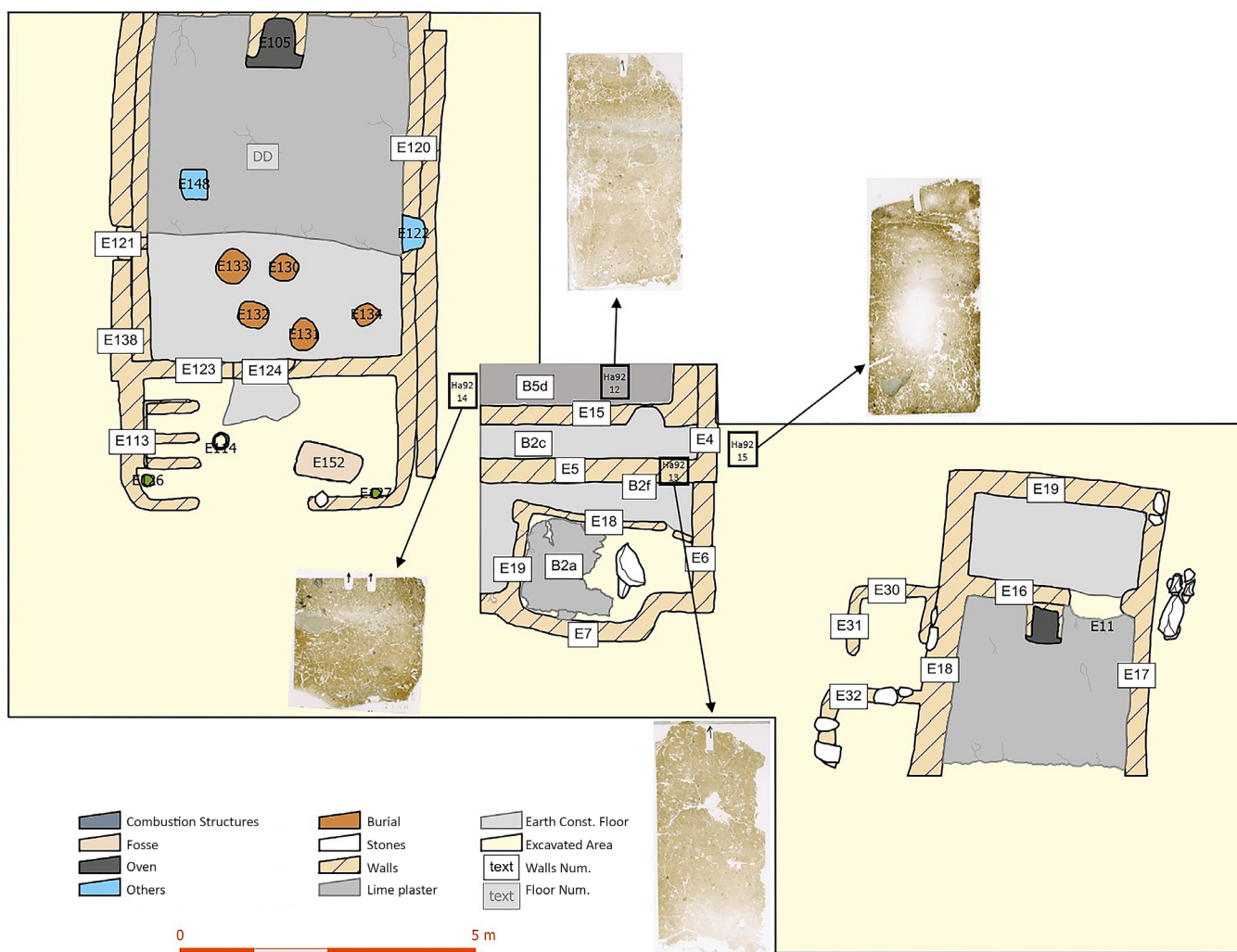


Fig. 3 Example of the detailed sampling in different spaces at Tell Halula, Sector 4C, occupation phase 8 – Middle PPNB. (Drawing/ Photos: Sisa-López de Pablo/SAPPO-GRAMPO; Tell Halula Project)

Finally, we consider that before carrying out a study about social relations we must spatially articulate the different activities. Thus, we must first recognize the global social space and its implications to understand the physical environment in which a given society developed, based on the relations of production and consumption.

**Joaquim Sisa-López de Pablo**

Universitat Autònoma de Barcelona

Grup de Recerca Arqueològica al Mediterrani i Pròxim Orient (GRAMPO)

Joaquim.sisa@uab.cat

## Endnote

- <sup>1</sup> We are working on unpublished samples. In the cases of Tell Halula and Qdeir where there is already published data, it is also reviewed.

## References

- Aurenche O.  
1981 *La maison orientale, l'architecture du Proche-Orient ancien des origines au milieu du quatrième millénaire*. Paris: Geuthner.
- Banning E.B.  
2003 Housing Neolithic farmers. *Near Eastern Archaeology* 66(1/2): 4-21.  
2011 Houses, households, and changing society in the late Neolithic and Chalcolithic of the southern Levant. *Paléorient* 36(1): 49-87.
- Berger J.F., Brochier J.E. and Bravard J.P.  
1999 La géoarchéologie. *Nouvelles de l'Archéologie* 78: 8-12.
- Bullock P., Fedoroff N., Jonguerius A., Stoops G., Tursina T. and Babel U.  
1985 *Handbook for soil thin section description*. Albrighton: Waine Research.
- Butzer K.  
1982 *Archaeology as human ecology*. Cambridge: Cambridge University Press.

- Cammas C.  
2003 L'architecture en terre crue à l'âge du Fer et à l'époque romaine: apports de la discrimination micromorphologique des modes de mise en oeuvre. In: C.A. Chazelles and A. Klein (eds.), *Échanges transdisciplinaires sur les constructions en terre crue, 1. Terre modelée, découpée ou coffrée: matériaux et modes de mise en oeuvre*: 33-53. Montpellier: Espérou.
- Courty M.A., Goldberg P. and Macphail R.I.  
1989 *Soils and micromorphology in archaeology*. Cambridge: Cambridge University Press.
- Houben H. and Guillaud H.  
2001 *Earth construction. A comprehensive guide*. London: Intermediate Technology Publications.
- Karkanis P. and Goldberg P.  
2019 *Reconstructing archaeological sites: understanding the geoarchaeological matrix*. Oxford: John Wiley and Sons.
- Kuijt I. and Goring-Morris N.  
2002 Foraging, farming, and social complexity in the Pre-Pottery Neolithic of the southern Levant: A review and synthesis. *Journal of World Prehistory* 16(4): 361-440.
- Matthews W., French C., Lawrence T., Cutler D.F. and Jones M.K.  
1997 Microstratigraphic traces of site formation processes and human activities. *World Archaeology* 29(2): 281-308.
- Nicosia C. and Stoops G.  
2017 *Archaeological soil and sediment micromorphology*. Oxford: John Wiley and Sons.
- Roux J.C. and Cammas C.  
2010 Les techniques constructives en bauge dans l'architecture protohistorique de Lattara, (milieu Ve - milieu IVe s. av. n. è.). In: T. Janin (ed.), *Premières données sur le cinquième siècle avant notre ère dans la ville de Lattara*. Lattara 21: 219-288. Lattes: Association pour le Développement de l'Archéologie en Languedoc-Roussillon (ADAL).
- Schiffer M.B.  
1972 Archaeological context and systemic context. *American Antiquity* 37: 156-165.
- Stoops G.  
2003 *Guidelines for analysis and description of soil and regolith thin sections*. Madison: Soil Science Society of America.
- =Stoops G., Marcelino V. and Mees F.  
2010 *Interpretation of micromorphological features of soils and regoliths*. Amsterdam: Elsevier.
- Stordeur D.  
2015 *Le village de Jerf el Ahmar: Syrie, 9500-8700 av. J. C.: L'architecture, miroir d'une société néolithique complexe*. Paris: Éditions du Centre National de la Recherche Scientifique.
- Stordeur D. and Watzet J.  
1998 À la recherche de nouvelles clés. Étude géoarchéologique à Qdeir I, PPNB final, désert syrien. *Cahiers de l'Euphrate* 8: 51-68.
- Watzet J.  
2003 Caractérisation micromorphologique des matériaux façonnés en terre crue dans les habitats néolithiques du Sud de la France: exemple des sites de Jacques Coeur (Montpellier, Hérault), du Jas del Biau (Miliau, Aveyron), la Capoulière (Mauguoi, Hérault). In: C.A. Chazelles and A. Klein (eds.), *Échanges transdisciplinaires sur les constructions en terre crue, 1. Terre modelée, découpée ou coffrée: matériaux et modes de mise en oeuvre*: 21-31. Montpellier: Espérou.
- 2009 Enregistrement sédimentaire de l'usage de la terre crue dans les établissements néolithiques du Sud de la France: le cas des sites du Néolithique final de La Capoulière 2 et du Mas de Vignoles IV. In: A. Beeching and I. Sénépart (eds.), *De la maison au village: l'habitat néolithique dans le Sud de la France et le Nord-Ouest méditerranéen. Actes de la table ronde des 23 et 24 mai 2003 (Marseille, Musée d'histoire de la ville de Marseille)*: 199-218. Paris: Société Préhistorique Française.
- Watzet J. and Courty M.-A.  
1996 Modes et rythmes d'occupation à Tell Halula. Approche géoarchéologique (premiers résultats). In: M. Molist Montaña (ed.), *Tell Halula (Siria): un yacimiento neolítico del valle medio del Éufrates. Campañas de 1991-1992*: 53-67. Madrid: Ministerio de Educación y Cultura.

## In Memoriam Paul Sanlaville

Éric Coqueugniot and Olivier Aurenche

Born in 1933, Paul Sanlaville passed away on 4<sup>th</sup>, March 2021. A geographer and geomorphologist, Paul was one of the best specialists on the environment and its evolution in the Near and Middle East and in the Arabian Gulf, which he studied for a long time and appreciated so much.

Paul was a man of the field with an exceptional ability to “read” a landscape, to understand it, and then to explain it, to make it clear for the others. His qualities as a teacher were coupled with a remarkable mind or syntheses, a combination that made him a great teacher and that is reflected in his publications. This is especially the case of his book “The Arab Middle East: the environment and man” (in French) published in 2000, which is still the main essential geographical reference for all those interested in this region and which has completed, extended and renewed Eugen Wirth’s great classic “Syrien, eine geographische Landeskunde” (1971).

After a stay in Algeria, Paul went to Lebanon (1960-1969) to teach at the Institute of Geography of the Near and Middle East and to prepare his doctoral thesis on the “Geomorphological Study of the Coastal Region of Lebanon” (in French, 1977). He also started to collaborate with prehistorians, Fathers Henri Fleisch sj and Francis Hours sj, Lorraine Copeland and Olivier Aurenche as well as with other geographers (Rémi Dalongeville).

A tireless and curious researcher, Paul worked not only in Lebanon and Syria, his favourite fields, but

also in several other countries of the Near and Middle East, in the United Arab Emirates, Iraq, Jordan, Yemen, Pakistan, Turkey, but also Sudan, Tunisia or Malta. Throughout his career, he was interested in the climatic changes that affected the Near East during the Upper Pleistocene and the Holocene, and he has left us in particular numerous syntheses, which still remain references today.

An open-minded person, at the interface of many disciplines, it is quite natural that Paul Sanlaville always accepted to take on collective responsibilities, whether in Beirut (where he co-directed the Institute of Geography of the Near and Middle East), in Lyon (*Maison de l’Orient* and University) or in the evaluation committees of the CNRS.

In Lyon, Paul was chosen by the Hellenist Jean Pouilloux to succeed him in 1979 at the head of the *Maison de l’Orient*, which he had created a few years earlier. This choice may have seemed surprising, as Paul was not an archaeologist but a geographer, but it was a wise one as it avoided any possible dissensions between potential archaeologist successors. Thanks to his qualities as a researcher and organiser, we owe him a great deal for the development of this research centre, which was unique at the time, characterised by its multidisciplinary within a clearly defined geographical field. While pursuing his field research, he also founded several research teams (RCP 438- Quaternary and Prehistory of the Near



Fig. 1 Paul Sanlaville and Bernard Geyer surveying the desert in the Larsa area, Iraq. (Photo: Joël Suire)



Fig. 2 Paul Sanlaville at a ceremony at Lyon City Hall in January 1986. (Photo: Anonymous)

East, then GREMO- [Research Group on the Middle East] “From the sea to the desert, management of space and organisation of societies”...). A tireless CNRS researcher, he taught for many years at the University Lyon 2, where he was Vice-President for Research.

At the CNRS, he chaired the section 31 of the National Committee for Scientific Research between 1991 and 1995, at a time when the repartition between the different disciplines had just been modified, with Prehistory, Protohistory and Biological Anthropology now

being associated with Physical Geography and no longer with Cultural Anthropology.

Personally (E.C.), a long time ago, I came to the MOM (at that time the “*Maison de l’Orient et de la Méditerranée Ancienne*”) to prepare my doctorate with “the Cauvins”. It was quite naturally that I got to know Paul, and his friend Francis Hours, the geographer and the prehistorian. Then, while I was a research fellow at the French Institute in Damascus from 1979, I came to know him in Jacques Cauvin’s excavation field in the el Kowm Basin. Invited to study the potential of the el Kowm Basin with a particular regard to Palaeolithic occupation, Paul Sanlaville, Francis Hours, Lorraine Copeland and Jacques Besançon formed a multidisciplinary team, they were inseparable and were affectionately called the “gang of four” because, like the Three Musketeers of Alexandre Dumas, they were always four and very close, often accompanied by Olivier Aurenche, Sultan Muhesen or Henri de Contenson. I really appreciated their openness and their truly multidisciplinary approach. At the end of the day, when the whole team of el Kowm gathered for the ritual of the aperitif, the debates (sometimes contradictory) to understand the choices of human settlement or the formation of the cones of artesian springs... were oh so enriching and stimulating.

A hard worker, Paul was always welcoming, not counting his time, especially for young researchers, and always knowing how to be deeply fair and human. Amongst all his qualities, we have to remember first of all his intelligence, his kindness, his listening skills, his rigour and his intellectual probity.



Fig. 3 Paul Sanlaville and Jacques Cauvin at the aperitif at el Kowm. (Photo: O. Aurenche)





Fig. 4 Paul Sanlaville, Lorraine Copeland and Olivier Aurenche at Marouatte (Dordogne) on the occasion of the publication of the *Atlas des Sites* (ASPRO), 1994. (Photo: P. Lombard)



Fig. 5. Portrait of Paul Sanlaville in the 2010s.  
(Photo: Paul Sanlaville family photo)

Paul's ambition was to study, over the long term, societies and their relations with the environment in which they were developing and evolving. This may seem classical now, but with hindsight it is clear how far ahead of his time Paul was scientifically because he understood well before others the importance of a real multidisciplinary approach, associating geographers, anthropologists, historians, archaeologists, sociologists, *etc.* at all stages of research.

At once warm and firm, tolerant and rigorous, Paul was the last of this "gang of four" who contributed enormously to the study of "Man and Environment" in the Near East. The loss is great for all of us and beyond the present sadness let us remember all that he brought.

**Éric Coqueugniot**

UMR Archéorient CNRS, Université Lyon 2,  
Maison de l'Orient et de la Méditerranée, Lyon  
eric.coqueugniot@mom.fr

**Olivier Aurenche**

UMR Archéorient, CNRS, Université Lyon 2,  
Maison de l'Orient et de la Méditerranée, Lyon  
aurencheolivier@orange.fr

## Major Publications of Paul Sanlaville in Chronological Order

(NB: articles published in *Paléorient* and in *Maison de l'Orient* are available online on the Persée and/ or JSTOR portals).

- Sanlaville P., 1977. Étude géomorphologique de la région littorale du Liban. Beyrouth : Université Libanaise.
- Sanlaville P. (dir.), 1979. Quaternaire et préhistoire du Nahr el Kébir septentrional : les débuts de l'occupation humaine dans la Syrie du Nord et au Levant (travaux de la RCP 438). Lyon : Maison de l'Orient (Collection de la Maison de l'Orient méditerranéen, Série géographique et préhistorique 1).
- Cauvin J. et Sanlaville P. (éd.), 1981. Préhistoire du Levant : chronologie et organisation de l'espace depuis les origines jusqu'au VI<sup>e</sup> millénaire (Colloque international du CNRS, Lyon 10-14 juin 1980). Paris : CNRS.
- Métral J. et Sanlaville P., 1981. L'homme et l'eau en Méditerranée et au Proche Orient, I. Le lieu et le temps, l'eau et la ville, irrigation et société, médecine et symbolisme de l'eau : séminaire de recherche : 1979-1980. Lyon : Presses universitaires de Lyon (Travaux de la Maison de l'Orient 2).
- Paskoff R. et Sanlaville P., 1983. Les côtes de la Tunisie : variations du niveau marin depuis le Tyrrhénien. Lyon : Maison de l'Orient (CMO 14, Série géographie et préhistorique 2).
- Sanlaville P. (ed.), with contributions by J. Besançon, J. Clutton-Brock, H. de Contenson [et al.], 1985. Holocene settlement in North Syria : résultats de deux projections archéologiques effectuées dans la région du nahr Sajour et sur le haut Euphrate syrien. Oxford : BAR (International series 238).
- Besançon J. et Sanlaville P., 1988. L'Evolution géomorphologique du Bassin d'Azraq (Jordanie) depuis le Pléistocène Moyen. *Paléorient* 14,2 : 23-30.
- Sanlaville P., 1989. Considérations sur l'évolution de la Basse Mésopotamie au cours des derniers millénaires. *Paléorient* 15,2 : 5-27.
- Aurenche O., Cauvin M.-C. et Sanlaville P. (éd.), 1990. Préhistoire du Levant : processus des changements culturels : hommage à Francis Hours (colloque international CNRS, 30 mai-4 juin 1988, Maison de l'Orient méditerranéen, Lyon). *Paléorient* 14,2 et 15,1.
- Sanlaville P., 1992. Changements climatiques dans la péninsule arabique durant le Pléistocène supérieur et l'Holocène. *Paléorient* 18,1 : 5-26.
- Sanlaville P., Besançon J., Copeland L. et Muhesen S. (dir.), 1993. Le Paléolithique de la vallée moyenne de l'Oronte, Syrie : peuplement et environnement. Oxford : Tempus reparatum (BAR : International series 587).
- Hours F., Aurenche O., Cauvin J., Cauvin M.-C., Copeland L., Sanlaville P., 1994. Atlas des sites du Proche Orient (14000-5700 BP). Lyon : Maison de l'Orient Méditerranéen (Travaux de la Maison de l'Orient méditerranéen 24).
- Sanlaville P., 1996. Changements climatiques dans la région levantine à la fin du Pléistocène supérieur et au début de l'Holocène. Leurs relations avec l'évolution des sociétés humaines. *Paléorient* 22,1 : 7-30.
- Sanlaville P., 1997. Les changements de l'environnement au Moyen-Orient de 20 000 BP à 6 000 BP, *Paléorient* [Paléo-environnement et sociétés humaines au Moyen-Orient de 20 000 BP à 6 000 BP], 23,2 : 249-262.
- Blanchet G., Sanlaville P. et Traboulsi M., 1997. Le Moyen-Orient de 20000 à 6000 BP. Essai de reconstitution paléoclimatique, *Paléorient* [Paléo-environnement et sociétés humaines au Moyen-Orient de 20 000 BP à 6 000 BP] 23,2 : 179-190.
- Sanlaville P., 2000. Le Moyen-Orient arabe : le milieu et l'homme. Paris: Armand Colin (Collection U : Série Géographie).
- Aurenche, O., Le Mière M. and Sanlaville P. (eds.), 2004. From the river to the sea : the Palaeolithic and the Neolithic on the Euphrates and in the Northern Levant: studies in honour of Lorraine Copeland. Oxford : Archaeopress (BAR : International series 1263) and Lyon : Maison de l'Orient et de la Méditerranée - Jean Pouilloux.
- Sanlaville P. et Dalongeville R., 2005. L'évolution des espaces littoraux du golfe Persique et du golfe d'Oman depuis la phase finale de la transgression post-glaciaire. *Paléorient* 31,1 : 9-26.

