NEO-LITHICS 2/14

The Newsletter of
Southwest Asian Neolithic Research

Contents

Editorial

The evil that has befallen the innocent in much of the Levant has horrified us all: slaughter in the name of religion, sudden death due to the proximity of a family's house to hidden missile launchers, war crimes, and governmental abuse of power – or inaction – that have turned parts of Iraq, Syria, Lebanon, and Gaza into apocalyptic scenes from the depths of hell. Many of us whose research has brought into close contact with the people of these regions have been struck mute with a feeling of powerlessness in the face of this unspeakable savagery. Efforts to close the trafficking of blood antiquities looted from sites, museums, and research facilities by *da'esh* to finance their unsupported view of *jihad* have been discussed, but little success has been achieved. The future of the people who have so far survived this brutality remains uncertain, and will remain so, as nations become involved in international bickering of how to resolve the situation; meanwhile families live in trepidation of what the next day could bring. We archaeologists have invested much of our time dealing with people from these regions, and we are emotionally and morally charged with an undefined sense of responsibility for returning the lives of our friends and colleagues – and all the other affected people – back to normal conditions of humanity. How can we raise our collective voice to achieve this goal?

Hans Georg K. Gebel and Gary O. Rollefson

On a happier note, we would like to welcome Dörte Rokitta-Krumnow, former Managing Editor of *Neo-Lithics*, as a future co-editor of *Neo-Lithics*. We also are happy to announce that Ferran Borell is a new member of the *Neo-Lithics* editorial board. Both colleagues are harbingers of a rejuvenation of the editorship of the newsletter and the board.

Klaus Schmidt
1953-2014
A friend's personal obituary

Hans Georg K. Gebel

I was impressed: When in the early days of our friendship (1979) Klaus received information that a colleague was telling around that he has „no idea about lithics", he reacted without getting upset. „Maybe he is right," he just said. At that time Klaus was writing his PhD (on Norşun Tepe) with an already outstanding expertise on the chipped stones.

This small anecdote says a lot about Klaus' personality and character. While others played power games or performed expertise, Klaus remained shy and modest, peaceful and patient, tolerant and generous, pragmatic and active in his academic work and behavior. Especially he was socially minded and cared about people in need in a discreet way. It was his character to avoid conflicts and controversy, bearing them to the utmost, always ignoring them or at least trying not to fuel them. He stayed away from gossip, concentrated on the research issues and what really mattered in research, and refrained from divulging private confidences. While he liked to entertain his team and friends with anecdotes of an archaeologist's life, private things were treated as secondary and not talked about: Prehistory was the major ingredient of all that he did.

Our dear colleague and friend, Klaus Schmidt, passed away on July 20th, 2014, at the age of 60. The great prehistorian and excavator of Göbekli Tepe died during one of the rare vacations he could take with his wife Çiğdem while swimming in the Baltic Sea near Ückeritz, Usedom.

Klaus was not a diplomat. Often his way of avoiding conflicts invited colleagues to go ahead with policies targeting him, while he froze in front of controversies unable to invest the necessary burden of negotiations. Those who knew him better noticed that Klaus' experiences over the years made him more and more mistrustful and suffering and lonely. He secluded himself, despite recognizing that this further enhanced an unhealthy working situation.

Klaus hated academic ado. When we, in recent years, conversed about events in academic social life, we often felt that we did not belong in that environment.

Klaus had a good sense of the oriental mentality, and for that he was trusted, adored and highly respected in Turkey and Jordan. I had the impression that his character and way of dealing with things turned oriental over the decades, and we felt that he respected Muslims. This position and closeness allowed him to discreetly attenuate mistakes done by foreigners in Muslim countries, something which often was not recognized or recognizable.

Klaus was extremely practical and pragmatic, talented in all sorts of improvisation (*e.g.* the many decisions and actions in promoting the early Göbekli project, logistic and technical shortcuts while coping with limited funds). Maybe this talent came from once serving in an army's sapper unit.

Fig. 1 Klaus Schmidt on his way to the site of Göbekli Tepe, in the early years of investigations. (photo provided by Çiğdem Köksal-Schmidt)

As a researcher, Klaus was an extremely knowledgeable and empirically minded scholar who combined an outstanding prehistoric material competency with approaches coming from his classical archaeological studies, a feature clearly attested with his book *Göbekli Tepe. A Stone Age Sanctuary in South-Eastern Anatolia.*

Growing up in Franconia, Klaus developed interests in speleology and archaeology, which in 1974 led him to study prehistoric and classical archaeology as well as geology/palaeontology at Erlangen and Heidelberg universities, Germany. He received his PhD in 1983 for the study of the stone industries of Norşun Tepe from Heidelberg University. Before 1995, when Klaus Schmidt started the excavations at Göbekli Tepe in Turkish Upper Mesopotamia, he held a travel scholarship of the *Deutsches Archäologisches Institut*; had been research associate at the *Institut für Ur- und Frühgeschichte* at

Fig. 2 Fig. 2. Klaus Schmidt in 2007. (photo provided by Çiğdem Köksal-Schmidt)

Heidelberg University; was a research fellow of the *Deutsche Forschungsgemeinschaft*; was engaged in basic research on the late Egyptian prehistory; and was the key excavator of Nevalı Çori near Arabkantara, and of other sites.