## OnliNEOLITHIC: Lectures on the Neolithic in the New Abnormal

Güneş Duru and Mihriban Özbaşaran

In January 2020, the COVID 19 pandemic ushered in a new era unlike any we have experienced in our lifetimes. Within this new normal or even better, this new abnormal, our daily lives in our isolated homes shifted to on-line platforms. Gatherings, meetings, conferences and face to face courses were replaced by communication through smart devices and cameras. These circumstances, although difficult, also provided a unique opportunity to bring together the many members of our farflung community to discuss the Neolithic of southwest Asia. In particular the differences and diversity within our current data. By combining the words online and Neolithic, we titled the new series, OnliNEOLITHIC.

A primary motivation behind this series was to convene both Southwest Asian Neolithic experts and young researchers from around the globe, who found it difficult to attend meetings due to the expense of travel, accommodation, and registration fees before COVID. By allowing young people to attend from home, they had the rare opportunity to “meet” and ask questions of the researchers who produced the publications they read in their courses or cited in their theses. Thus, we

were keen to use a medium of communication that is academic and more friendly and open than the less interactive webinar seminars.

We also chose to upload each lecture to Youtube the week it was given ([https://www.youtube.com/results?search\\_query=onlineolithic+series](https://www.youtube.com/results?search_query=onlineolithic+series)), so that an even larger audience could engage with the series. We selected a video source that is available to anybody who wishes to learn about the transition from a hunter-gatherer way of living to a sedentary life, the motivation behind the sustenance of this new lifeways in different regions, and how it differed on regional and local scales.

We were also inspired to dedicate this series to Trevor Watkins who made eminent contributions to our knowledge and understanding of the Neolithic period.

In the fall of 2016, Trevor Watkins invited us to a two-day meeting in Berlin, titled “The Long Revolution: Becoming Neolithic in Southwest Asia” (Fig. 1), which convened esteemed scholars on the Neolithic. By the end of the meeting, we had all promised Trevor to publish a book collection of the papers presented at the conference. However, our promise was never



Fig. 1 Berlin 2016, participants of the “The Long Revolution: Becoming Neolithic in Southwest Asia” conference organized by Trevor Watkins. (Photo: Anonymous)

**onliNEOLITHIC**  
**TREVOR WATKINS**  
15.12.2020  
20.00 (GMT+3)  
Zoom  
commencis

**The Neolithic of southwest Asia:  
"the fulcrum of the great transformation"**

We need to be sure of the importance of our Neolithic within the long-term story of human history: otherwise, we are in danger of becoming encapsulated within the minutiae of our expanding knowledge, and isolated from the wider world. Here is one way in which our Neolithic story can be shown to work as a critically important episode within the long-term of human history. There are three key features to the story of human across evolution more than two million years:

Gradually accelerating trends in cultural innovation and change, in the expansion of the range of cultural products, skills, and capacities, and in the growth of population density and the scale of human groups. When we focus down into the six millennia of the Epipalaeolithic-Neolithic transformation we can observe those three key features accelerating at an unprecedented rate. Leading evolutionary biologists, anthropologists, Palaeolithic archaeologists and philosophers are now explaining those long-term processes in terms of three cultural evolutionary mechanisms: gene-culture evolution, cultural niche construction, and cumulative culture. I conclude that our Epipalaeolithic-Neolithic transformation is similarly explicable in terms of contemporary cultural evolutionary theory, which enables us to tell the story of the great transformation in terms that are rapidly becoming universal

Fig. 2 Announcement of the first talk of the OnliNEOLITHIC Series by Trevor Watkins. (Design: G. Duru)

fulfilled. Along with contributing important research on sites such as Qermez Dere and Pınarbaşı (Watkins 1990, 1996), Trevor Watkins inspired and impacted the careers of the scholars involved in these projects. One of his most valuable contributions is his translation of Jacques Cauvin's (Cauvin 2000) seminal book *"The Birth of the Gods and the Origins of Agriculture"* which because it was written in French, was not widely accessible to the English-speaking world. This work has been critical in shaping current understanding of the Neolithic period. Trevor has also produced numerous articles on cognitive and evolutionary psychology of the human mind and culture and the emergence of the "modern" human mind and cultural systems of symbolic representations. These papers brought important new perspectives to Neolithic research over the last twenty-five years. We are grateful for his contributions and for his embracing, constructive and supportive attitude. For these reasons we chose to dedicate the first onliNEOLITHIC series in his honour.

### Reading the Southwest Asian Neolithic Through Differences

The main purpose of the first onliNEOLITHIC series was to consider the range of variability in Neolithic societies, by emphasizing differences rather than similarities.

The continual accumulation of archaeological knowledge since the early 1900s has provided a clear picture of the Neolithic way of life, yet in recent years our definitions and interpretations have frequently shifted with the advancement of new research programs and the collection of new data. We have discussed the Neolithic and continue to do so within a variety of theoretical frameworks and approaches (e.g. "the agricultural revolution", core-periphery relations and homogenous

cultural regions, cultural definitions based on chipped stone technologies, the "Neolithic package" and its expansion, "the golden triangle", "the birth of the gods", and others). Each approach offered invaluable insights into a period, region or topic, but at the same time made it even more difficult to understand the Neolithic in its entirety and defining the different mindsets and lifestyles during this period of profound change.

Nowadays, archaeologists often revisit previous approaches or re-evaluate sites excavated during the '60s and '70s with modern "tools" provided by the archaeological science. The stratigraphy, chronology, and terminology of Neolithic research, in a sense, has become a mound of data waiting to be excavated and analyzed with new methods. Recent research on the Neolithic aptly documents the independent formation of these new ways of life in different regions of Southwest Asia. The presence of distinct communities sharing the same landscape and circumstances highlights the importance of understanding the diverse nature of the Neolithic.

The keynote lecture of the OnliNEOLITHIC Series was presented by Trevor Watkins (Fig. 2). His talk titled "The fulcrum of the great transformation" highlighted the theoretical background and the critical importance of the Neolithic period within the long story of human history. The presentation was followed by a very lively discussion, as was the case also for the subsequent talks. The second speaker, Juan José Ibáñez, reported new data from his excavations at two spectacular sites, Tell Qarassa (Syria) and Kharaysin (Jordan). His comprehensive lecture was titled "From hunter-gatherer to farming societies – perspectives from the north of southern Levant (Qarassa and Kharaysin)". Marion Benz, Hans Georg K. Gebel and Christoph Purschwitz presented a variety of data types to highlight social differentiation during the LPPNB from Ba`ja in the Petra Area of Jordan. They detailed the close relationships between the living and the dead which created strong but

demanding collective memories. Cheryl Makarewicz and Bill Finlayson discussed how mortuary practices constructed communities and social networks in the Neolithic of southern Jordan. The talk was as appealing as the title of the presentation, “Bring us your dead”. “Then and now, 70 years of Neolithic studies in the Near East” was presented by distinguished scholars, Anna Belfer-Cohen and Nigel Goring-Morris. Their lecture detailed long-term cultural change especially in human burial practices across the long chronology of the Epipaleolithic and early Neolithic in the Levant and other regions of Western Asia. Ian Hodder presented a new perspective on Neolithic social organization in Southwest Asia based on recent data from Çatalhöyük. He introduced the terms “molar” and the “molecular” to describe shifting forms of egalitarianism across the occupation of the site. Jean-Denis Vigne and François Briois presented the recent results of the archaeological field work carried out in early Neolithic Cyprus from villages with pre-domestic cultivators, followed by developments in agriculture and stockbreeding. Douglas Baird summarized 20 years of excavation at the sites of Pınarbaşı and Boncuklu on the Konya Plain in central Anatolia. He interwove community identities, individual histories, and ritual and ancestral practices with the results of a variety of bioarchaeological, isotope and aDNA analysis. Ian Kuijt, the ninth speaker, focused on food shortage, risk and famine in the Neolithic. He drew attention to the insecurity, planning, and materiality of food storage and networks of food sharing during the emergence of early agricultural villages. Leore Grosman and Natalie Munro discussed the continuity of cultural traditions across the Epipalaeolithic and Neolithic boundary, beginning with their work at the Late Natufian site of Nahal Ein Gev II and expanding out to other Natufian and early Neolithic sites in the southern Levant. After a long break from his excavations at the Kömürcü-Kaletepe obsidian workshop in Cappadocia, Didier Binder presented data and recent interpretations on early PPNB obsidian networks and the transition to Neolithic in central Anatolia. In the final talk of the series, Mihriban Özbaşaran discussed Aşıklı, an early sedentary community in east Central Anatolia, and Güneş Duru presented Balıklı, a neighbouring community contemporaneous with Aşıklı. The presentation underscored the differences in material culture and lifestyles between the two neighbouring sites despite their co-existence in the same environment.

Over the course of 12 lectures, 19 researchers met with 600 different participants from numerous time zones in 20 countries including Australia, Austria, Azerbaijan, China, Cyprus, France, Germany, Greece, Iran, Israel, Italy, Japan, Jordan, Netherlands, Poland, Serbia, Switzerland, Turkey, United Kingdom, and the United States of America.

We felt that it was important that the language and visual design used to communicate the series reflect the digital flavor of the world we live in. The poster and videos were designed by Güneş Duru. Sera Yelözer and Melis Uzdurum designed and managed the web site, posted announcements on social media, recorded the lectures, handled the mailings and made sure the Zoom meetings ran smoothly. We are thankful to ex oriente for their social media posts and support, and grateful to all of our colleagues and peers for supporting our series through their attendance and enthusiasm.

Last but not least, we would like to announce the second series, onliNEOLITHIC II, that will be dedicated to the memory of the late Ofer Bar-Yosef, whose voluminous research program provided significant momentum for research on the Neolithic period in Southwest Asia and beyond. For details and program, please see [www.onlineolithic.com](http://www.onlineolithic.com).

#### **Güneş Duru**

Mimar Sinan Fine Arts University, Istanbul  
Conservation and Restoration of Cultural Property,  
Istanbul  
[gunes.duru@msgsu.edu.tr](mailto:gunes.duru@msgsu.edu.tr)

#### **Mihriban Özbaşaran**

Istanbul University  
Department of Prehistory  
[ozbasaranmihriban@gmail.com](mailto:ozbasaranmihriban@gmail.com)

#### **Bibliography**

- Cauvin J.  
2000 *The birth of the gods and the origins of agriculture*. Translation by T. Watkins. Cambridge: Cambridge University Press.
- Watkins T.  
1990 The origins of house and home? *World Archaeology* 21(3): 336-347.
- 1996 Excavations at Pınarbaşı: the early stages. In: I. Hodder (ed.), *On the surface: Çatalhöyük 1993-95 (Çatalhöyük Research Project 1)*: 47-58. Cambridge/ London: McDonald Institute for Archaeological Research, British Institute of Archaeology at Ankara.

## Revisiting the Hilly Flanks: The Epipalaeolithic and Neolithic Periods in the Eastern Fertile Crescent

Tobias Richter and Hojjat Darabi

In the past two decades research into the transition from hunting and gathering to agriculture has intensified in the Eastern Fertile Crescent, the region stretching from modern-day southeast Turkey, northwest Iran and northeast Iraq along the Zagros Mountains and its foothills towards southern Iran. To mark the end of the joint Iranian-Danish, six-year research project *Tracking Cultural and Environmental Change: the late Epipalaeolithic and early Neolithic in the Seimarréh Valley, central Zagros* we organized a five-day conference bringing together scholars working on the Epipalaeolithic-Neolithic transition in the Eastern Fertile Crescent. Due to ongoing travel restrictions imposed because of the COVID-19 pandemic the conference was held online, which enabled the participation of scholars from Iran, Turkey, Germany, Denmark, the United Kingdom, United States, Canada, and Japan, among others. Over the course of five days from 21<sup>st</sup>-25<sup>th</sup> June 2021, sixty-two papers were presented, including presentations on recent excavations and surveys, synthetic overviews, and specialist studies of botanical remains, faunal assemblages, human remains, geoarchaeology, paleoenvironment and material culture.

Presentations on the first day focused mostly on overviews and key debates within Neolithic research in western Asia. Barbara Helwing reviewed how past and recent research in the EFC had been shaped by and simultaneously shaped agendas in Neolithization research. Dorian Fuller discussed the varied range of plants that came under cultivation in various parts of the Fertile Crescent and the processes underlying their domestication and highlighted the diversity of crop packages in each sub-region of southwest Asia. Social interaction and the relationship of late Epipalaeolithic and early Neolithic communities throughout the Fertile Crescent, and the fundamentality of these relations for the Neolithization process, was the focus of Trevor Watkins' talk during the morning session. Subsequent presentations by Hojjat Darabi *et al.*, Douglas Baird, Nicolas Conard *et al.* and Roger Matthews and Hassan Fazeli Nashli all summarized the overall results of major ongoing fieldwork projects. Mehmet Özdoğan's talk focused on the dispersal of the Neolithic economy and way of life out of the Fertile Crescent to the west, while Frank Hole reflected on the work of Robert Braidwood and colleagues and its lasting influence on research agendas to this day. The keynote talk at the end of the first day was given by Melinda Zeder who provided a thorough overview and deeply engaging discussion of the history of research into the transition to agriculture, current research, and its relationship to broader debates in discussions of cultural evolution and domestication.

Day two of the conference was dominated by presentations reporting results of new fieldwork, such as Lee Clare and Moritz Kinzel's talk on Early Neolithic Göbekli Tepe, Abu Bakar Siddiq and Vecihi Özkaya's presentation about Körtik Tepe, and Marjan Mashkour *et al.*'s talk about the first excavations at Tapeh Qazānchi. In addition, Wendy Matthews spoke about issues surrounding sustainable land use and lifeways among early Neolithic societies in the EFC, while Riel-Salvatore *et al.* presented their work on the legacy collections and archive of Philip Smith's excavations at Ganj Dareh. The first half of the third day was reserved for fieldwork reports focusing on Iran, while the afternoon saw presentations about burial practices and archaeobotanical research, including new analyses of materials from Ganj Dareh and Göbekli Tepe (Fig. 1). A mix of papers ranging from reports about lithic analyses to zooarchaeology and ancient DNA studies, in addition to fieldwork reports, were presented on the fourth day (Fig. 2). These included papers on archaeobotany and zooarchaeology by Bendrey, Bangsgaard and Yeomans, Dal, de Groene and Asouti *et al.*, as well as several papers focusing on lithic analysis by Pichon, Zeidi and Conard, Shakuie *et al.*, Nishiaki, and Jayez.

The fifth and final day of the conference, although overall shorter, contained a number of interesting papers on ceramic technology by Petrova *et al.* and Bahrabani, radiocarbon chronology and modelling by Roe, as well as a series of papers about paleoenvironmental studies by Rabbani, Rostami *et al.* and Fleitmann *et al.* A final discussion took place during the afternoon of the last day.

Overall, the Revisiting the Hilly Flanks: The Epipalaeolithic and Neolithic periods in the Eastern Fertile Crescent allowed archaeologists and colleagues from related fields working along the eastern Taurus-Zagros



Fig. 1 Early Neolithic wall installation of wild sheep horn cores, Ganj Dareh excavations 2017. (Photo: Tracking Cultural and Environmental Change Project)



Fig. 2 An aerial view of the Epipalaeolithic rockshelter of Mar Gurgalan, Huleilan Valley, western Iran. (Photo: Reza Azizi)

arc to connect and exchange ideas and views with each other. Although the conference had to be held entirely online, this format enabled the participation of many colleagues from Iran and other countries in the region, as well as North America and Japan who might otherwise had not been able to take part. Special thanks should be given to the colleagues based in very different time zones who got in the very early morning or stayed online until late into the night to take part. In the final discussion participants highlighted that past and more recent research in the Eastern Fertile Crescent has marked this region out as a key area to understand the complementary and mosaic-like processes that underlay the gradual emergence and adoption of plant and animal domestication, sedentary and nomadic pastoralist lifestyles, as well as changes in social and ritual organization. While the participants also highlighted many gaps and issues that need to be overcome, this conference has made further vital step towards sharing the results of the research in the Neolithization of the Eastern Fertile Crescent with a wider audience. To this end, a volume of conference proceedings will be put together in the coming months. The presentations from the conference remain available on the conference

YouTube channel, which can be accessed here: [https://www.youtube.com/channel/UCx1o\\_UIBTqHRFmu-vMooBELw](https://www.youtube.com/channel/UCx1o_UIBTqHRFmu-vMooBELw).

*Acknowledgements:* The organizing committee would like to thank all the conference participants for their contributions, as well as Dr. Camilla Mazzucatto, Asta Salicath Halvorsen and Martin Løvgren Brøcker for administrative and technical help and support. The conference was made possible thanks to generous funding from the Christian Ludvid David Foundation, and was supported by the University of Copenhagen, Razi University and the Research Institute for Cultural Heritage and Tourism of the Islamic Republic of Iran.