The findings of Nevalı Çori enabled Klaus to recognize in October 1994 the true meaning of the surface evidence of Göbekli Tepe Ziyaret, a site that had been known since 1963 in the archaeological literature. (Our friendship started in autumn 1979 when I showed Klaus Schmidt the freshly discovered Nevalı Çori) Before Klaus Schmidt joined the *Orient-Abteilung* of the *Deutsches Archäologisches Institut* with the Göbekli excavations in 2001, the Göbekli project flourished as a joint mission with the Şanlıurfa Museum. In 1999, he earned his *Habilitation* with a thesis on Nevalı Çori; from 2007 he was adjunct professor at Friedrich-Alexander-Universität Erlangen-Nürnberg.

The breath-taking archaeological results of Göbekli Tepe made Klaus a *spiritus rector* and a slave of Göbekli Tepe, including all the consequences this had, including for his health. The enormous publicity caused him to accept lecture requests, travelling constantly around the globe; patiently he guided tourists, colleagues, media people, and officials in Göbekli. His advice, legwork, and support were needed by all sorts of a growing number of stakeholders who saw in Göbekli a business-generating place. The demanding public relations work and related policies prevented him from doing what he was supposed to at Göbekli Tepe: a prehistorian working on his excavation and on his materials. Quite early Klaus lost the prerogative and sovereignty of interpretation for his site; some books and articles appeared from authors who should have contacted Klaus for proper information. As always, in such cases he was astonished and generous, not angry.

The pressure of Göbekli's site management and protection needs, and the various related policies and impacts, were major additional burdens for the prehistorian Klaus. While his expertise, contacts and capabilities were essential for all site management and related strategies and policies, he expected more respect, support, and less exhausting cooperation for his assistance in these important efforts. In the many meetings I had with him when discussing the Göbekli management problems, I felt his deeply felt responsibility for the site, despite these problems and the warning signs of his health. Care for himself was more than once a topic between us. And we discussed the archaeological harvest of his life that he might not be able to bring in in time if he also continues to be responsible for the non-archaeological needs of Göbekli Tepe. Although he had a good team, in the end it was all too much for one person and one heart ...

Klaus Schmidt's work and legacy challenges prehistory and its schools of thought. He created a research in its own right, the Göbekli Research. Klaus Schmidt's engagement provided fundamentally new evidence and understanding that ideologically corporate hunter/gatherer societies existed already 12,000 years ago, maintaining ritual centers with complex symbolism. Klaus Schmidt opened the doors for hitherto unanticipated interpretative frameworks, including new needs of transdisciplinary research, to cope with what he had encountered: formal doctrinal religious/ ideological systems (ideocracies) that existed before - and failed with - the dawn of farming. Klaus Schmidt's interpretations of the Göbekli Tepe findings demonstrate his academic strength, and are a mandate to bring in his harvest.

I lost a dear friend and a fine human being close to me. He went too early, but he was only one step ahead of us. I pray that he found the peace he was searching for in this life. My heartfelt sympathy is with Çiğdem, his wife, for whom he was an ever-caring and loving husband.

Klaus Schmidt 1953-2014.
Condolences and Sympathy Messages

Les préhistoriens de la Maison de l'Orient et de la Méditerranée à Lyon ont appris avec peine la disparition de Klaus Schmidt. Dès avant la découverte de Göbekli, il avait participé à Lyon au second colloque Préhistoire du Levant, puis par la suite au colloque franco-polonais de Varsovie ; il était en outre venu animer plusieurs séminaires de recherche à la Maison de l'Orient et plusieurs d'entre nous se souviennent avec émotion de leur première visite de Göbekli sous la conduite de Klaus.

Frédéric Abbès, Olivier Aurenche, Alain Beeching, Marie-Claire Cauvin, Christine Chataigner, Eric Coqueugniot, Daniel Helmer, Marie Le Mière, Danielle Stordeur and George Willcox

My sincere condolences on the death of Klaus Schmidt. His untimely passing was a great loss to Anatolian and world archaeology.

Güven Arsebük

I was lucky to had the opportunity to work with Klaus Schmidt in 2002 and 2003 in his ‚Aqaba joint project. Sincerely, he was the best director I worked with him until today. He was nice and respectful with the people in my country. My good memories of him, and the time with him, are most precious.