**Tobias Richter**

Centre for the Study of Early Agricultural Societies,  
University of Copenhagen  
richter@hum.ku.dk

**Hojjat Darabi**

Department of Archaeology,  
Razi University, Kermanshah  
hojjatdarabi@gmail.com

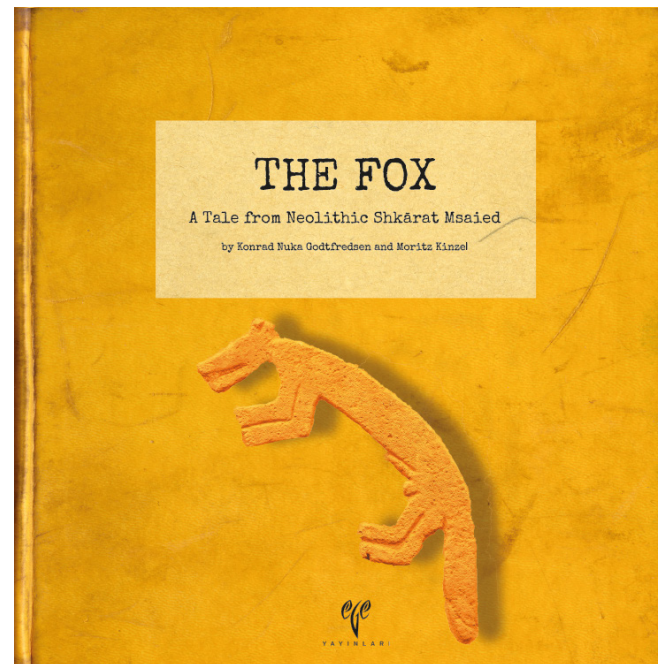
**Braun, Ricarda and Schönicke, Julia**

Review of Konrad N. Godtfredsen and Moritz Kinzel, 2020. *The fox: a tale from Neolithic Shkārat Msaied*. Istanbul: Ege Yayınları. ISBN 978-605-7673-50-3. € 15.

In order to bring archaeological knowledge closer to a broad public, for example in exhibitions, non-fiction books or historical novels, narrative structures are usually used. This always bears the risk that fictional elements have to be incorporated to create coherent and thus comprehensible narrative strands. The inclusion of fictional or non-researched features increases significantly in illustrations, regardless of whether a narrative is being told or whether it is a pure reconstruction. Nevertheless, illustrations depicting the everyday life of excavations or reconstructions of monuments go back as far as archaeological excavations themselves (Hageneuer 2016:359). Well known and impressive are e.g. the reconstructions of Assur by Walter Andrae (Andrae 1909) or of Babylon by Robert Koldewey (Koldewey 1913) even if they were created with some guesswork. However, illustrations tend to play a subordinate role in archaeological science communication. On the one hand, this is certainly due to the fact that science communication addressing a non-scientific audience is rarely appreciated by the academic community. On the other hand, it is also due to the difficulty that an illustration does not allow for either-or issues. Thus, with few exceptions (e.g., Swogger 2015:16; Rajic and Horwarth 2021), illustrated archaeological narratives remain limited to children's books. It is therefore all the more gratifying that the graphic novel *The Fox* not only dares to take the step of telling an illustrated narrative that is also addressed to an adult audience, but that it also reflects on the difficulties of such a publication, the process of creation and the decisions regarding the reconstructions that were made.

*The Fox* tells a story from the Neolithic site Shkārat Msaied (8340-7960 cal BCE, MPPNB), located in present-day Jordan and currently being excavated by a Danish research team. To venture the experiment of presenting excavation results in a graphically illustrated narrative, illustrator Konrad Nuka Godtfredsen and archaeologist Moritz Kinzel, as well as other excavation team members, worked closely together. That the book wholeheartedly dares to break science out of its ivory tower to reach a broad audience is not only evident in its design, but also in its additional open-access online publication (<https://sites.google.com/view/the-fox-neolithic-graphicnovel/home>), as well as in the multilingualism of the book, which is published in four languages (English, Danish, German, and Turkish). A translation into the national language of the excavation site (Arabic), which would be most desirable, is not yet available, but is in planning (personal communication, M. Kinzel; August 15, 2021).

The claim of the book is not to tell an adventure story or a tale on the basis of archaeological remains,



but to look behind the scenes of building a narrative in archaeology, in other words, to shed light on interpretation (1). This approach is also reflected in the three-part structure of the book: The first part (introduction) contains a short explanation of the objectives, the introduction of the research team and gives background information on the Neolithic society of Shkārat Msaied. The second part (graphic novel) that follows is again divided into three parts: 1. a prologue that refers to the excavation history; 2. a main part (called *The Fox*) in which the story of a Neolithic woman from Shkārat Msaied is told – embedded in various cycles of, for example, the seasons, iterative rituals or house renewal processes; and 3. an epilogue, in which one possible alternative way of creating the graphic novel is shown. In the following third part (concluding remarks) the process of storytelling as well as the topics addressed in the graphic novel are reflected against the background of the archaeological data.

The two different narrative strands (6-49 and 52-57), as well as the discussion in the epilogue, demonstrate in a way that is comprehensible to an audience not familiar with archaeology or with scientific practices that each interpretation is only one perspective or construction (namely our modern one) on a time period or an archaeological site (cf. 62). That excavation results often raise more questions than they answer is shown particularly subtly within the main section (*The Fox*), where discussions between excavation staff repeatedly interrupt and guide the main narrative (Fig. 1). Furthermore, these comments already indicate whether the images or reconstructions are based on archaeological data or not. In some cases, even references to further literature are given in the illustrations, as for example in the case of a depicted *chaîne opératoire* for flint knapping (22) or for the production of “greenstone” beads (23).

The archaeological data on which the illustrations are based are described in detail in the epilogue.



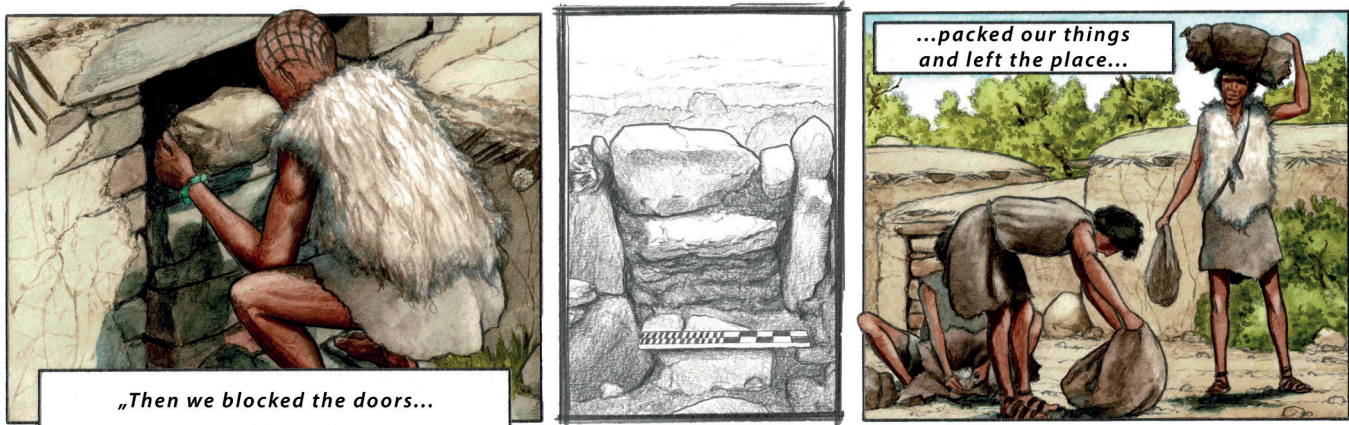


Fig. 1 The state in which archaeologists uncover a site corresponds to that in which it was abandoned. Here, the illustrations vividly interweave the archaeological findings (blocked entrance) with abandonment practices (people preparing to leave) and detachment from place (the community and their animals on the move). (48 in *The Fox*, drawing: K.N. Godtfredsen/ M.Kinzel)

Particular attention is paid to the research history of the excavation, the Neolithic architecture, the paleoenvironment or rather food production, the production of tools and beads (authored by Moritz Kinzel, Bo Dahl Hermansen, and Mette Bangsbord Thuesen; 60-71) as well as the handling of the dead, death rituals and shamanism (authored by Bo Dahl Hermansen; 72-78). Unfortunately, the epilogue neither explains nor discusses the presumed semi-nomadic lifestyle of the Neolithic community and the related abandonment processes of the houses or the settlement, although this issue plays a major role in the narrative. However, the omission of information is reasonable, since the book is not designed as a comprehensive overall presentation. A compromise was also chosen with regard to references, so that important, but not all, statements are proven by sources. Even if this approach does not correspond to scientific standards, it is quite adequate for a popular scientific publication and offers a suitable introduction that is not overwhelming for the non-specialist audience. In addition, the thematically sorted references in the appendix (82-84) are particularly helpful.

How a coherent narrative was developed in spite of the incomplete data is explained in detail: If there was not enough information available from Shkārāt Msaied, material from surrounding sites was first used for reconstructions, and finally information from the wider region or even occasionally from regions outside Southwest Asia (60-61). The fact that this approach is unusual for the scientists and led to painful decisions is clearly emphasized (60). Nevertheless, the discussion of the topic vividly shows to the reader the difficulties associated with narratives and already subliminally points to the necessary process of analogy-building in archaeology. In addition, the audience is introduced to topics that go beyond the excavations in Shkārāt Msaied. For example, reference is made to the Nevalı Çori-“totem pole”, the Nahal Hemar skull and to the plastered skulls from Jericho and ‘Ain Ghazal for the reconstruction of haircuts (66).

Analogy-building in archaeology is explained in particular detail in the context of death rituals (B.D. Hermansen; 70-79). Based on the description of the

findings in Shkārāt Msaied, the frequently used concept on *rites-de-passage* by van Gennep (1909) is used as a basis for interpretation. The separation of corpse parts and presumably cyclical redepositions traced in Shkārāt Msaied are considered in the broader context of archaeological finds of the region and their interpretations. Lastly, a possible special role of the woman is discussed, since her body was buried separately from the skull and mandible. In this context, ethnographic analogies are drawn to shamanistic practices. The methods of archaeological interpretation and storytelling are illustrated to the readers in an impressive way. Even if the conclusions are in part highly speculative, they are nevertheless easily comprehensible. For a few exceptions, however, one would have wished for more explanations. For example, it remains unclear why a vertical shamanism is assumed for Shkārāt Msaied, although the archaeological findings seem to speak for a rather egalitarian society.

Thus, while for most of the topics the background of the reconstructions and the assumptions are explained in great detail, the eponymous fox surprisingly is hardly discussed (62). Due to the find situation in House F, where both fox bones and the remains of a woman were found, a spiritual connection between the fox and the protagonist is assumed in the graphic novel. This assumption is mainly attributed to a daring and quite questionable interpretation of fox representations at Göbekli Tepe by J. Peters and K. Schmidt (2004). Whereby it is worth mentioning that also the fox on the cover of the book represents the “Göbekli Tepe fox”, which remains unmentioned in the book. Besides the depictions in Göbekli Tepe, foxes are almost absent in the Neolithic iconography (but see grooved stones from Jerf el Ahmar, Stordeur 2000). Although fox bones are quite frequent in Neolithic faunal assemblages, and even a human-fox burial is known (Maher *et al.* 2011), it cannot be concluded from these few findings that the fox was given a prominent symbolic role within Neolithic society. The interpretation of the fox as a mediator between the underworld and the world of the living is not only a very modern view but is also

strongly connected with its interpretation at Göbekli Tepe. If the depiction, or rather the interpretation, of foxes between female breasts from the Neolithic site of Çatalhöyük had been taken as a reference, the story might have revolved around topics of gender, power, or fleshly transformation (cf. Hodder 1987, 1990, 1999; Gifford-Gonzalez 2007).

Aside from the validity of the fox story, aspects whose reconstruction is not possible or only possible to a limited extent due to the data situation are dealt with very sensitively, not only in the discussion, but also in the illustrations. For example, the naming of persons was avoided as no information about language in the Neolithic is known today (62). Instead of using striking images or the typical narratives of popular science, these are deliberately addressed; for example, within the

alternative graphic story, in which the usual but outdated approach of depicting hunter-gatherers is described: “[...] the protagonists are primitive, wild and naked savages with bad health, hunger bellies, and behaviours that fulfill all gender clichés [...]”.

*The Fox* pursues highly ambitious and demanding goals, which, however, are inherently becoming a stumbling block themselves. What is appealing, but at the same time problematic, about the graphic novel format is the ability to bridge between fact and fiction. Such stories aim to arouse the reader’s interest in a topic. At the same time, they have to meet the demands of science to adequately convey results on the one hand, and on the other hand, they have to take into account the artistic freedom of the illustrator. This issue becomes visible, for example, in the discussion (64)



Fig. 2 Two children from Shkārat Msaied consider alternatives to circular building construction while looking into the future at the late PPNB settlement Ba’ja. As a gimmick, the children’s drawings refer to later appearing rectangular architecture, namely the Minoan labyrinth, the Palladian Villa Rotonda, and the Barcelona Pavillon of Mies van der Rohe. (40 in *The Fox*, drawing: K.N. Godtfredsen/ M.Kinzel)

about how to depict the research history (by the way the only “narrative” that is already existing or rather is documented). The illustrator decided to depict it in a somewhat counterintuitive way inspired by Indiana Jones (7). These changes do not violate any norm, nor do they serve common clichés. This, in turn, appears to be different when it comes to the representation of gender. Although the claim of the scientists was a representation that is as gender-neutral as possible (64-65), artistic freedom prevailed in some aspects. For example, the depiction of the female breast is overly idealized and strongly reminiscent of Godtfredsen’s typically erotically charged drawings.

In summary, *The Fox* introduces its readers comprehensively and thoroughly to important topics discussed in Neolithic research, such as the transition from round to rectangular architecture (Fig. 2), resource procurement and trade, or mortuary practices. The formation of narratives in archaeology certainly has its difficulties (cf. Pluciennik 2010; van Dyke and Bernbeck 2015 among others), and in some details, the claims of *The Fox* can be directed against the book project itself. For the same reason it is encouraging that Kinzel and Godtfredsen have embarked on this endeavor in a truly unconventional and profound way that enables the non-scientific public to participate in the scientific discussion. It would be highly desirable for archaeological projects not only to incorporate science communication more often in the future but also to accept it as a scientific responsibility to the public. Experimenting with different formats is very promising since archaeology is an attractive field for a broad audience, as is shown by the omnipresence of archaeological topics in the media (Notroff and Dietrich 2019). *The Fox* shows that it is possible to responsibly demonstrate the background and difficulties of archaeological narratives and still convey archaeological knowledge in an extremely attractive way. The result is a book that is a pleasure to read, look at, and think about, whether one is a layperson or a scientist with a background in the field.

**Ricarda Braun**

Department of Earth Science, Physical Geography,  
Free University Berlin  
ricarda.braun@fu-berlin.de

**Julia Schönicke**

Institute of Near Eastern Archaeology,  
Free University Berlin  
j.schoenicke@fu-berlin.de

## References

- Andrae W.  
1909 *Der Anu-Adad-Tempel in Assur*. Leipzig: Hinrichs'sche Buchhandlung.
- Gifford-Gonzales D.  
2007 On beasts in breasts. Another reading of women, wildness and danger at Çatalhöyük. *Archaeological Dialogues* 14(1): 91-111.
- Hageneuer S.  
2016 The influence of early architectural reconstruction drawings in Near Eastern Archaeology. In: R.A. Stucky, O. Kaelin and H.P. Mathys (eds.), *Proceedings of the 9<sup>th</sup> International Congress on the Archaeology of the Ancient Near East (Basel, 9-13 June 2014)* 1: 359-370. Wiesbaden: Harrassowitz.
- Hodder I.  
1987 Contextual archaeology. An interpretation of Çatal Hüyük and a discussion of the origins of agriculture. *Institute of Archaeology Bulletin* 24: 43-56.  
1990 *The domestication of Europe. Structure and contingency in Neolithic societies*. Oxford: John Wiley and Sons.  
1999 *The archaeological process. An introduction*. Oxford: Wiley-Blackwell.
- Koldewey R.  
1913 *Das wieder erstehende Babylon*. Leipzig: Hinrichs'sche Buchhandlung.
- Maher L.A., Stock J.T., Finney S., Heywood J.J.N., Miracle P.T. and Banning E.B.  
2011 A unique human-fox burial from a Pre-Natufian cemetery in the Levant (Jordan). *PLoS ONE* 6(1): e15815. <https://doi.org/10.1371/journal.pone.0015815>
- Notroff J. and Dietrich O.  
2019 But what is it good for? – Experiences in public outreach of the Göbekli Tepe Project (DAI). *Archäologische Informationen* 42: 289-302.
- 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): 179-218.
- Pluciennik M.  
2010 Is narrative necessary? *Ethnographisch-Archäologische Zeitschrift* 51(1-2): 48-63.
- Rajic M. and Howarth D.  
2021 Hollis Croft: a matter of time, Wessex Archaeology. <https://doi.org/10.11141/ia.56.4.comic>.
- Stordeur D.  
2000 Jerf el Ahmar et l'émergence du Néolithique au Proche Orient. In: J. Guilaine (ed.), *Premiers paysans du monde. Naissances des agricultures*: 33-60. Paris: Errance.
- Swogger J.G.  
2015 Ceramics, polity, and comics: visually re-presenting formal archaeological publication. *Advances in Archaeological Practice* 3(1): 16-28. <https://doi.org/10.7183/2326-3768.3.1.16>.
- van Dyke R.M. and Bernbeck R. (eds.)  
2015 *Subjects and narratives in Archaeology*. Boulder: University Press of Colorado.
- van Gennep A.  
1909 Les rites de passage. Rééditions de la Maison des Sciences de l'Homme, 5. New York/ Paris: Johnson Reprint corporation/ la Haye.

**Braun, Ricarda**

*The demythologization of landscape: landscape research in the context of prehistoric societies – the example of the Neolithic site of Göbekli Tepe.* 2021. PhD Thesis, Free University Berlin.  
Supervisors: Brigitta Schütt, Ricardo Eichmann

**Summary**

The Neolithic site of Göbekli Tepe in southeastern Turkey is described in the literature as unique (e.g., Schmidt 2011, 2013; Notroff *et al.* 2016; for the reception of Göbekli Tepe see Martin 2015; but *cf.* Banning 2011; Clare and Kinzel 2020; Kinzel and Clare 2020). Common assumptions about the site are, for example, that it was located on the highest point of the Germuş Mountains, it was widely visible, and it afforded the opportunity for efficiency, prominence or control (e.g., Beile-Bohn *et al.* 1998; Neef 2003; Schmidt 2011; Notroff *et al.* 2014, 2015; Gheorghiu 2015; Dietrich *et al.* 2016; Caletti 2020). These, among other assumptions, are used as reasons for the hypothesis that Göbekli Tepe served as a central ritual site and meeting place, which acted as a driving force for the spread of

Neolithization. However, this doctoral thesis proposes an alternative interpretation or narrative, starting from the premise that the previous narrative is built on a conception of the landscape, which is not, in fact, based on any investigation. In my opinion, this conception was formed rather by projecting the singularity ascribed to the archaeological site onto the landscape by way of semantic transfer. I assume that this conception of the landscape primarily reflects ideas that have been developing since the early modern period, and thus the self-conception and ontology of recent researchers.

The objective of this thesis, therefore, is to provide verifiable landscape analyses while critically reflecting on one’s own positionality and perception (Fig. 1). The landscape analyses are therefore preceded by a cultural-historical examination of various patterns of thought and perception in relation to space, landscape, history, and archaeology which have developed since the early modern period. Following a hermeneutic approach, the landscape of Göbekli Tepe is then examined from related, progressive perspectives that correspond to different concepts of landscape or space.

The analyses show that ideas such as efficiency, prominence or control cannot be applied to Göbekli Tepe in their contemporary sense. Rather, the results

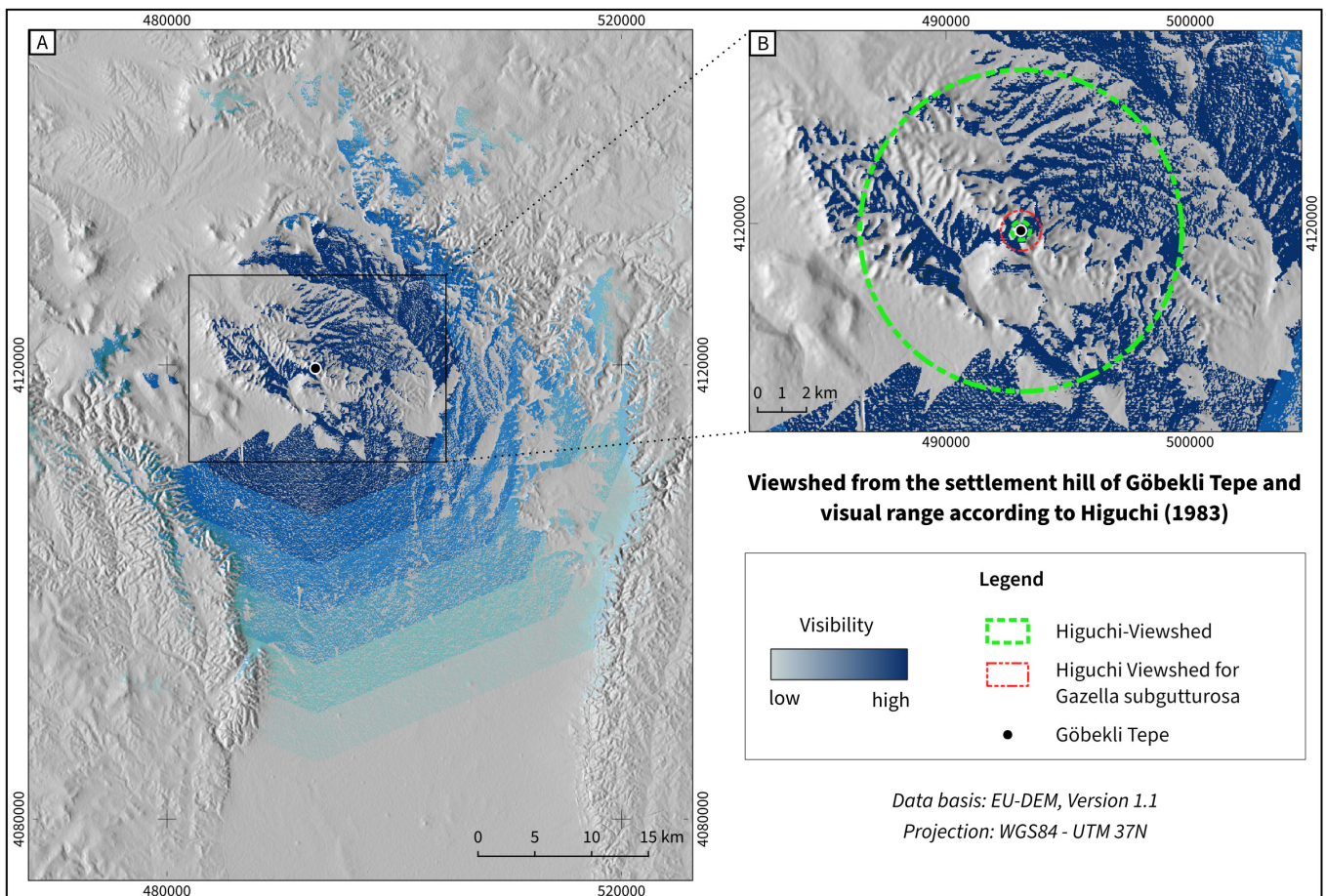


Fig. 1 A Viewshed from the plateau of Göbekli Tepe. B Detailed view with visual range after Higuchi (1983). Inner green circle: transition from short to middle distance view. Outer green circle: transition from middle to far distance view. Red circle: transition from middle to far distance view related to goitered gazelle. The transition from the near to the middle distance view related to gazelles cannot be shown due to its limited extent. (Maps: R. Braun)

indicate that the buildings of the site are neither a deliberate construction of a symbolic landscape nor are they structures planned with the aim of having an external impact. Instead, their construction process is seen as the result of an organic interaction between the availability of materials and the nature of the environment, as well as internalized building forms. The T-pillar buildings probably reflect the transition from non-permanent, mobile tents to permanent constructions (Fig. 2). Their “monumentality” is more likely to have emerged from an autotelic motivation. Both, the immaterial (e.g., “symbolic”) and material nature of the T-pillar buildings, are to be regarded as an expression of the struggle to deal with a changing lifestyle in the early Neolithic. My assumption is that the Neolithic transition not only brought with it economic, social and psychological consequences (e.g., Benz and Bauer 2013), but that it also led to a questioning or endangering of world views and belief systems. Instead of being interpreted as a place where Neolithization was driven forward, as has been mostly assumed so far (e.g., Schmidt 1998, 2005; Notroff *et al.* 2016; cf. Morenz and Schmidt 2009), Göbekli Tepe is interpreted as a place where the Palaeolithic way of life and associated belief systems were consciously adhered to (cf. Benz and Bauer 2013; Clare and Kinzel 2020; Watkins 2019).

In terms of distance to resources, it is found that Göbekli Tepe was favourably located in many respects; a modeling of potential migration corridors of the goitered gazelle indicates that it was centrally located between summer and fall grazing grounds. Yet, resource availability was nearly uniform across the greater region. Therefore, the choice of location should not be understood as strategic and efficiency-oriented (as we understand it today), but rather as an attraction to places with known structures and conditions. That is, the choice was not an exclusively rational one but rather was rooted in a complex process that served the various requirements of a hunter-gatherer lifestyle.

Indeed, Göbekli Tepe is by no means located on the highest point of the Germuş Mountains, but on one of its lowest plateaus. The wide view of its surroundings which it is usually credited with is, in fact, limited to distant areas, while its immediate surroundings are visible in a restricted way (Fig. 1). Thus, the possibility of gaining a direct view of the settlement was also limited. The location of Göbekli Tepe did not, therefore, offer prominence and control. Rather, it offered protection on the one hand, and, due to its good view of its distant surroundings, an openness of space on the other, which also facilitated swift information gathering (regarding the landscape).

Based on their site characteristics (such as mountainousness, water supply, proximity to resources, *etc.*), the known sites with T-shaped pillars can be divided into three groups that presumably represent a chronological sequence. Göbekli Tepe can be assigned to the first group. The second group of sites follows the location patterns of Göbekli Tepe in many respects, but the openness of the space decreases sharply. In line with

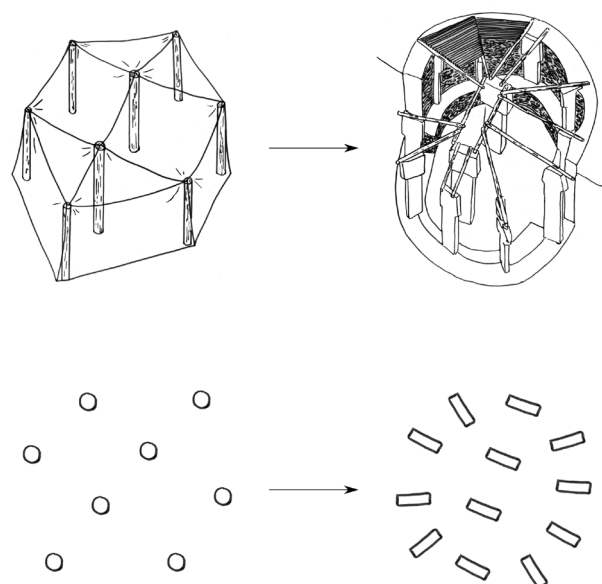


Fig. 2 Schematic drawing: perspective view (top) and plan (bottom) of the transformation process of non-permanent mobile tents (left) into permanent buildings with T-pillars (right). (Reconstruction of T-pillar building [top right] adapted from Kurapkat 2015: fig. 234; drawings: R. Braun).

the argument that the T-pillar phenomenon represents a society that held to Palaeolithic values and saw itself as endangered, we may conjecture that these sites indicate a strengthening desire to occupy hidden, safe settlements. The third group shows a settlement pattern that is now more strongly oriented toward plains. The concern for security is still found to a reduced extent, but the sites' location at the edge of plains now offers a considerable opening of space and proximity to potential agricultural land. The T-pillar sites of this third group are interpreted as locations of shared memory, where the former, Palaeolithic values are only reflected in a traditional, transformed form. They already point to the subsequent loss of significance in the late PPNB, which led to the abandonment of the T-pillar architecture and a further transformation of the underlying belief systems.

**Ricarda Braun**

Department of Earth Science, Physical Geography,  
Free University Berlin  
ricarda.braun@fu-berlin.de

## References

- 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 Anthropology* 52(5): 619-660.
- Beile-Bohn M., Gerber C., Morsch M. and Schmidt K.  
1998 Neolithische Forschung in Obermesopotamien. Gürcütepe und Göbekli Tepe. *Istanbuler Mitteilungen* 48: 5-81.
- Benz M. and Bauer J.  
2013 Symbols of power - symbols of crisis? A psycho-social approach to early Neolithic symbol systems. *Neo-Lithics* 2/13: 11-24.

- Caletti C.C.  
2020 Göbekli Tepe and the sites around the Urfa Plain (SE Turkey): recent discoveries and new interpretations. *Asia Anteriore Antica. Journal of Ancient Near Eastern Cultures* 2: 95-123.
- Clare L. and Kinzel M.  
2020 Response to comments by Ian Hodder and Christian Jeunesse with notes on a potential Upper Mesopotamian ‘Late PPNA Hunter-Crisis’. In: A.B. Gebauer, L. Sørensen, A. Teather and A.C. de Valera (eds.), *Monumentalising life in the Neolithic: narratives of change and continuity*: 61-68. Philadelphia: Oxbow.
- Dietrich O., Notroff J., Clare L., Hübner C., Köksal-Schmidt Ç. and Schmidt K.  
2016 Göbekli Tepe, Anlage H. Ein Vorbericht beim Ausgrabungsstand 2014. In: Ü. Yalçın and M. Özdoğan (eds.), *Anatolian Metal VII: Beiträge des im November 2013 in Bochum ausgerichteten internationalen Symposiums „Anatolian Metal VII“*. Der Anschnitt. Beiheft 31: 53–70. Bochum: Deutsches Bergbau-Museum.
- Gheorghiu D.  
2015 A river runs through it: the semiotics of Göbekli Tepe’s map (an exercise of archaeological imagination). In: A. Vianello (ed.), *Rivers in prehistory*: 65-75. Oxford: Archaeopress.
- Higuchi T.  
1983 *The visual and spatial structure of landscapes*. Cambridge: MIT Press.
- Kinzel M. and Clare L.  
2020 Monumental – compared to what? A perspective from Göbekli Tepe. In: A.B. Gebauer, L. Sørensen, A. Teather and A.C. de Valera (eds.), *Monumentalising life in the Neolithic: narratives of change and continuity*: 29-48. Philadelphia: Oxbow.
- Kurapkat D.  
2015 *Frühneolithische Sondergebäude auf dem Göbekli Tepe in Obermesopotamien und vergleichbare Bauten in Vorderasien*. PhD Thesis. Berlin: Technical University.
- Martin J.  
2015 The temple and the trees. *Current writing: text and reception in Southern Africa* 27(1): 61-77.
- Morenz L.D. and Schmidt K.  
2009 Ein frühneolithisches Zeichensystem in Obermesopotamien. In: P. Andrassy, J. Budka and F. Kammerzell (eds.), *Non-textual marking systems, writing and pseudo script from prehistory to modern times*. *Lingua Aegyptia – Studia Monographica* 8: 13-31. Göttingen: Seminar für Ägyptologie und Koptologie.
- Neef R.  
2003 Overlooking the steppe-forest: a preliminary report on the botanical remains from early Neolithic Göbekli Tepe (southeastern Turkey). *Neo-Lithics* 2/03: 13-16.
- Notroff J., Dietrich O., Peters J., Pöllath N. and Köksal-Schmidt Ç.  
2015 What modern lifestyles owe to Neolithic feast. The early mountain sanctuary at Göbekli Tepe and the onset of food-production. *Actual Archaeology* 15: 32-49.
- Notroff J., Dietrich O. and Schmidt K.  
2014 Building monuments – creating communities. Early monumental architecture at Pre-Pottery Neolithic Göbekli Tepe. In: J. Osborne (ed.), *Approaching monumentality in archaeology*: 83-105. Albany: State University of New York Press.
- 2016 Gathering of the dead? The early Neolithic sanctuaries of Göbekli Tepe, southeastern Turkey. In: C. Renfrew, M.J. Boyd and I. Morley (eds.), *Death rituals, social order and the archaeology of immortality in the ancient world. “Death shall have no dominion”*: 65-81. Cambridge: Cambridge University Press.
- Schmidt K.  
1998 Frühneolithische Tempel. Ein Forschungsbericht zum präkeramischen Neolithikum Obermesopotamiens. *Mitteilungen der Deutschen Orientgesellschaft zu Berlin* 130: 17-49.
- 1999 Frühe Tier- und Menschenbilder vom Göbekli Tepe - Kampagnen 1995-98. Ein kommentierter Katalog der Großplastik und der Reliefs. *Istanbuler Mitteilungen* 49: 5-19.
- 2005 “Ritual Centers” and the Neolithisation of Upper Mesopotamia. *Neo-Lithics* 02/05: 13-21.
- 2010 Göbekli Tepe – the stone age sanctuaries. New results of ongoing excavations with a special focus on sculptures and high reliefs. *Documenta Praehistorica* 37: 239-256.
- 2011<sup>3</sup> Göbekli Tepe. In: M. Özdoğan, N. Başgelen and P.I. Kuniholm (eds.), *The Neolithic in Turkey: new excavations and new research 2. The Euphrates Basin*: 41-83. Istanbul: Archaeology and Art Publications.
- 2013 Adler und Schlange – “Großbilder” des Göbekli Tepe und ihre Rezeption. In: Ü. Yalçın (ed.), *Anatolian Metall VI. Der Anschnitt. Beiheft 25. Veröffentlichungen aus dem Deutschen Bergbau-Museum* 195: 145-152. Bochum: Deutsches Bergbau-Museum.
- Watkins T.  
2019 When do human representations become superhuman agents. In: J. Becker, C. Beuger and B. Müller-Neuhof (eds.), *Iconography and symbolic meaning of the human in Near Eastern Prehistory*. OREA 11: 225-236. Vienna: Austrian Academy of Sciences Press.

## Gündüzalp, Sidar

*Beginning and development of pottery use in Upper Mesopotamia in the light of Sumaki Höyük data.* 2021. PhD Thesis, Istanbul University.

Supervisors: Necmi Karul, Aslı Erim-Özdoğan

The aim of this PhD thesis is to understand the beginning and development process of the use of pottery in Upper Mesopotamia by evaluating existing hypotheses and revealing new data gathered from Sumaki Höyük, located in the lower valley of Garzan, one of the major tributaries of the Tigris River. Over the last two decades, research has provided new insights on the beginning of pottery production and more information about the onset of the Pottery Neolithic (PN) in Southwest Asia. In this context, there are several key research questions on which this thesis focuses:

1. Is the *Early Mineral Tempered Pottery* at Sumaki at the beginning of the 7<sup>th</sup> millennium BCE locally produced or imported? What are the technological and typological similarities and differences between Sumaki Höyük and the contemporary *Early Mineral Tempered Pottery* assemblages?
2. What is the *chaîne opératoire* of the *Early Mineral Tempered Pottery*? Did the technology of these vessels change during the 7<sup>th</sup> millennium BCE?
3. What is the function of the initial pottery of Southwest Asia? What are the outcomes of the typological and organic residue analyses conducted for Sumaki pottery in relation to the subsistence and diet of the Neolithic settlers from the site?
4. To what extent do the changes in typological features of mineral tempered pottery in the 7<sup>th</sup> millennium BCE testify to regional traditions

and cultural boundaries?

5. What is the relationship between the plant tempered and *Early Mineral Tempered Pottery*? Is it possible to define a “transition” between the two?

The initial pottery of the Neolithic appeared in several settlements in Upper Mesopotamia and the Northern Levant at the start of the 7<sup>th</sup> millennium BCE (Fig. 1). The early PN settlements are generally just above the virgin soil and are attested independently from the Pre-Pottery Neolithic (PPN), which is culturally significantly different. However, the first PN at Akarçay Tepe, Tell Seker al-Aheimar and Tell Sabi Abyad demonstrates continuity from the PPN concerning architecture and chipped stones. The *Early Mineral Tempered Pottery* emerged as a new element in these settlements in the first half of the 7<sup>th</sup> millennium BCE. It seems that pottery technology was developed by other societies simultaneously and circulated in Upper Mesopotamia and the Northern Levant, while the PPN tradition continued in some parts of Southwest Asia. Despite the variability in evidence regarding settlement patterns or chipped stone assemblages, the initial pottery of Southwest Asia appears to be relatively homogenous on a number of sites and exhibits similar features. These pottery assemblages consist of mineral-tempered, hole-mouth shaped, burnished, mostly dark-surfaced vessels with lugs close to the mouth on both sides. In the second quarter of the millennium, pottery production increased, followed by the emergence of plant-tempered pottery after c. 6500 BCE. The plant tempered pottery spread throughout Southwest Asia and symbolises diversification of ware types which go in line with the appearance of regional traditions (Bader and Le Mière 2013).