Mohamad M. Atoom

Through skillfully excavating Göbekli Tepe and proposing illuminating interpretations, Klaus Schmidt opened for us a new, unknown page in the prehistory of the Near East. His discoveries force us to rethink every reconstructed scenario we held in the past. Klaus will be also remembered as a nice human being and friendly scholar and will be sorely missed.

Ofer Bar-Yosef

Staub, Sonne, ein Leben,
gegeben – für einen Funken Glück
den Frieden gesucht
auf ewig
Mögen Dein Geist und Herz den Einklang
wiederfinden, der Dir so lange nicht vergönnt war.
In stiller Trauer und Gedenken

Marion Benz

We have been meeting Klaus mostly at the various Neo-Lithics meetings, starting with the first in Berlin 1993 when he was still involved with research in Egypt and Nevali Çori, while looking for his own independent project. On our first visit to Göbekli in 2001, Klaus was a wonderful host and guide, and one could see how Klaus and Göbekli became synonymous, not only for the world but for Klaus himself who totally dedicated himself to the site, its excavation, publication and protection. Klaus was infallibly quiet, slightly reserved and somewhat shy, but with an excellent sense of humour. He remained the same unassuming person through the years as the site gained increasing scientific and public recognition, mostly thanks to his obstinate and ongoing efforts to reveal its wealth to the world. We offer our sincere condolences to Çiğdem. Neolithic research in the Near East will be the poorer for his absence.

Anna Belfer-Cohen and Nigel Goring-Morris

Whilst I only met Klaus Schmidt in person a handful of times, he left a lasting impression. He was extremely generous with his research, happy to share unpublished information and images, and incredibly supportive of colleagues in the discipline, whatever their career stage. I am sorry that I did not get to know him better. He will be sadly missed.

Karina Croucher

Sincere thanks to Klaus for inspiring cooperation in Jordan on water and archaeology. May his soul enjoy deep peace.

Matthias Grottker and team

I record my deep regret the sudden death of Prof. Dr. Klaus Schmidt. I shall miss his friendship, knowledge and wisdom of our dear colleague. May God give him peace and mercy in his other life, insh'allah.

Lutfi Khalil

Klaus Schmidt was a fair and responsible superior, but even more an always helpful friend who always found time to assist, advise and talk. Our shared time in Aqaba and Berlin was not only from the scientific point of view very beneficial for me, but Klaus proved

to be a kind and pleasant colleague. His thinking style was unique, extensive and thought-provoking. I will always keep good memories of his broad and deep expert knowledge, his advice, but also his unique sense of humour. Klaus was able to entertain a whole company with an endless amount of anecdotes from his vast experience of excavations. His death came far too early and the gap he leaves will be impossible to close.

Florian Klimscha

I had the great privilege of having known Klaus since the late 1970s, when we both studied at Heidelberg. He was a very special person who was not interested in academic power games, but loved solving archaeological problems through fieldwork and thorough analysis of material culture. I am deeply grateful for the many things I learned from him and sad that I will not hear his unmistakable voice again.

Joseph Maran

Because of his vast knowledge, Klaus was surely destined to become not only a respected researcher in his field, but a genuine revealer of matters formerly resting in the dark. Klaus‘ talent was teamed up with profound intuition, an unheard-of generosity and a love for the human kind that could reach us at an instant, because it took its momentum so obviously from his inside. It didn‘t need more than a spontaneous and unannounced first visit to Klaus‘ excavation in Göbekli Tepe back in 2002, to create this lasting impression. Therefore so many of us miss him so much.

Inna Mateiciucová

The unexpected death of Professor Klaus Schmidt, an outstanding archaeologist and an exceptional Neolithic Middle East expert, is a tragic loss to the world of science. I, personally, and our entire Tell Qaramel research team, remain deeply saddened by the passing of our great friend and a wonderful person.

Ryszard F. Mazurowski and the Tell Qaramel research team

My recent visit to Göbeklitepe was in September (2014) and you were there, Klaus. And will always be there.

Mihriban Özbaşaran

The untimely loss of Prof. Dr. Klaus Schmidt was a great sorrow to us all; he was an eminent scholar and a good friend. Through his work, Göbeklitepe has earned a reputation, not only in the academic sphere but also by the general public on global level. Klaus Schmidt had devoted his life to the Urfa region; through his working strategy, assessment and interpretation of the material of Göbeklitepe has been an indispensable contribution to our understanding of the Pre-Pottery Neolithic Period.

Mehmet Özdoğan

When he visited Edinburgh to speak of Göbekli, Klaus made extra time available for the research students - until the early hours of the morning. His generosity and enthusiasm are but just two of the qualities for which he will be sorely missed.