The results of this research are based on the study of 42.484 pottery sherds (10.246 mineral tempered and 32.184 plant tempered) deriving from different layers of

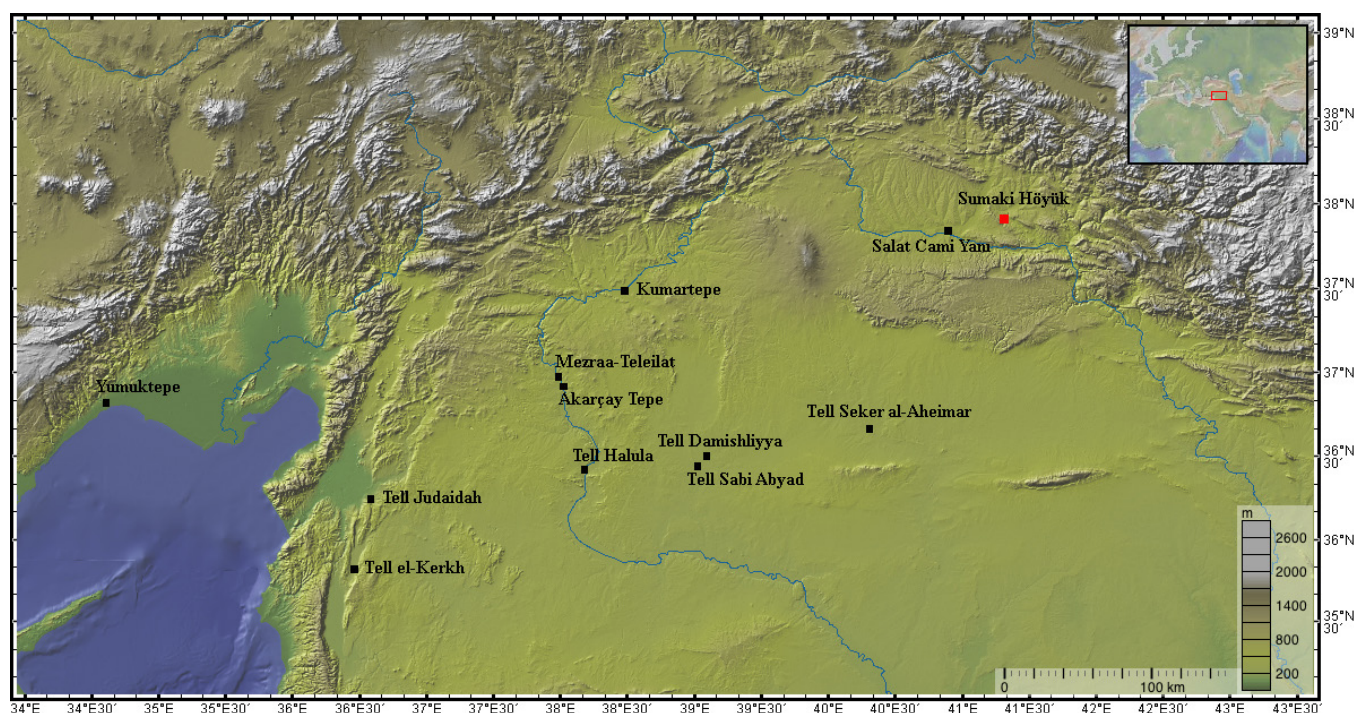


Fig. 1 Map of Early Mineral Tempered Pottery sites. (Map: Gündüzalp 2018: Fig.1)



Fig. 2 Hole-mouth wares and boxes of Early Mineral Tempered Pottery from Sumaki Höyük. Scale 10cm. (Photo: S. Gündüzalp, Sumaki Höyük Excavation Archive)

Sumaki, dating between 7327-7036 to 6350-6200/6150 BCE. Sumaki Höyük was excavated in a wide area (2.180m<sup>2</sup> in total), thus enabling a large pottery sample study (Fig. 2). In this context, Sumaki Höyük provides significant evidence for understanding the early stages of pottery production. The earliest settlement phase (N7) shows that pottery was produced in large quantities even from the initial stages of the technology, in opposition to earlier convictions. The second result is that the initial pottery did not only consist of hole-mouth shaped vessels. Boxes, which are found only at Sumaki straight from the start of the occupation, prove that different pots were probably used for particular purposes (not only for cooking) from the beginning of pottery production (Gündüzalp 2018). According to organic residue analyses, the hole-mouth pots were used for cooking or food preparation although in all likelihood these pots were multi-purpose.

There were notable changes in settlement patterns, small finds, and other cultural elements of Sumaki Höyük during the 7<sup>th</sup> millennium BCE (Erim-Özdoğan and Sarıaltun 2018). Nevertheless, there was no substantial change in the *Early Mineral Tempered Pottery* during the first half of the millennium. Bearing this in mind and regarding contemporary settlements in Upper Mesopotamia and the Northern Levant, it is possible to suggest that pottery was a valuable invention for Neolithic societies with different subsistence strategies and settlement patterns.

The mineral temper in its paste is one of the significant features of the initial pottery of Southwest Asia. Despite differences between the Early PN settlements, Neolithic people preferred mostly volcanic minerals as temper, and depending on geographical conditions and mineral sources, calcite, grit, sand, and other minerals

were used intensively. Regardless of which mineral was added to the paste, minerals with a low coefficient of expansion or close to clay minerals have always been preferred. The most commonly used mineral at Sumaki Höyük is basalt. Volcanic carbonate and calcite, albeit at a low rate, were also added to paste from the first settlement phase. Plant temper was never used in the first half of the 7<sup>th</sup> millennium BCE in the *Early Mineral Tempered Pottery*. A few sherds with plant temper were found from the beginning of the second half of the millennium, but it was always added together with basalt. Thus, it is not possible to talk about a gradual transition in the use of temper (from mineral to plant) at Sumaki Höyük. The preliminary P-EDXRF analyses of basalt temper in the sherds and the nearest basalt sources (located approximately 3km away from the mound) show close similarities. WDXRF analyses conducted on a part of the Sumaki assemblage underline the differences in trace element composition between Sumaki and other Upper Mesopotamian Early PN settlements (Gündüzalp *et al.* in prep.). These results emphasize the local production of the *Early Mineral Tempered Pottery* of Sumaki. XRD analyses point out the similar mineralogical character of the assemblage. The mineralogical analyses also show that the Neolithic pottery of Sumaki Höyük was fired probably in a bonfire, between 600-750 °C, and the firing process might have been swift.

The size and paste composition of the hole-mouth vessels and boxes did not change much during the initial stage of production. From phase N3 onwards (dating to 6534-6368 cal BCE), or in other words, after plant tempered pottery emerged in different regions of Southwest Asia, pots with everted rims and necks appeared in the *Early Mineral Tempered Pottery* group



at Sumaki in small quantities, and the boxes disappeared. In the following phase N2-N1, plant tempered Proto-Hassuna pottery was the dominant group at Sumaki, while *Early Mineral Tempered Pottery* was still in use in small numbers in the last quarter of the 7<sup>th</sup> millennium BCE. As a result, there was no transition from the *Early Mineral Tempered Pottery* to Proto-Hassuna. The Proto-Hassuna tradition did not wholly replace mineral tempered pottery, but one can suggest that plant tempered pottery had affected former mineral tempered traditions in the second half of the 7<sup>th</sup> millennium BCE.

The latest settlement layers of Sumaki Höyük contain vast quantities of Proto-Hassuna pottery. The paste components, temper choice, building and firing techniques of Proto-Hassuna pottery are considerably different to the initial mineral tempered pots. The most remarkable change lies in the amount produced; in about two hundred years, three times more plant tempered pottery was produced than mineral tempered pots were produced in over seven hundred years. With the Proto-Hassuna, the types of vessels also diversified, and specific vessels were produced for different purposes. The assemblage is similar to contemporary settlements (e.g., Yarim Tepe I, Tell Sotto, Umm Dabaghiyah, Tell Kashkashok, Salat Cami Yanı) in Upper Mesopotamia, especially those situated in the Upper Tigris Valley. According to general characteristics, the Sumaki assemblage of plant tempered wares can be defined as typical Proto-Hassuna pottery. However, as with all Proto-Hassuna settlements, the plant tempered pottery of Sumaki Höyük has distinctive features. Among the assemblage, the oval or straight bowls (which have straight and shallow or elliptic bodies) and husking-tray like vessels that may have been used for cooking are noteworthy (Fig. 3). There are no lugs, handles or firing clouds on the vessels, so these were not placed directly on the fire. These observations indicate that it was not only the choice of temper and vessel form that changed with the Proto-Hassuna pottery, but also food preparation and cooking practices.

To sum up, the thesis focuses on the first thousand years of pottery production in Southwest Asia using data gathered from Sumaki Höyük. This framework was studied using a reasonably large sample that provided a better understanding of the initial stages of pottery production and was mainly focused on the study of technological and typological variability within the assemblage. Chemical, mineralogical and organic residue analyses hint at the origin and *chaîne*



Fig. 3 Straight and oval wares of Proto-Hassuna Pottery from Sumaki Höyük. Scale 20cm. (Photo: S. Gündüzalp, Sumaki Höyük Excavation Archive)

*opératoire* of the mineral and plant tempered pottery. The pottery assemblage of Sumaki Höyük has provided a new element for addressing the beginning of pottery production and cultural changes during the 7<sup>th</sup> millennium BCE.

**Sidar Gündüzalp**  
gunduzalpsidar@gmail.com

## References

- Bader N. and Le Mière M.  
2013 From Pre-Pottery Neolithic to Pottery Neolithic in Sinjar. In: O.P. Nieuwenhuys, R. Bernbeck, P.M.M.G. Akkermans and J. Rogasch (eds.), *Interpreting the late Neolithic of Upper Mesopotamia*: 513-520. Turnhout: Brepols Publishers.
- Erim-Özdoğan A. and Sarıaltun S.  
2018 Sumaki Höyük Batman/ Beşiri. In: F. Baş (ed.), *Batman Müzesi İlisu Barajı HES Projesi Arkeolojik Kazıları*: 55-88. Batman: Fikirzen Ajans Reklamcılık.
- Gündüzalp S.  
2018 Yukarı Mezopotamya'nın İlk Çanak Çömlek Grubunda Farklı Bir Form: Kutular. *Anadolu Prehistorya Araştırmaları Dergisi (APAD)* 4: 103-118.
- Gündüzalp S., Thirion-Merle V. and Le Mière M.  
in prep. The chemical analyses of Sumaki Höyük pottery (working title).

## In Memoriam Carole McCartney

Vasiliki Kassianidou, Laurence Astruc and François Briois

We found it extremely hard to believe that our colleague and friend Carole McCartney has left us. Our thoughts are with her family.

Carole McCartney (Fig. 1) studied archaeology at the University of Edinburgh and came to Cyprus for the first time in 1987 as a member of Eddie Peltenburg's team excavating a number of Chalcolithic sites in the Paphos district. This initial visit was decisive in many respects, as Carole became attached to Cyprus both in her professional and her personal life – she met and married Pambos Michael and moved to Kissonerga where they lived together with their two children Katerina and Emilios. She went on to receive her Master in 1989 and then her PhD in 1996 from the same University. The topic of her doctoral thesis was *The analysis of variability in simple core technologies: case studies of chipped stone technology in Post-PPN assemblages from the Levant*. On completion of her thesis Carole continued to do research at a post-doctoral level on a variety of ancient materials but of course her main focus has always been the chipped stone. Her approach was not solely technical but also theoretical as she explained “A focus on stone technology enables

me to explore a variety of research issues including cultural identity, raw material utilization, trade, and technological practice across time and space”.

The fact that over the last thirty years she worked as a lithic specialist for a number of excavations and surveys in Jordan, Syria, Israel, and of course Cyprus, means she was one of the best known and sought-after lithic experts in the Eastern Mediterranean region. She presented the results of her research in scientific journals, conference proceedings, and monographs (*cf.* bibliography).

Having studied the chipped stone industries of the region for so long, it is not surprising that she was one of the first archaeologists to identify the early date and importance of the material coming out of the Mylouthkia wells in Kissonerga, the lower strata of Kalavassos-Tenta and the sites recorded during the *Sydney Cyprus Survey Project*. These finds pushed the limits of the Neolithic in Cyprus to the period known as the Pre-Pottery Neolithic B or PPNB of the Levant, thus opening a whole new chapter in the island's prehistory. Her involvement with other projects showed that initial, pre-Neolithic inhabitants visits to the island were even earlier, and that Akrotiri-Aetokremnos is not a unicum.



Fig. 1 Carole McCartney smiling happily during one of the field seasons at Ayia Varvara-Asprokremmos. (Photo: S. Manning)



Fig. 2 Carole McCartney in the Cyprus Museum and its new Early Neolithic Period section which she helped to put up. (Photo: T. Moutsiou)



Fig. 3 Carole McCartney analysing lithics from Ayia Varvara-Asprokremmos. (Photo: S. Manning)

More recently she was working on the material from the ancient site excavated by Nikos Efstratiou in the Paphos Forest, Ayios Ioannis-Roudias.

It was her wish to understand better and unravel the origins of the Neolithic in Cyprus, however, which led her to finally initiate a project entitled *Elaborating Early Neolithic Cyprus Project* (EENC) in 2005. This international cooperation between the University of Cyprus, Cornell University and Trent University undertook intensive survey in the margins of the pillow lavas, in order to record lithic scatters, as well as, chert sources. Eventually the main focus of the project turned to the excavation of what looked like the most promising site within the survey area, and that is Ayia Varvara-Asprokremmos. The initial intuition was proven correct, and the excavations have unraveled one of the most important prehistoric sites of the island. Through the study of this rather unique and very specialized site Carole McCartney was able to reconsider the earliest phase of the Neolithic. It is there that she discovered the oldest known sculpture in Cyprus now on display in the Cyprus Museum of Nicosia dating to 10,600 years ago. <http://www.sci-news.com/archaeology/science-ayia-varvara-asprokremmos-01608.html>

In 2016 she co-organized at the University of Cyprus together with Vasiliki Kassianidou, Laurence

Astruc and François Briois, the 8<sup>th</sup> PPN Chipped and Ground Stone Industries of the Near East Conference: *Near Eastern Lithic Technologies on the Move Interactions and Contexts in the Neolithic Traditions*, which was attended by a great number of archaeologists from all over the world (Fig. 5). The proceedings have been published in the Studies in Mediterranean Archaeology Series of Astrom Editions, edited by Jennifer Webb.

Since 2019 she held a post-doctoral position at the University of Cyprus working with Vasiliki Kassianidou, Stella Demesticha, and Dora Moutsiou, with Daniella Bar Yosef and other colleagues from Israel and colleagues from the Cyprus University of Technology on a project coordinated by Phaedon Kyriakides and entitled *Delineating probable sea routes between Cyprus and its surrounding coastal areas at the start of the Holocene: a simulation approach*.

We were fortunate that for personal reasons Carole McCartney chose Cyprus to be her home since 1995, and even more fortunate that since 2005 she was officially affiliated with the University of Cyprus as an honorary research fellow. McCartney was one of the leading experts on Cypriot lithics (Fig. 3) and knew the early prehistory of Cyprus better than anyone. Her work was greatly respected. With her passing she leaves a huge gap which will be hard to fill. She was a wonderful colleague. She was patient with the youngest researchers and was eager to train the new generation of archaeologists studying in our Department (Fig. 4).

We will miss her *joie de vivre* and her fantastic sense of humor. Thanks to her human qualities and scientific abilities, she left great memories wherever she worked and among all field teams she joined. We remember these long-lasting discussions in front of lithic assemblages coming from all parts of Cyprus among which were Asprokremmos, Roudias, Kalavassos-Tenta, Klimonas, Shilourokambos and Khirokitia. Sharing was part of her personality. She organized in Caari in 2016, for the PPN conference on the lithic assemblages of the Near-East, a workshop exhibiting a full collection of Cypriot lithic assemblages to share with other scholars and students her knowledge.

We had a lot of fun with her while studying Neolithic or Chalcolithic material, visiting sites, having excursions, and working on manuscripts. We keep memory



Fig. 4 Carole McCartney talking about lithics to a group of students from the University of Cyprus. (Photo: O. Kouka)



Fig. 5 Carole McCartney organising the PPN8 Conference with Laurence Astruc and François Briois. (Photo: J.D. Vigne).

of our latest happy and lively discussions in the village of Khirokitia on a paper on Kalavassos-Tenta lithic industries she was preparing for the forthcoming book in memory of Eddie Peltenburg. The visit of the fabulous site of Asprokremmos that she brilliantly excavated together with Paul Croft and the visit of the ochre quarries in the neighbourhood will stay forever in our minds in reason of the tremendous interest of the site for the Cypro-PPNA and of her warm and friendly welcome. She was so happy to participate to the organisation of the 8<sup>th</sup> PPN lithic conference in Nicosia (Fig. 5). The aim was to bring the focus on the island research of the two last decades demonstrating that a large reappraisal of the Neolithisation of the Near East was urgent. She was proud to have accomplished with the team of the archaeological museum of Nicosia the latest room on the Early Neolithic and took this as one of her greater accomplishments in her last years (Fig. 2).

Above all she was a wonderful person, a good and dear friend. She was fully part and a key fellow of the “family” of the PPN specialists of the Near East, attending most of the conferences and taking part with relevance to our lively debates.

Born in 1965, Carole passed away on Saturday, 13<sup>th</sup> of March 2021. Carole, you leave a tremendous void in our community and we will miss your precious scientific input and warm and friendly presence.

**Vasiliki Kassianidou**  
Archaeological Research Unit,  
Department of History and Archaeology,  
University of Cyprus, Nicosia  
v.kassianidou@ucy.ac.cy

**Laurence Astruc**  
CNRS, MSH Mondes,  
UMR 7041-ArScan/VEPMO, Nanterre  
laurence.astruc@gmail.com

**François Briois**  
École des Hautes Études en Sciences Sociales,  
Université Jean Jaurès, Toulouse  
francois.briois@ehess.fr

### Carole McCartney: The Bibliography

- Ammerman J.A., Flourentzos P., McCartney C., Noller J. and Sorabji D.  
2006 Two new early sites on Cyprus. *Report of the Department of Antiquities, Cyprus*: 1-22.
- Ammerman J.A., Flourentzos P., Gabrielli R., McCartney C., Noller J.S., Peloso D. and Sorabji D.  
2007 More on the new sites on Cyprus. *Report of the Department of Antiquities, Cyprus*: 1-26.
- Ammerman J.A., Flourentzos P., Gabrielli R., Higham T., McCartney C. and Turnbull T.  
2008 Third report on early sites on Cyprus. *Report of the Department of Antiquities, Cyprus*: 1-32.
- Astruc L., McCartney C., Briois F. and Kassianidou V. (eds.)  
2019 *Near Eastern lithic technologies on the move. Interactions and contexts in the Neolithic traditions, 8th international conference on PPN chipped stone and ground stone industries of the Near East, Nicosia, November 23-27th 2016*. Studies in Mediterranean Archaeology 150. Nicosia: Astrom Editions.
- Betts A.V.G., Colledge S., Martin L., McCartney C., Wright K. and Yagodin V.  
1998 *The Harra and the Hamad: excavations and surveys in eastern Jordan 1*. Sheffield Archaeological Monographs 9: 121-134. Sheffield: Sheffield Academic Press.