Edgar Peltenburg

Klaus Schmidt was one of the smartest people I have ever met in my life. The history of discovery of Göbekli Tepe is an illustrious example of what profound knowledge and scientific intuition can do. For me he has been and remains a researcher with a brilliant mind, a genius of archaeology. And his personality was no less exciting, thought-provoking and enigmatic than his site. His unexpected death is a tremendous loss to science and to all of us.

Konstantin Pustovoitov

Well-known for his fascinating fieldwork, Klaus Schmidt was one of a very small group of archaeologists with deep expertise and interest in both the Neolithic and the Paleolithic as well. We miss him as an experienced advisor and a reliable mentor.

Jürgen Richter

More than three decades Klaus Schmidt accompanied the works of our archaeozoological research at LMU Munich. He stimulated our research in so many ways in academic and personal terms. The fruitful infield discussions, and at many other occasions, will always be kept in good memory, as well as his contribution to our ichthyological collections: although badly in need of animal protein, some of his catches from the Euphrates River now serve for the identification of archaeological fish remains. We terribly miss this most dedicated archaeologist, generous person and dear friend.

Joris Peters, Nadja Pöllath and Michaela Zimmermann

By the entirely unexpected death of Klaus Schmidt we have lost not only an excellent researcher and

archaeological freethinker. We also mourn the loss of a nice and modest person, colleague and teacher, who was always willed to share his thoughts and be respectful of other opinions. I will keep Klaus in my mind as the person who accompanied and supported the beginnings of my work in the Near East. My thoughts are with his family and his wife Çiğdem.

Kristina Pfeiffer

Klaus: You‘ve gone on ahead, but the memories remain clear and vivid: the Wembach Modules; the excitement of the Nevali Çori materials at Heidelberg University; a beer or two in Aqaba. How sad to see you leave us.

Gary Rollefson

Klaus was all too unexpectedly taken away. Klaus was a good man, a good friend and an excellent archaeologist. Knowledgeable as he was, Klaus was modest, always ready to discuss and exchange ideas. Klaus felt that there were gods at that mysterious Gobekli culture. The gods of Göbekli have seemingly approved the way Klaus has treated them and invited him to join them. May he rest in peace.

Avraham Ronen

Klaus was taken from us too soon. But, his dedication to enhancing our understanding of the Neolithic ‚revolution‘ remains as an inspiration to those who will follow in his footsteps and what that dedication produced in the way of discoveries during his too short lifetime ensures that he will be long remembered as one of the greats, along with Braidwood, Çambel, and Mellaart, whose discoveries revolutionized our thinking about the Neolithic societies of Anatolia.

Michael Rosenberg

As a mentor, colleague, and friend, Klaus has left a significant mark in both our lives. His enthusiasm for the Neolithic was formative for the paths our own archaeological work has taken. From Klaus we did not simply learn the dry skills of good archaeological research, but he instilled in us a sense of amazement and wonder regarding the past, and a deep respect for history. With each memory of Klaus, we are reminded of his kindness and generosity, his readiness to share his knowledge with us, and many invaluable hours of storytelling on evenings after fieldwork.

Maresi Starzmann and Dörte Rokitta-Krumnow

Göbekli and Jerf el Ahmar were part of the same world. Their inhabitants expressed themselves with the same symbols. Their pictograms were understood by all. I have shared with Klaus Schmidt a passion to understand this common language. Today the aurochs, the vultures, the snakes and the panthers are in mourning. It is with them that I share my sadness.

Danielle Stordeur

Stone Vessels from the PPN Site of East Chia Sabz

Hojjat Darabi

Abstract: East Chia Sabz is located on the left bank of the Seimareh River, Western Iran, and dates back to the Pre-Pottery Neolithic; the site is now flooded by the lake created by Seimareh Dam. During the first rescue excavation in 2009, rich collections of chipped lithics, ground stone tools, architectural remains, etc. *were discovered. Among these, 34 stone vessel fragments are attested. These artifacts are mostly made of limestone, though a few fragments are of dolomite, sandstone, and marble. Open bowls and deep semi-globular bowls dominate. They are finely crafted and sometimes polished; in the earlier layers, the manufacture of the stone vessels possibly was "coarser". The collection shows similarities with other PPN sites across the Fertile Crescent where thin stone vessels including marble were used since the 8th millennium BC, indicating inter-regionally applied technologies in Neolithic societies.*

Keywords: Stone vessel, East Chia Sabz, PPN, Western Iran

Introduction

Among the ingredients of the "Neolithic Package" (Çilingiroğlu 2005) are ground stone vessels in villages of the Fertile Crescent, including western Iran, where they are one of the most precise cultural markers (Kozłowski and Aurenche 2005: 25). Several decades of archaeological investigations in western Iran have shown that it is one of the most informative regions for the early steps towards sedentism (Darabi 2012). Neolithic sites such as Tappehs Sarab, Asiab (Braidwood 1961), Guran (Mortensen 1972), Ganj Dareh (Smith 1976) and Abdul Hosein (Pullar 1990) were excavated in the 1960-70s; and recent excavations at Sheikhi-e Abad (Matthews *et al.* 2010, 2013), Chogha Golan (Zeidi *et al.* 2012) and East Chia Sabz (Darabi *et al.* 2011) yielded new information on the Neolithization process of the region (*cf.* Darabi 2012).