- Betts A.V.G., Cropper D., Martin L. and McCartney C.  
2013 *Later Prehistory of the Badia: excavation and surveys in eastern Jordan 2*. Levant Supplementary Series 11. Oxford: Oxbow Books.
- Bolger D., McCartney C. and Peltenburg E.  
2004 Regional interaction in the prehistoric west: Lemba Archaeological Project Western Cyprus Survey. In: M. Iacovou (ed.), *Archaeological field survey in Cyprus: past history, future potentials*: 105-123. London: The British School at Athens.
- Clarke J., Croft P. and McCartney C.  
2007 The 1940s excavations at Kalavassos-Kokkinoglia and Kalavassos-Pamboules. *Report of the Department of Antiquities, Cyprus*: 45-86.
- Connelly J.B. and McCartney C.  
2004 The Chalcolithic occupation of Geronisos island. *Report of the Department of Antiquities, Cyprus*: 19-50.
- Efstratiou N., McCartney C., Karkanas P. and Kyriakou D.  
2010 An upland early site in the Troodos mountains. *Report of the Department of Antiquities, Cyprus*: 1-26.  
2011 The early campsite of Ayios Ioannis-Roudias in upland Troodos: the second season of fieldwork (2010). *Report of the Department of Antiquities, Cyprus*: 61-110.  
2017 The late Epipalaeolithic camp site of Vretsia-Roudias in upland Troodos: the third season of fieldwork (2011). *Report of the Department of Antiquities, Cyprus*: 1-34.
- Finlayson W. and McCartney C.  
1998 Chipped stone report. In: E. Peltenburg (ed.), *Lemba Archaeological Project, Cyprus, excavations at Kissonerga-Mosphilia II.1B (Part 2)*: 249-294. Occasional Paper 19. Edinburgh: University of Edinburgh.
- Finlayson W., Gratuze B. and McCartney C.  
1998 The chipped stone assemblage. In: E. Peltenburg (ed.), *Excavations at Kissonerga-Mosphilia 1979-1995. Lemba Archaeological Project II.A*. Studies in Mediterranean Archaeology 70(2): 202-206. Jonsered: Paul Åströms Förlag.
- Flourentzos P., McCartney C., Croft P. and Reese D.S.  
2008 *The Neolithic settlement of Paralimni*. Nicosia: Department of Antiquities, Cyprus.
- Given M., Noller J., McCartney C. and Winther-Jacobsen K.  
2013 Fieldwalking and artefact collection. In: M. Given, A.B. Knapp, L. Sollars, J. Noller and V. Kassianidou (eds.), *Landscape and interaction. The Troodos Archaeological and Environmental Survey Project, Cyprus 1. Methodology, analysis and interpretation*. Levant Supplementary Series 14: 20-27. Oxford and Oakville: Oxbow Books, CBRL.
- Manning S., McCartney C., Kromer B. and Stewart S.T.  
2010 The earlier Neolithic in Cyprus: recognition and dating of a Pre-Pottery A occupation. *Antiquity* 84(325): 693-707.
- McCarthy A., Blakeman A.B., Collard D., Croft P., Graham L., McCartney C. and Stork L.  
2010 The Prasteio-Mesorotsos Archaeological Expedition: second preliminary report of the 2009 excavations. *Report of the Department of Antiquities, Cyprus*: 1-24.
- McCartney C.  
1989 *Patterns of variation: a technological analysis of the chipped stone assemblages from Dhuweila and Jebel Naja in eastern Jordan*. Unpublished MA thesis. Edinburgh: University of Edinburgh.  
1992 Preliminary report of the 1989 excavations at Site 27 of the Burqu/Ruweishid Project. *Levant* 24(1): 33-54.  
1993 An attribute analysis of Cypriot Doukhani "teeth": implications for the study of Cypriot chipped stone assemblages. *Report of the Department of Antiquities, Cyprus*: 349-364.  
1996a *The analysis of variability in simple core technologies: case studies of chipped stone technology in post-PPN assemblages from the Levant*. Unpublished PhD Thesis. Edinburgh: University of Edinburgh.
- 1996b A report on the chipped stone assemblage from Tell Iktanu, Jordan. *Levant* 28(1):131-155.  
1997 Chipped stone. In: P. Flourentzos, Excavations at the Neolithic site of Paralimni: a preliminary report. *Report of the Department of Antiquities, Cyprus*: 6-7.  
1998 Preliminary report on the chipped stone assemblage from the aceramic Neolithic site of Ayia Varvara-Asprokremnos, Cyprus. *Levant* 30: 85-90.  
1999 Opposed platform core technology and the Cypriot aceramic Neolithic. *Neo-Lithics* 1: 7-10  
2000 Prehistoric occurrences in the Ranti state forest: a preliminary report of the Ranti Forest Project. *Report of the Department of Antiquities, Cyprus*: 33-46.  
2001 The chipped stone assemblage from Tenta (Cyprus), cultural and chronological implications. In: I. Caneva, C. Lemorini, D. Zampetti and P. Biagi (eds.), *Beyond tools. Redefining the PPN lithic assemblages of the Levant. Proceedings of the 3rd workshop on PPN chipped lithic industries. Department of Classical and Near Eastern Studies ca' Foscari University of Venice 1-4 November 1998*. Studies in Early Near Eastern. Production, Subsistence and Environment 9: 427-436. Berlin: ex oriente.  
2002 Women's knives. In: D. Bolger and N. Serwint (eds.), *Engendering Aphrodite. Women and society in ancient Cyprus*. CAARI Monograph 2: 237-249. Boston: The American Schools of Oriental Research.  
2003 Chipped stone report. In: E. Peltenburg (ed.) *The colonization and settlement of Cyprus: excavations at Kissonerga-Mylothkia 1976-1996, Lemba Archaeological Project, Cyprus III.1*. Studies in Mediterranean Archaeology 70(4): 203-220. Göteborg: Paul Åströms Förlag.  
2003 The Mylothkia and Tenta chipped stone industries and their interpretation within a redefined Cypriot aceramic Neolithic. In: J. Guilaine and A. Le Brun (eds.), *Le Néolithique de Chypre. Actes du colloque international organisé par le Département des Antiquités de Chypre et l'Ecole française d'Athènes, Nicosie, 17-19 Mai 2001*. Bulletin de Correspondance Hellénique, Supplément 43: 135-146. Paris: De Boccard.  
2004 Cypriot Neolithic chipped stone industries and the progress of regionalization. In: E. Peltenburg and A. Wasse (eds.), *Neolithic revolution*, Levant Supplementary Series 1: 103-122. Oxford: Oxbow Books.  
2005 Preliminary report on the re-survey of three Neolithic sites in Cyprus. *Report of the Department of Antiquities, Cyprus*: 1-21.  
2006 The meaning of context for changing interpretations of the Cypriot aceramic Neolithic. In: D. Papaconstantinou (ed.), *Deconstructing context: a critical approach to archaeological practice*: 79-97. Oxford: Oxbow Books.  
2006 Chipped stone. In: E. Peltenburg (ed.), *The Chalcolithic cemetery of Souskiou-Vathyrakakas, Cyprus*: 133-139. Nicosia: Department of Antiquities, Cyprus.  
2007a Assemblage diversity in the early to middle Cypriot aceramic Neolithic. In: L. Astruc, D. Binder and F. Briois (eds.), *Technical systems and Near Eastern PPN communities, 5th International Workshop on PPN Chipped Stone Industries*: 215-225. Antibes: APDCA.  
2007b Lithics. In: J. Clarke, C. McCartney and A. Wasse, *On the margins of Southwest Asia: Cyprus during the 6th to the 4th millennia BC*: 72-90. Oxford: Oxbow Books.  
2007c Prehistoric chert use in Cyprus. In: C. Delage (ed.), *Chert availability and prehistoric exploitation in the Near East (BAR S1615)*: 304-326. Oxford: Archaeopress.  
2008 Chipped stone. In: P. Flourentzos, *The Neolithic settlement of Paralimni*: 55-77. Nicosia: The Department of Antiquities of Cyprus.  
2010 Outside the corridor, the Neolithisation of Cyprus. In: D. Bolger and L. Maguire (eds.), *The development of pre-state communities in the ancient Near East: studies in honour of Edgar Peltenburg*, BANEA Publication Series 2: 185-196. Oxford: Oxbow Books.  
2011 The lithic assemblage of Ayia Varvara-Asprokremnos: a new perspective on the early Neolithic of Cyprus. In: H. Healey, S. Campbell and O. Maeda (eds.), *The state of the stone: terminologies, continuities and contexts in Near Eastern lithics. Proceedings of the 6th PPN conference on chipped and ground stone*

- artefacts in the Near East (Manchester, 2008) and papers of the 4th PPN workshop on chipped lithic industries (Niğde-Cappadocia, 2001)*. Studies in Early Near Eastern Production, Subsistence, and Environment 13: 185-196. Berlin: ex oriente.
- 2012 Excavations at Ayia Varvara-Asprokremnos. In: R. Matthews, J. Curtis, M. Seymour, A. Fletcher, A. Gascoigne, C. Glatz, J. Simpson, H. Taylor, J. Tubb and R. Chapman (eds.), *7th ICAANE, Proceedings of the 7th International Congress on the Archaeology of the Ancient Near East. 12-16 April 2010* 3: 3-16. Wiesbaden: Harrassowitz Verlag.
- 2013 Lithics analysis. In: M. Given, A.B. Knapp, L. Sollars, J. Noller and V. Kassianidou (eds.), *Landscape and interaction. The Troodos Archaeological and Environmental Survey Project, Cyprus* 1. *Methodology, analysis and interpretation*. Levant Supplementary Series 14: 31-32. Oxford and Oakville: Oxbow Books/CBRL.
- 2013 Lithics analysis. In: M. Given, A.B. Knapp, L. Sollars, J. Noller and V. Kassianidou (eds.), *Landscape and interaction. The Troodos Archaeological and Environmental Survey Project, Cyprus* 1. *Methodology, analysis and interpretation*, Levant Supplementary Series 14: 200-237. Oxford and Oakville: Oxbow Books/CBRL.
- 2013 Lithic artifacts. In: E. Peltenburg (ed.), *ARCANE II. Cyprus*. Turnhout: Brepols Publishers.
- 2017 Ayia Varvara-Asprokremnos, a late PPNA specialized site on Cyprus. In: J.D. Vigne, F. Briois and M. Tengberg (eds.), *Nouvelles données sur les débuts du Néolithique à Chypre. New informations about the beginning of the Neolithic in Cyprus. Actes de la séance de la Société Préhistorique Française, Paris, 18-19 mars 2015*. Séances de la Société Préhistorique Française 9: 47-58. Paris: Société Préhistorique Française. [http://www.prehistoire.org/515\\_p\\_49016/accEs-libre-sEance-9-nouvelles-donnees-sur-les-debuts-du-neolithique-a-chypre-new-data-on-the-beginnings-of-the-neolithic-in-cyprus.html](http://www.prehistoire.org/515_p_49016/accEs-libre-sEance-9-nouvelles-donnees-sur-les-debuts-du-neolithique-a-chypre-new-data-on-the-beginnings-of-the-neolithic-in-cyprus.html)
- McCartney C. and Betts A.V.G.  
1998 Dhuweila: chipped stone. In: A.V.G. Betts (ed.), *The Harra and the Hamad: excavations and explorations in eastern Jordan* 1. Sheffield Archaeological Monographs 9: 59-119. Sheffield: Sheffield Academic Press.
- McCartney C. and Gratuze B.  
2003 The chipped stone. In: E. Peltenburg (ed), *The colonization and settlement of Cyprus: excavations at Kissonerga-Mylouthkia 1976-1996, Lemba Archaeological Project, Cyprus* III.1. Studies in Mediterranean Archaeology 70(4): 11-34. Göteborg: Paul Åströms Förlag.
- McCartney C. and Ktori M.  
2010 Lithics in context: the Ayia Varvara-Asprokremnos lithic assemblage, problems and possibilities. In: S. Christodoulou and A. Satraki (eds.), *Proceedings of the POCA Conference, Nicosia, 2007*: 57-76. Cambridge: Cambridge Scholars Publishing.
- McCartney C. and Peltenburg E.  
2000 The colonization of Cyprus: questions of origins and isolation. *Neo-Lithics* 1: 8-11.
- McCartney C. and Sorrentino G.  
2019 Ayia Varvara-Asprokremnos: a preliminary analysis of stone tools used in pigment processing and tanning with ochre. In: L. Astruc, C. McCartney, F. Briois F. and V. Kassianidou (eds.), *Near Eastern lithic technologies on the move. Interactions and contexts in the Neolithic traditions, 8th international conference on PPN chipped stone and ground stone industries of the Near East, Nicosia, November 23-27th 2016*. Studies in Mediterranean Archaeology 150: 63-78. Nicosia: Astrom Editions.
- McCartney C. and Todd I.  
2005 Tenta chipped stone report. In: I. Todd (ed.), *Vasilikos Valley Project 7: excavations at Kalavassos-Tenta* 2. Studies in Mediterranean Archaeology 71(7): 177-264. Sävedalen: Paul Åströms Förlag.
- McCartney C., Croft P., Manning S. and Rosendahl S.  
2009 Preliminary report on the 2008 EENC excavations at Ayia Varvara-Asprokremnos and regional field survey. *Report of the Department of Antiquities, Cyprus*: 1-16.
- McCartney C., Manning S., Sewell D. and Stewart S.  
2006 Elaborating Early Neolithic Cyprus (EENC). *Report of the Department of Antiquities, Cyprus*: 39-62.
- McCartney C., Manning S., Sewell D. and Stewart S.  
2007 The EENC 2006 field season: excavations at Ayia Varvara-Asprokremnos and survey of the local early Holocene landscape. *Report of the Department of Antiquities, Cyprus*: 27-44.
- McCartney C., Manning S., Rosendahl S. and Stewart S.T.  
2008 Elaborating Early Neolithic Cyprus (EENC). Preliminary report on the 2007 field season: excavations and regional field survey at Ayia Varvara-Asprokremnos. *Report of the Department of Antiquities, Cyprus*: 67-86.
- McCartney C., Manning S. and Stewart S.T.  
2010 Ayia Varvara-Asprokremnos 2009: excavations, radiocarbon dating and geochemical analysis of chert sources. *Report of the Department of Antiquities, Cyprus*: 1-18.
- McCartney C., Manning S., Sewell D. and Stewart S.T.  
2010 Reconsidering Early Holocene Cyprus within the eastern Mediterranean landscape. In: B. Finlayson and G. Warren (eds.), *Landscape in transition*. Levant Supplementary Series 8: 133-146. Oxford: Oxbow Books/CBRL.
- Peltenburg E., Colledge S., Croft P., Jackson A., McCartney C. and Murray M.A.  
2000 Agro-pastoralist colonization of Cyprus in the 10th millennium BP: initial assessments. *Antiquity* 74: 844-853.
- 2001a Well-established colonists: Mylouthkia 1 and the Cypro Pre Pottery Neolithic B. In: S. Swiny (ed.), *The earliest prehistory of Cyprus. From colonization to exploitation*: 61- 94. Boston: American School of Oriental Research Institute.
- 2001b Neolithic dispersals from the Levantine Corridor: a Mediterranean perspective. *Levant* 33: 35-64.
- Peltenburg E., Bolger D., Kinsey M., McCarthy A., McCartney C. and Sewell D. A.  
2006 Investigations at Souskiou-Laona settlement, Dhiarizos valley, 2005. *Report of the Department of Antiquities, Cyprus*: 77-105.
- Rosendahl S. and McCartney C.  
2010 Chasing Johnny One-Flake: recent fieldwork into hunter-gatherer movements across Cyprus. In: S. Christodoulou and A. Satraki (eds.), *Proceedings of the POCA conference, Nicosia, 2007*: 39-56. Cambridge: Cambridge Scholars Publishing.
- Steel L. and McCartney C.  
2008 Survey at Arediou "Vouppes" (Lithosouros), a Late Bronze Age agricultural settlement on Cyprus: a preliminary analysis of the material culture assemblages. *Bulletin of the American Schools of Oriental Research* 351(1): 9-37.
- Stewart S., Murphy S., Bikoulis P., McCartney C., Manning S.W. and Hancock R.G.V.  
2020 Early Neolithic chert variability in central Cyprus: geo-chemical and spatial analyses. *Journal of Archaeological Science: Reports* 29: 102088. <https://doi.org/10.1016/j.jasrep.2019.102088>
- Webb J., Frankel D., Croft P. and McCartney C.  
2014 Excavations at Politiko Kokkinorotsos. A Chalcolithic hunting station in Cyprus. *Proceedings of the Prehistoric Society* 75: 189-237.

**Cartolano, Mattia**

*Animal and human representations in the Pre-Pottery Neolithic of the Near East.* 2021.

PhD Thesis, University of Liverpool.

Supervisors: Douglas Baird, John Gowlett

This thesis submits a study of anthropomorphic and zoomorphic representations during the Pre-Pottery Neolithic (hereafter PPN) transition in different regions of the Near East, including areas where research focus has been less prominent. The main objective of this research is to test and revisit previous scholarly contributions on symbolic and ritual practices in the Neolithic in relation to figurative forms, proposing a new analysis and further contribution to the current debate about the developments in early farming life and social cognition during the PPN period (~9700-6600 cal BCE). Drawing on the large body of previous contributions on symbolic practices in the Neolithic (e.g., Kuijt 2000; Verhoeven 2002; Schmidt 2012; Schmandt-Besserat 2013) this work focuses on the use of figural representation in relation to crucial social transformations in prehistory, such as the emergence of first large villages, social stratification/ differentiation and the construction of richly and highly-costing decorated architectural installations that suggest the employment of structured and extended cooperative units (Sterelny and Watkins 2015). Acknowledging the importance of sociality and networking in the development of cognition in prehistory (Coward and Dunbar 2014) and life histories and affordances of symbolic artifacts, the agentive aspects of anthropomorphic and zoomorphic representations are analysed in relation to the social cognition of Neolithic populations, particularly the target audience, time/ effort, perceptual affordances, and lifespans of the objects.

By collecting a conspicuous number of anthropomorphic and zoomorphic artifacts (n= 1402 database records) from 64 regionally varied PPN sites (Fig. 1), relationships between characters of the objects, such as artifact type, symbolic representation and material, and their contextual provenance are observed. The items recorded in the database are retrieved from published materials with the aim to collect many different types of objects showing anthropomorphic and zoomorphic forms and excluding some cases that were not useful for the research objectives because of their state of preservation or lack of relevant information. Moreover, in order to study the relations between these figurative forms and their potential users, a micro-level demographic study from selected 12 PPN sites presenting a large/ small site extension and/ or abundant/ meagre number of animal and human representations. Population estimates at the household and settlement level are produced by applying a revised version of the storage provisions formulae (and other demographic parameters) developed by Birch-Chapman (2017) to better documented PPN phases of occupations. Considering a series of methodological issues in estimating

co-resident inhabitants in prehistoric settlements, ranges of population estimates are calculated. Results of this demographic analysis do not indicate a positive correlation between the size of household groups and the total settlement population (27 demographic measurements), unless cases with significantly higher than average figures are exempt from analysis. In addition, a non-correlation between the total number of inhabitants at site level and the occurrences of anthropomorphic and zoomorphic representational forms was tested and demonstrated. Although these trends could be influenced by conservation and contextual problems in archaeological deposits and the lack of published materials, it appears that larger populations do not necessarily produce more animal and human figurative artefacts. This has also been observed at sites that have been extensively investigated (e.g., Aşıklı Höyük L.2 and Beidha). The distribution and context in which figural depictions were found in these case studies suggest instead a much varied and culturally driven production and management of symbols that are often related to domestic audience. Objects are created with the intention of proposing a distant/ visual (e.g. pillars) as well as a near/ tactile (e.g., small figurines) perceptual impact, and recognising that certain artefacts required a considerable amount of work and had a much longer lifespan, it becomes clear that animal and human representations had more significant value for some groups than for others.

A series of bivariate and multivariate analysis is performed between objects categories, their contextual and geographical location and time period in order to observe differences/ similarities and trends in the deployment of animal and human representations. Results of these analyses confirmed (and also refuted) previous scholarly observations regarding symbolism in the Neolithic. Firstly, the present study also argues what has been said about the decrease in representations of predatory wild animals in the PPNB-C period in most Near Eastern regions (Stordeur 2010). On the other hand, some proposed narratives around the concepts of maleness and monstrosity (cf. Hodder and Meskell 2011; Wengrow 2011) are much less meaningful argumentations for the PPN transition as a whole in light of the vast and diverse forms of figural representations that can be observed in the archaeological records. Although based on archaeological evidence (Fig. 2), such narratives could perhaps only be sustained for specific regions/ sites and time periods. Similar observations on these diachronic and regional limitations could be made for some symbolic forms and ritual practices that some scholars have considered as religious (cf. Hodder 2014). While some archaeological contexts might suggest the presence of religious behaviour, shamanism, or beliefs in an otherworldly world at specific sites, applying certain labels such as temple in Neolithic narratives might not be appropriate (cf. Banning 2011), although some key features of religious behaviour may have emerged slowly during this prehistoric phase.

Another important result of this research is the delineation of regional traditions and chronological

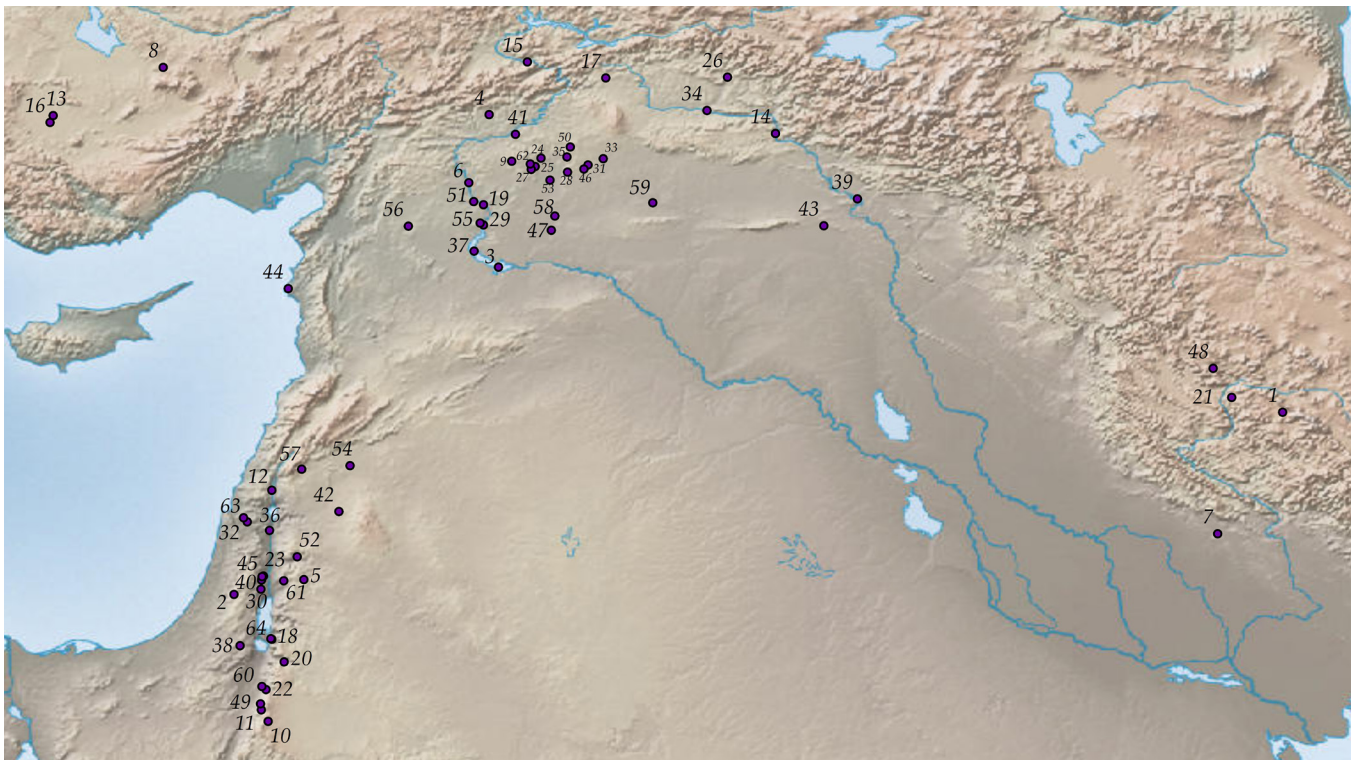


Fig. 1 The 64 PPN sites selected in this project analysis, ArcMap program. Sites shown in the map: 1. Abdul Hosein; 2. Abu Gosh; 3. Abu Hureyra; 4. Adıyaman; 5. 'Ain Ghazal; 6. Akarçay Tepe; 7. Ali Kosh; 8. Aşıklı Höyük; 9. Ayanlar Höyük; 10. Basta; 11. Beidha; 12. Beisamoun; 13. Boncuklu Höyük; 14. Boncuklu Tarla; 15. Cafer Höyük; 16. Çatalhöyük East; 17. Çayönü; 18. Dhra'; 19. Dja'de; 20. el-Hemmeh; 21. Ganj Dareh; 22. Ghuwayr I; 23. Gilgal I; 24. Göbekli Tepe; 25. Gürcütepe; 26. Hallan Çemi; 27. Hamzan Tepe; 28. Harbetsuvan Tepesi; 29. Jerf el Ahmar; 30. Jericho; 31. Karahan Tepe; 32. Kfar Ha-Horesh; 33. Kocanizam Tepe; 34. Körtik Tepe; 35. Kurt Tepesi; 36. Munhata; 37. Mureybet; 38. Nahal Hemar; 39. Nemrik 9; 40. Netiv Hagdud; 41. Nevalı Çori; 42. Qarassa, North; 43. Qermez Dere; 44. Ras Shamra; 45. Salibiya IX; 46. Sefer Tepe; 47. Sheikh Hassan; 48. Sheikh-e Abad; 49. Shkarat Msaied; 50. Taşlı Tepe; 51. Tell 'Abr 3; 52. Tell Abu Suwwan; 53. Tell Assouad; 54. Tell Aswad; 55. Tell Halula; 56. Tell Qaramel; 57. Tell Ramad; 58. Tell Sabi Abyad II; 59. Tell Seker al-Aheimar; 60. Wadi Faynan 16; 61. Wadi Shu'eib; 62. Yeni Mahalle; 63. Yiftahel; 64. Zahrat adh-Dhra' 2. (Map: M. Cartolano)

developments in the deployment of animal and human symbols, assuming that all figurative artifacts under examination can be interpreted as symbolic forms in the sense they help the user and producers to externalise thoughts and communicative statements. Marked divergences in the production, use and disposal of anthropomorphic and zoomorphic figurative forms can be seen between some areas of the Near East, particularly between southern Levant and the northern territories of the Fertile Crescent confirming the diverse evolutionary trajectories that previous scholars have argued (*e.g.*, Belfer-Cohen and Goring-Morris 2014). Indeed, while in the south there seems to be an emphasis on concealing portable figurative artifacts that on many occasions are related to mortuary practices, in south-eastern Anatolian and in some northern Levantine settlements there seems to be an emphasis on displaying images in relation to large monuments and building installations. In other regions, other developments seem to be emerging, but the lack of publications and archaeological investigations do not allow a systematic analysis of these developments. Nevertheless, it is clear that these geographical differences are the result of distinct cultural relationships between individuals and their natural/ built environments, which change from one region to another. From a chronological point of view, the

most relevant aspect is the increasing standardisation of figurative forms and the reduced variety of artifact type in the PPNA-PPNB transition. Furthermore, while in the early Neolithic phases an emphasis on showing figurative depictions in special buildings that we might consider as public or multi-functional is perceived, this accent seems to diminish in the PPNB-C period. Changes in the production of figurative art are seen in most regions following a non-linear and non-homogenous development.

Acknowledging that figural representation can influence the psychology and behaviour of Neolithic populations (Cauvin 2000; Benz and Bauer 2013), it can be argued that animal and human representations had a moderate impact in the social cognition of Neolithic individuals, particularly in certain areas and time periods, along with the use of other types of representations (*e.g.*, geometric). With regard to the question of whether figurative art played a role in the emergence of social stratification and hierarchy in the PPN, the present study endorses the use of mimetic theory as a hermeneutic tool to identify these social phenomena (*cf.* Hodder 2019). In a growing and changing social environment such as that of the PPN, it can be argued that figurative forms in conjunction with violent (perhaps ritualised) practices were employed in order to sustain a high degree of social commitment, cooperation, and





Fig. 2 Maleness and monstrosity? Stone Pillar 43 with figurative relief (Enclosure D), Göbekli Tepe. (Photo: K. Schmidt, German Archaeological Institute)

differentiation, which can be observed in the representations of predatory animals, headless human bodies, and burial customs. On the other hand, the current state of research does not seem to suggest that Neolithic communities possessed a fully developed level of awareness of mimetic influences that might support forms of structured hierarchy and inequality through a constant maintenance of violent performances, which would otherwise be more frequently visible in the archaeological records in, for example, depiction of violent acts operated by humans, evidence of conflict escalation, fabrication of weapons and unequal administration of resources.

Further work is needed to investigate the potential relationships between socio-economic and symbolic developments in the Neolithic transition by collating together different data sets, including faunal remains, spatial distribution of artifacts and burial practices, that can shed light on our understanding of community organisation and symbolic practices developing during this key prehistoric phase.

**Mattia Cartolano**

Alma Mater Studiorum - University of Bologna  
INSCRIBE Project  
mattia.cartolano@unibo.it

## References

- Banning E.B.  
2011 So fair a house. *Current anthropology* 52(5): 619-660.
- Belfer-Cohen A. and Goring-Morris N.  
2014 North and south – variable trajectories of the Neolithic in the Levant. In: B. Finlayson and C. Makarewicz (eds.), *Settlement, survey and stone. Essays on Near Eastern Prehistory in honour of Gary Rollefson*: 61-71. Berlin, London: ex oriente, Council for British Research in the Levant.
- Benz M. and Bauer J.  
2013 Symbols of power – symbols of crisis? A psycho-social approach to early Neolithic symbol systems. *Neo-Lithics* 13(2): 11-24.
- Birch-Chapman S.  
2017 *Estimating population parameters of early villages in the Pre-Pottery Neolithic central and southern Levant*. PhD Thesis. Bournemouth: Bournemouth University.
- Cauvin J.  
2000 *The birth of the gods and the origins of agriculture*. Cambridge: Cambridge University Press.
- Coward F. and Dunbar R.I.M.  
2014 Communities on the edge of civilization. In: R.I.M. Dunbar, C. Gamble and J. Gowlett (eds.), *Lucy to language: the Benchmark Papers*: 380-406. Oxford: Oxford University Press.
- Hodder I. (ed.)  
2014 *Religion at work in a Neolithic society: vital matters*. Cambridge: Cambridge University Press.  
2019 *Violence and the sacred in the Ancient Near East: Girardian Conversations at Çatalhöyük*. Cambridge: Cambridge University Press.
- Hodder I. and Meskell L.  
2011 A “curious and sometimes a trifle macabre artistry”. *Current Anthropology* 52(2): 235-263.
- Kuijt I. (ed.)  
2000 *Life in Neolithic farming communities: social organization, identity, and differentiation*. New York: Kluwer Academic, Plenum Publishers.
- Schmandt-Besserat D. (ed.)  
2013 *Symbols at 'Ain Ghazal*. bibliotheca neolithica Asiae meridionalis et occidentalis and Yarmouk University, Monograph of the Faculty of Archaeology and Anthropology. Berlin: ex oriente.
- Schmidt K.  
2012 *Göbekli Tepe. A Stone Age sanctuary in south-eastern Anatolia*. Berlin: ex oriente.
- Sterelny K. and Watkins T.  
2015 Neolithization in southwest Asia in a context of Niche Construction Theory. *Cambridge Archaeological Journal* 25(3): 673-691.
- Stordeur D.  
2010 Domestication of plants and animals, domestication of symbols. In: D. Bolger and L.C. Maguire (eds.), *The development of pre-state communities in the Ancient Near East: studies in honour of Edgar Peltenburg*: 123-130. Oxford: Oxbow Books.
- Verhoeven M.  
2002 Ritual and ideology in the Pre-Pottery Neolithic B of the Levant and southeast Anatolia. *Cambridge Archaeological Journal* 12(2): 233-258.
- Wengrow D.  
2011 Gods and monsters: image and cognition in Neolithic societies. *Paléorient* 31(1): 153-163.

Recently published by ex oriente

**Hacı Elamxanlı Tepe:  
the archaeological investigations of an  
early Neolithic settlement in West Azerbaijan**

edited by Yoshihiro Nishiaki, Farhad Guliyev and  
Seiji Kadowaki

2021, *bibliotheca neolithica Asiae meridionalis et occidentalis*, XVI + 236 pages, 11 contributions + abstract in Azərbaycan, 165 figures incl. 107 in colour, 49 tables, hardcover – € 89.- [ISBN 978-3-944178-19-6]

Orders can be placed at [www.exoriente.org/bookshop](http://www.exoriente.org/bookshop)

The final publication on the excavations at Hacı Elamxanlı Tepe in West Azerbaijan presents the comprehensive results on the built environments, their stratigraphy and a series of studies by various disciplines. Fieldworks at Hacı Elamxanlı Tepe were conducted between 2012 and 2015 by the Azerbaijani-Japanese Archaeological Mission to the Middle Kura Valley under the auspices of the Institute of Archaeology and Ethnography, the National Academy of Sciences of Azerbaijan, the University Museum, and the University of Tokyo, Japan.

### Contents

*Preface, List of contributors, List of figures, List of tables*

**Chapter 1** Introduction

by Y. Nishiaki, F. Guliyev and S. Kadowaki

**Chapter 2** Excavations, occupational history, and built environments at Hacı Elamxanlı Tepe

by S. Kadowaki, F. Guliyev, V. Alakbarov, T. Miki, K. Shimogama and Y. Nishiaki

**Chapter 3** Neolithic chipped stone artifacts from Hacı Elamxanlı Tepe

by S. Kadowaki

**Chapter 4** A reconstruction of Neolithic sickles from Hacı Elamxanlı Tepe

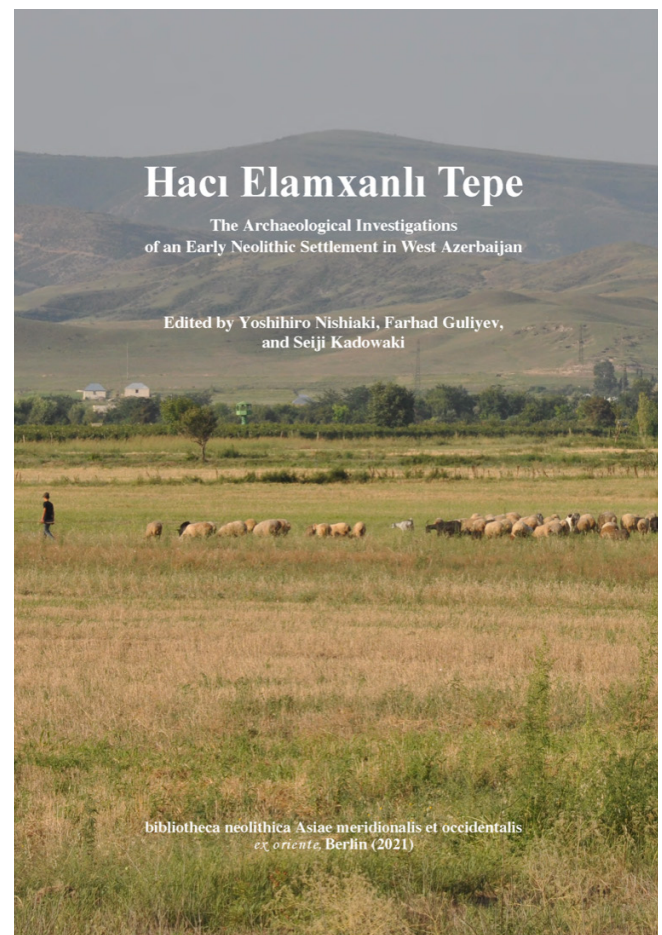
by Y. Nishiaki

**Chapter 5** Neolithic ground stone artifacts from Hacı Elamxanlı Tepe

by S. Kadowaki

**Chapter 6** Pottery from Hacı Elamxanlı Tepe

by T. Miki and K. Shimogama



**Chapter 7** Neolithic small finds from Hacı Elamxanlı Tepe

by T. Miki

**Chapter 8** Neolithic bone tools and ornaments from Hacı Elamxanlı Tepe

by S. Arai

**Chapter 9** Macro-botanical remains from Hacı Elamxanlı Tepe

by C. Akashi

**Chapter 10** Neolithic animal remains from Hacı Elamxanlı Tepe

by S. Arai

**Chapter 11** Hacı Elamxanlı Tepe, the Shomutepe Culture, and the Neolithic Southern Caucasus

by Y. Nishiaki and F. Guliyev

Xülaə

by F. Guliyev and Y. Nishiaki

**Pearls, politics and pistachios:  
essays in anthropology and memories on the  
occasion of Susan Pollock's 65<sup>th</sup> birthday**

edited by an Editorial Collective

2021, 731 pages (full colour), 240 illustrations, paperback – € 125.-

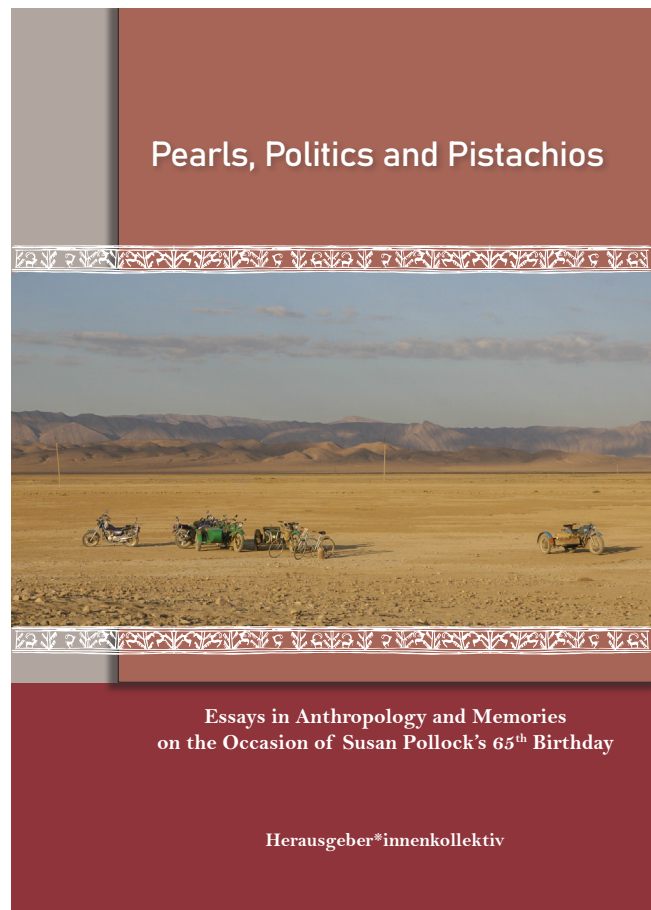
[ISBN 978-3-944178-18-9, e-ISBN 978-3-9629036-1 by Propylaeum]