East Chia Sabz is located on the left bank of the Seimareh River. The site's area is about 100 x 50 m (at 362 m a.s.l.; Figs.1-2). Today, the site is drowned in the waters of Seimareh reservoir, but during the rescue excavations directed by the author in 2009, two step trenches investigated the stratigraphy. In addition, two other exposures aimed to uncover parts of PPN architecture. It is expected that the site's occupations cover periods between 8,800-6,800 BC. More general information on the site and finds can be found in Darabi *et al.* 2011, and more detailed information in Darabi 2011; Darabi and Glascock 2013, and Riehl *et al.* 2012. This paper, however, discusses only the stone vessel assemblages in terms of raw material and shapes. Comparison with similar finds from other sites provides a wider spatial context of the findings.

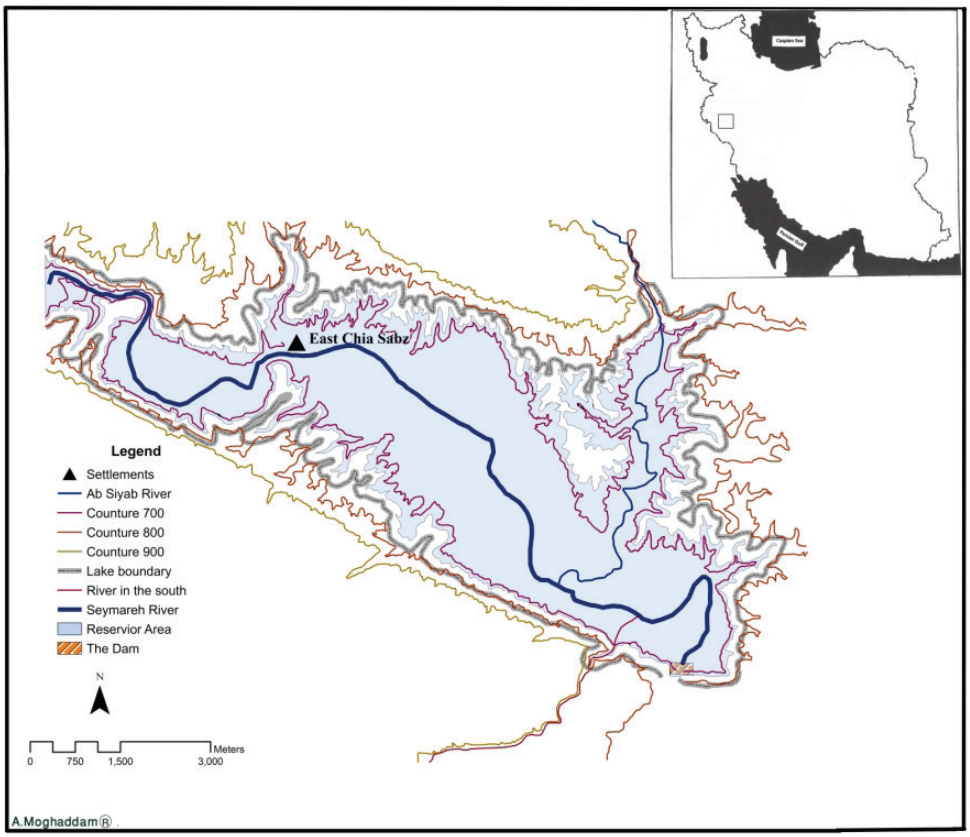


Fig. 1 Location of East Chia Sabz inside the Seimareh reservoir area, in western Iran. (Modified from drawing by A. Moghaddam).

Stone Vessels

K. Wright (1992: 75) describes stone vessels as objects that must have a well-defined rim, a well-defined base, a continuous exterior surface, a consistent (or gradually changing) thickness of the vessel's walls, and an exterior finishing. As mentioned above,

the stone vessel artifact class is used (among other classes) to define boundaries of Neolithic cultures in the Near East (Kozłowski and Aurenche 2005); they assist investigations on cultural-technological changes through time and on inter-/intra-regional interaction.

Thirty-four stone vessel fragments were found during the 2009 operations at East Chia Sabz. They feature rims as well as body and base parts. Most were found in the two trenches exposing architecture (Figs. 3-4) and were distributed mainly in and around the houses. It should be noted that several more pieces were been as stone vessels (Darabi *et al*. 2011: 257), but later analysis reclassified them as other ground stone tools, notably mortars.

Raw Materials

The stone vessels are mostly made of limestone while a few are of sandstone and dolomite (Fig. 5); one fragment found in Trench III which was made of marble (Darabi *et al.* 2011: 258). The limestone used is soft but not brittle. Flaking appears easily accomplishable but edges quickly dulled. Most limestone could easily be smoothed. The limestone qualities obviously were selected according to the manufacturing needs. As a result of its coarse and heterogeneous texture, local sandstone is hard and must be flaked. However, coarse sandstone "erodes" quickly by abrasion **(**Wright 1992: 54-5**).** Dolomite is a carbonate rock, and marble is formed when heat and pressure alter limestone; it is also a rather soft rock since it largely consists of calcite (Fuller 2003: 120-122).

Shapes

Typologies of stone vessels vary significantly. Most typologies are based on a combination of criteria, *e.g.*, profile, rim and base shapes, vessel volumes, *etc*., and employ different definitions and terminology. The classification given here, however, is based on profile shapes, though base features are also given attention. At East Chia Sabz, two types of bowls are clearly recognizable: open bowls and deep semi-globular bowls (Fig. 6). Open bowls have flat bases and tapered rims (Fig. 7). In one case, the base is slightly curved. Deep semi-globular bowls show a similar flat base, but with rims that are slightly curved inward (Fig. 8). Both forms show fine walls, sometimes polished. Fine vessels have been discovered from the later layers while samples with coarse walls are from earlier layers. One coarse fragment was reused as a mortar (Fig. 9). Rims are sometimes perforated. Unlike those known from sites such as Chogha Sefid (Hole 1977: 146) or Jarmo (Adams 1983: 210), no sample with an outward curved rim is attested.

Discussion

Stone vessels often appeared with the beginning of sedentary lifestyle, as in the Levantine Natufian. Over time, general tendencies towards vessel wall thinning and shape diversification can be observed in Near Eastern stone vessel technologies. These transformations seem to go together with the use of new raw materials. In the Levant, semi-globular vessels with thick/coarse walls were used in the PPNA, being

Fig. 2 General view of the site at the time of excavation, looking east. (Photo: H. Darabi)

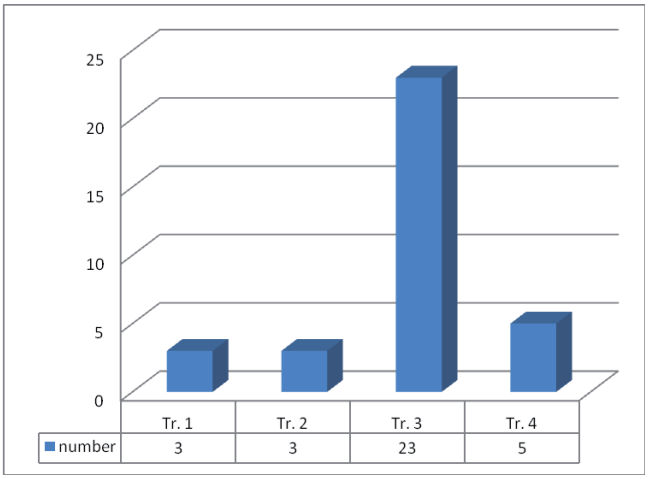


Fig. 3 Frequencies of stone vessel fragments found in the different trenches. (Graph: H. Darabi)

Fig. 4 Selection of stone vessel fragments (top left: marble, others: limestone; free-scale). (Photos: H. Darabi)

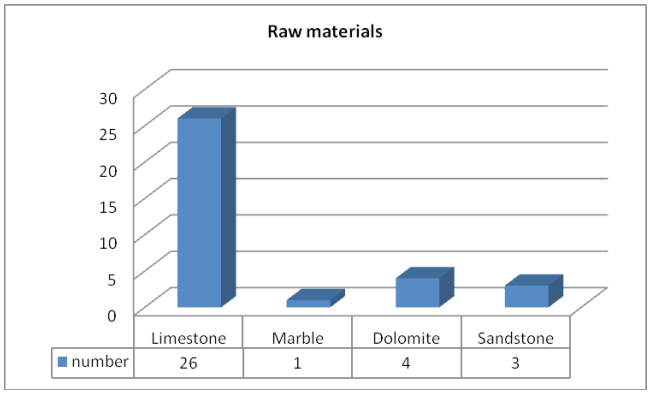


Fig. 5 Frequencies of stone vessel raw material. (Graph: H. Darabi)