Orders can be placed at [www.exoriente.org/bookshop](http://www.exoriente.org/bookshop)

For the contents see [www.exoriente.org/docs/00110.pdf](http://www.exoriente.org/docs/00110.pdf)

The present volume is a multivocal and heartfelt “Thank you!” to Susan Pollock for her 65<sup>th</sup> birthday. With each of the 46 contributions, the breadth of which corresponds to the scientific oeuvre of the jubilee, 63 authors from West and Central Asia, the USA and Europe celebrate her as a multifaceted and brilliant researcher and colleague, as an outstanding teacher and empathetic mentor. The articles span from the first appearance of *Homo sapiens* on the Iranian Highland to the connections between violence and epidemics in North America and to research on the underrepresentation of women in a publication landscape that is still dominated by men, and the political dimensions of archaeological practice. Together they create an alternative draft to an archeology limited by temporal, spatial and methodological conventions, and point to the possible disciplinary diversity.

The first part, “Taking a Closer Look...” deals with issues related to detailed studies of prehistoric communities and analyses of clearly defined groups of objects. A variety of different approaches to the past is presented in the articles. The second part “... While Keeping the Big Picture” opens the field for synoptic contributions that shed light on longer periods of time and larger contexts, dealing not only with migration and prehistoric economies but also with community and social conflicts and violence between groups. The contributions in the last section, “Questioning the Discipline”, deal with methodological questions. They challenge current discourses in archaeology, deal very specifically with the diverse questions and problems of decolonization and the role of women in archaeological disciplines. Surrounding these sections, a number of



authors recount experiences shared with Susan Pollock at different points in her career in insightful and deeply personal essays.

Together the authors present the diversity of archaeological practice neither limited by time and space, nor by methodical conventions.

On behalf of the Editorial Collective

**Aydin Abar**  
Institute of Archaeological Studies  
Ruhr-University Bochum  
[aydin.abar@ruhr-uni-bochum.de](mailto:aydin.abar@ruhr-uni-bochum.de)

**Johannes Köhler**  
Institute for Near Eastern Archaeology  
Free University Berlin  
[johannes.koehler@fu-berlin.de](mailto:johannes.koehler@fu-berlin.de)

## Submissions to

# NEO-LITHICS

## The Newsletter of Southwest Asian Neolithic Research

Please, send your contribution to one of the co-editors:

Emma Baysal: [emmabaysal@gmail.com](mailto:emmabaysal@gmail.com)

Marion Benz: [marion.benz@fu-berlin.de](mailto:marion.benz@fu-berlin.de)

Fanny Bocquentin: [fanny.bocquentin@cnrs.fr](mailto:fanny.bocquentin@cnrs.fr)

Amy Bogaard: [amy.bogaard@arch.ox.ac.uk](mailto:amy.bogaard@arch.ox.ac.uk)

Ferran Borrell: [ferran.borrell@imf.csic.es](mailto:ferran.borrell@imf.csic.es)

Hans Georg K. Gebel: [hggebel@zedat.fu-berlin.de](mailto:hggebel@zedat.fu-berlin.de)

Osamu Maeda: [osmaeda@yahoo.co.jp](mailto:osmaeda@yahoo.co.jp)

Ianir Milevski: [ianirmilevski@gmail.com](mailto:ianirmilevski@gmail.com)

*Postal address:* Neo-Lithics, Marion Benz/ Hans Georg K. Gebel, *ex oriente* Publishing House, Karl-Marx-Str. 14, 16356 Ahrensfelde-Lindenbergl, Germany. Tel.: 0049 30 98 311 246.

Since the 2018 issue, *Neo-Lithics* is published as an online newsletter; only members of *ex oriente* receive hardcopy issues. Subscriptions for the *Neo-Lithics* hardcopy version are not possible without being a member.

*ex oriente membership:* Please, contact Marion Benz, chairwomen of *ex oriente*, to apply for membership (annual membership fee: 40.- Euro for employed members, 15.- Euro for students/ unemployed members; including *Neo-Lithics* hardcopies).

### Submission Guidelines

*Choice of co-editor:* Authors may choose a co-editor for facilitating or coaching her/ his contribution. Co-editors may appoint reviewers and/ or coaches for contributions, and invite for contributions.

*Deadlines:* There are no deadlines. Submissions are reviewed, edited, layouted, receive a DOI and are published online open-access within 2-3 months, provided that: submissions follow the *Neo-Lithics* guidelines, are edited by a native speaker, are delivered ready for the final layout, and were accepted and reviewed by co-editors. The annual issue of *Neo-Lithics* is completed in December and published online by the beginning of the following year.

*Proviso:* Submissions will be rejected by co-editors if they are not language-edited by a native speaker or if they ignore in parts or fully the formal standards of *Neo-Lithics* (Author Guidelines: <https://www.exoriente.org/guidelines.pdf>), or have illustrations with insufficient resolution (*cf.* below).

*Texts:* in Word without formatting; for the general style of text, bibliography, and captions consult this issue or the Author Guidelines at <http://www.exoriente.org/guidelines.pdf>. Please, keep references to the utmost minimum. Thematic contributions should have an abstract (max. 200 words) and 4-5 keywords.

*Illustrations:* Figures *etc.* should be submitted as EPS, TIFF or JPEG files. Minimum sizes are for: line drawings: 1200dpi, grey scale illustrations: 600dpi, colour photos: 400dpi. Illustrations have to be submitted as separate files, and must not be embedded in the text file. Please, send a hard copy of the manuscript in case of complex contributions. Authorships of illustrations have to be acknowledged in the captions by the names of the photo's or graph's author and the project (*e.g.*, Drawing: D. Štefanisko, Eastern Jafr A.P.). If requested by the co-editors, authors are obliged to present their submissions with formal letters of agreement by copyright owners if they use illustrations, texts, materials, or ideas from other publications or oral presentations, or obtained any material from sources that are not their own.

### Policies

*ex oriente* publications respect UN resolutions as well as project permits of antiquities departments and/ or the ethics of funding institutions.

*ex oriente* Publishers do not publish data obtained in occupied territories nor foster the publication of field data not covered by a permit.

*ex oriente* Publishers may reject or re-negotiate submissions containing maps, names or contents with political meaning, *e.g.* debated state borders; rather, common geographical names (*e.g.* of cities, towns, wadis/rivers, or landscapes) should help with the orientation on maps.

### Copyrights

Copyrights are hold by *ex oriente* and the authors. *Neo-Lithics* is published under a CC BY-NC-SA 4 license. Authors of *Neo-Lithics* receive a PDF file of their individual contribution upon publication, and are free to circulate them.

### Online Publication of *Neo-Lithics*

Individual contributions as well as complete issues of *Neo-Lithics* can be downloaded at <https://www.exoriente.org/downloads/neolithics.php> (from 1994 onwards), or at <https://journals.ub.uni-heidelberg.de/index.php/nl/> (from 2021 onwards).

The Co-Editors of *Neo-Lithics*

© *ex oriente* e.V., Berlin - ISSN 1434-6990, eISSN 2750-2910

DOI: 10.48632/nl.2021.1

A service by FID Propylaeum, hosted by the Heidelberg University Library  
*Neo-Lithics* is published and distributed by *ex oriente* e.V., Berlin.



## Studies in Early Near Eastern Production, Subsistence, and Environment (SENEPSE)

Editors-in-Chief: Hans Georg K. Gebel and Reinder Neef

\*available for free download at [www.exoriente.org](http://www.exoriente.org)

- Vol. 1\* **Neolithic Chipped Stone Industries of the Fertile Crescent**, ed. by Hans Georg Gebel and Stefan K. Kozlowski (1994) (44 contributions, IV+601 pages, 270 figs., 16 plates, 89 tables, paperback - 65 Euro) [ISBN 978-3-98042410-3] OUT OF STOCK
- Vol. 2\* **Die neolithische Keramik aus Abu Thawwab, Jordanien (with English Summary)**, by Daifallah Obeidat (XIII+186 pages, 62 figs., 9 tables, paperback - 28 Euro) [ISBN 978-3-98042411-0]
- Vol. 3\* **Neolithic Chipped Stone Industries of the Fertile Crescent, and Their Contemporaries in Adjacent Regions**, ed. by Stefan K. Kozlowski and Hans Georg K. Gebel (39 contrib., IV+460 pages, 214 figs., 21 plates, 52 tables, paperback - 80 Euro) [ISBN 978-3-98042412-7]
- Vol. 4\* **The Prehistory of Jordan, II: Perspectives from 1997**, ed. by Hans Georg K. Gebel, Zeidan Kafafi and Gary O. Rollefson (49 contributions, III+662 pages, 207 figs., 46 plates, 153 tables, paperback - 95 Euro) [ISBN 978-3-98042413-4] OUT OF STOCK
- Vol. 5 (2004) **Central Settlements in Neolithic Jordan. Proceedings of the Symposium Held in Petra, July 1997**, ed. by Hans-Dieter Bienert, Hans Georg K. Gebel and Reinder Neef (21 contrib., XIV+300 pages, 82 figs./diagrams, 12 tables, 36 plates incl. 2 colour plates, paperback, 48 Euro) [ISBN 3-98042414-1]
- Vol. 6 (2002) **The Dawn of Farming in the Near East**, ed. by René T.J. Cappers and Sytze Bottema (16 contributions, I+189 pages, 52 figs., 11 tables, paperback - 38 Euro) [ISBN 978-3-98042415-8]
- Vol. 7\* (2000) **Die Neolithisierung im Vorderen Orient. Theorien, archäologische Daten und ein ethnologisches Modell**, by Marion Benz (second edition 2008: V+266 pages, 59 figs., 8 tables, 3 app., 10 maps, incl. 3 colour illustrations and a short English summary, paperback - 70 Euro) [ISBN 978-3-98042416-5] OUT OF STOCK
- Vol. 8 (2002) **Magic Practices and Ritual in the Near Eastern Neolithic**, ed. by Hans Georg K. Gebel, Bo Dahl Hermansen and Charlott Hoffmann Jensen (12 contributions, III+173 pages, 62 figs. incl. plates, one colour plate, 8 tables, paperback - 40 Euro) [ISBN 978-3-98042419-6]
- Vol. 9 (2001) **Beyond Tools. Redefining the PPN Lithic Assemblages of the Levant. Proceedings of the Third Workshop on PPN Chipped Lithic Industries (Ca' Foscari University of Venice, Nov. 1998)**, ed. by Isabella Caneva, Cristina Lemorini, Daniela Zampetti and Paolo Biagi (33 contributions, IV+455 pages, 206 figs. incl. plates, 63 tables, paperback - 80 Euro) [ISBN 978-3-98042418-9]
- Vol. 10\* (2004) **Vorratshaltung. Die spätepäololithische und frühneolithische Entwicklung im westlichen Vorderasien. Voraussetzungen, typologische Varianz und sozio-ökonomische Implikationen im Zeitraum zwischen 12,000 und 7,600 BP**, by Karin Bartl (XXX+841 pages; 222 plates with more than 600 illustrations, incl. 4 colour figs.; more than 367 tables, paperback - 120 Euro) [ISBN 978-3-98075781-2] OUT OF STOCK
- Vol. 11 (2005) **Flint and Stone Axes as Cultural Markers. Socio-Economic Changes as Reflected in Holocene Flint Tool Industries of the Southern Levant**, by Ran Barkai (XIV+410 pages, 126 figs., 26 tables, paperback - 68 Euro) [ISBN 978-3-98075782-9]
- Vol. 12\* (2006) **Domesticating Space: Construction, Community, and Cosmology in the Late Prehistoric Near East**, ed. by E.B. Banning and Michael Chazan (11 contributions, 112 pages, 52 figs., 7 tables, paperback - 25 Euro) [ISBN 978-3-98075783-6] OUT OF STOCK
- Vol. 13 (2011) **The State of the Stone: Terminologies, Continuities and Contexts in Near Eastern Neolithic Lithics**, ed. by Elizabeth Healey, Stuart Campbell and Osamu Maeda (44+2 contributions, XIV+490 pages, 348 figs. Incl. 4 in colour., 73 tables, paperback - 76 Euro) [ISBN 978-3-98118882-0]
- Vol. 14 (2010) **The Principle of Sharing. Segregation and Construction of Social Identities at the Transition from Foraging to Farming**, edited by Marion Benz (17 contributions, VIII+330 pages, 103 figs. Incl. 2 in colour, 13 tables, paperback - 56 Euro) [ISBN 978-3-98118883-7]
- Vol. 15\* (2013) **Neolithic Archaeology in the Khabor Valley, Upper Mesopotamia and Beyond**, edited by Yoshihiro Nishiaki, Kaoru Kashima and Marc Verhoeven (13 contributions, 236 pages, 102 figs., 12 plates, 4 tables, paperback - 45 Euro) [ISBN 978-3-944178-01-1]
- Vol. 16 (2013) **Neolithisation of Northeastern Africa**, edited by Noriyuki Shirai (14 contributions, 256 pages, 62 figs., 15 tables, paperback - 48 Euro) [ISBN 978-3-944178-02-8]
- Vol. 17 (2013) **Am Beginn des Hausbaus. Studien zur PPNB-Architektur von Shkārāt Msaied und Ba'ja in der Petra-Region, Süd-Jordanien**, by Moritz Kinzel (570 pages, 259 plates with 605 figs. incl. 19 in colour, 2 folded A3 plans, 9 tables, paperback - 116 Euro) [ISBN 978-3-944178-04-2]
- Vol. 18 (2016) **The Neolithic of the Iranian Plateau**, edited by Kouros Rustaei and Marjan Mashkour (20 contributions: 14 in English + 6 in Farsi, XIV+356 pages, 165 figs., 31 tables, paperback - 72 Euro) [ISBN 978-3-944178-10-3]
- Vol. 19 (2017) **Die lithische Ökonomie von Feuerstein im Frühneolithikum der Größeren Petra-Region**, by Christoph Purschwitz (616 pages incl. English summary/captions, 171 figs., 141 tables, 94 plates, 25 appendices - incl. 137 in colour, paperback - 118 Euro) [ISBN 978-3-944178-12-7]
- Vol. 20\* (2017) **Neolithic Corporate Identities**, edited by Marion Benz, Hans Georg K. Gebel and Trevor Watkins (13 contributions, VIII+216 pages, 69 figs. incl. 42 in colour, 6 tables, paperback - 62 Euro) [ISBN 978-3-944178-11-0]
- Vol. 21\* (2018) **Changing Systems: Pre-Pottery Neolithic B Settlement Patterns in the Lower Galilee, Israel**, by Michal Birkenfeld (IV+334 pages, 119 figs. incl. 37 in colour, 12 tables, paperback - 82 Euro) [ISBN 978-3-944178-14-1]
- Vol. 22 (2020) **Personal Adornment in the Neolithic Middle East: A Case Study of Çatalhöyük**, by Milena Vasić (X+234 pages, 110 figs. incl. 13 in colour, 59 tables, paperback - 54 Euro) [ISBN 978-3-944178-17-2]

Book orders via [www.exoriente.org/bookshop](http://www.exoriente.org/bookshop)

or ex oriente e.V., c/o Institute of Near Eastern Archaeology, Fabeckstr. 23-25, 14195 Berlin, Germany, or Fax 0049 30 98 311 246, [purschw@zedat.fu-berlin.de](mailto:purschw@zedat.fu-berlin.de)

(for ex oriente members: 40% discount on books, a printed free version of Neo-Lithics; written/faxed orders: please, provide credit card details with holder's name, card number, expiry date and CVV/CVC number)



Co-edited by  
E. Baysal, M. Benz, F. Bocquentin,  
A. Bogaard, F. Borrell, H.G.K. Gebel,  
O. Maeda, I. Milevski

*ex oriente e.V.*  
*Production, Subsistence, and*  
*Environment in the Early Near East*

c/o Institute of Near Eastern Archaeology  
Freie Universität Berlin  
Fabeckstr. 23–25  
14195 Berlin, Germany

[www.exoriente.org](http://www.exoriente.org)

map by the *Tübingen Atlas of the Near East*