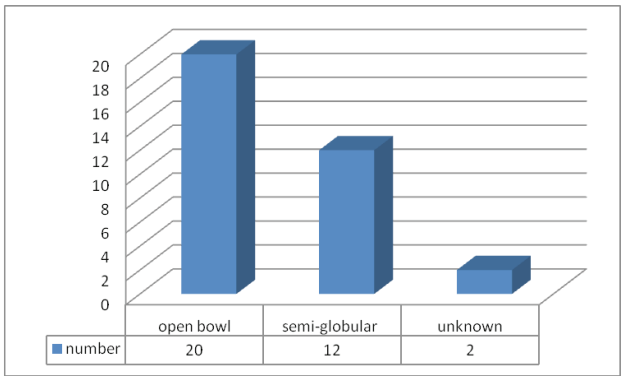


Fig. 6 Frequencies of the stone vessels shapes. (Graph: H. Darabi)

gradually replaced by thinner ones in the succeeding PPNB; by the end of the PPNB, more marble was used to facilitate wall thinning and profile refinement. Marble is known as a raw material that was traded across Fertile Crescent (Kozłowski and Aurenche 2005: 25). This leads us to suppose that the people of East Chia Sabz in the late 8th millennium BC participated in an inter-regional exchange of raw materials, stone vessel technologies, and shape preferences. At least, they participated in the obsidian trade, for example. Aside from East Chia Sabz, marble vessels have been discovered from several more Neolithic sites: Jarmo (Adams 1983: 210), Ali Kosh (Hole *et al.* 1969), Chogha Sefid (Hole 1977: 146), Chogha Bonut (Alizadeh 2003: 70) and Guran (Meldgaard *et al.* 1963: 119), indicating that this raw material must have been easily available from the early 7th millennium BC onwards. The networks and mechanisms of trading marble are unknown; the possible role of nomadic people should not be ignored. However, it is unknown whether marble vessels were locally produced or imported as final finished artifacts. Few Neolithic marble vessel fragments are known from western Iran. This possibly relates to the easy access to other suitable raw materials such as limestone. Stone vessels, however, are a common artifact class though usually represented in low frequencies. In the Western Iranian Neolithic, stone vessels were usually undecorated: decorated stone vessels are more common in Anatolia and the Levant, as well as sometimes Northern Iraq. (Kozłowski and Aurenche 2005: 169).

General Conclusions

As elucidated above, the stone vessels of East Chia Sabz appear consistent with other Neolithic occurrences in terms of raw material and shapes. A shift from coarser to finer items, however, is noticeable throughout the site's stratigraphy. This is in line with other Neolithic sites across the Near East. The shapes and raw materials suggest that the inhabitants

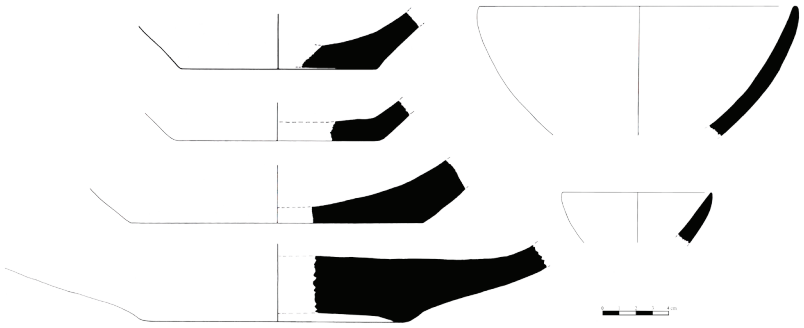


Fig. 7 Open bowls with flat base. (Drawing: N. Niazi)

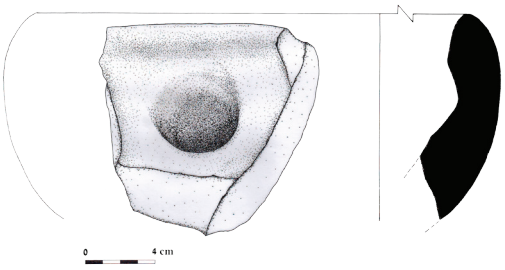


Fig. 9 A stone vessel fragment which reused as the mortar. (Drawing: N. Niazi)

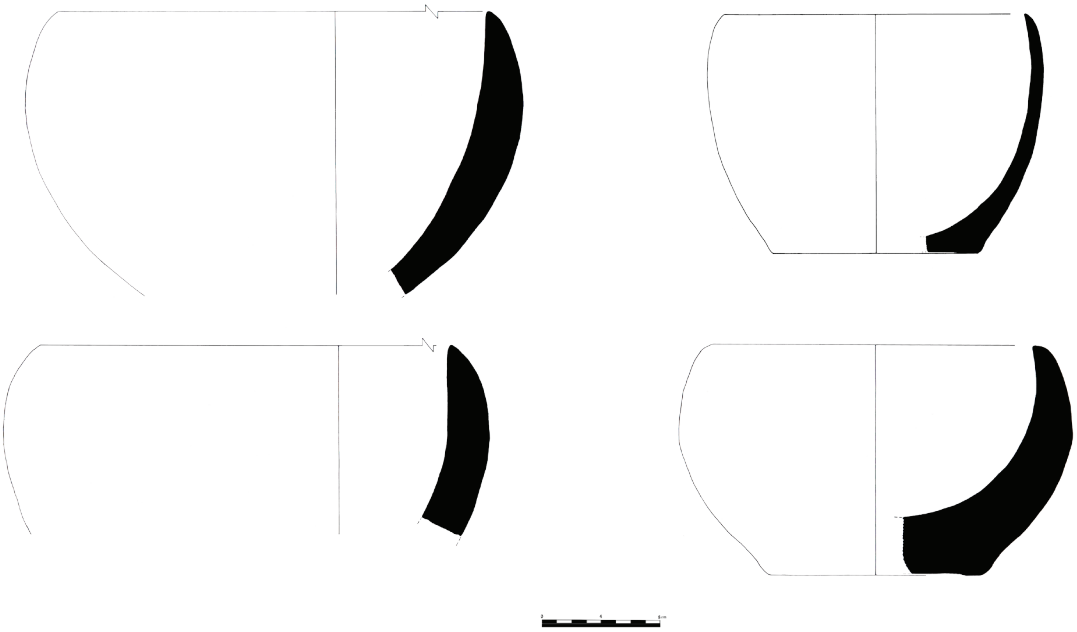


Fig. 8 Deep semi-globular bowls. (Drawing: N. Niazi)

of East Chia Sabz participated in an inter-regional exchange, perhaps since the late 8th millennium BC. Distribution patterns of the discovered stone vessel fragments indicate that they might have been used both inside and outside houses; no particular stone vessel workshop was identified in the trenches. The finer (later) stone vessel products could give clues to a kind of Neolithic craft specialization at inter- or intra-site levels.

Hojjat Darabi
Department of Archaeology, Razi University,
Kermanshah, Iran
h.darabi@razi.ac.ir

References

Adams R.Mc.
1983 The Jarmo stone and pottery vessel industry. In: L.S. Braidwood, R.J. Braidwood, B. Howe, C.A. Reed, and P.J. Watson (eds.), *Prehistoric Archaeology Along the Zagros Flanks*. Oriental Institute Publication 105: 209-232.

Alizadeh A.
2003 *Excavation at the prehistoric mound of Choga Bonut, Khuzestan, Iran*. Oriental Institute Publications 120.

Braidwood R.J.
1961 The Iranian Prehistoric Project. *Iranica Antiqua* 1: 3-7.

Çilingiroğlu Ç.
2005 The concept of "Neolithic Package": Considering its meaning and applicability. *Documenta Praehistorica* 32: 1-13.

Darabi H.
2011 New architectural remains from Neolithic site of East Chia Sabz, Seimareh Dam. *Athar* 51: 46-55 (in Farsi).
2012 Towards reassessing the Neolithization process of Western Iran. *Documenta Praehistoric*a 39: 103-110.

Darabi H. and Glascock M.
2013 Source of obsidians found at East Chia Sabz. *Journal of Archaeological Science* 40: 3804-3809.

Darabi H., Naseri R., Young R., and Fazeli H.
2011 Absolute chronology of East Chia Sabz: A Pre-Pottery Neolithic site in Western Iran. *Documenta Praehistorica* 38: 255-265.

Fuller S.
2003 *1001 Facts about Rocks and Minerals.* London, Dorling Kindersley Book.

Hole F.
1977 *Studies in the Archaeological History of the Deh Luran Plain: The Excavation of Chogha Sefid.* Ann Arbor, Michigan.

Hole F., Flannery K.V., and Neely J.A.
1969 *Prehistory and Human Ecology on the Deh Luran Plain*. Memoirs of the Museum of Anthropology 1. Ann Arbor, The University of Michigan Press.

Kozlowski S.K. and Aurenche O.
2005 *Territories, Boundaries and Cultures in the Neolithic Near East.* British Archaeological Reports - International Series 1362, Oxford.

Matthews R., Mohamadifar Y., Matthews W., and Motarjem A.
2010 Investigating the early Neolithic of Western Iran: The Central Zagros Archaeological Project (CZAP). *Antiquity* 84. Online Project Gallery.

Matthews R., Matthews W., and Mohamadifar Y.
2013 *The Earliest Neolithic of Iran. 2008 excavations at Sheikh-e Abad and Jani.* British Institute of Persian Studies Archaeological Monographs Series IV. Oxford, Oxbow Books.

McAdams R.
1983 The Jarmo stone and pottery vessels industries. In: L.S. Braidwood, R.J. Braidwood, B. Howe, C.A. Reed and P.J. Watson (eds.), *Prehistoric Archaeology Along the Zagros Flanks*. Oriental Institute Publications 105: 209-232.

Meldgaard J., Mortensen P., and Thrane H.
1963 Excavations at Tepe Guran, Luristan. *Acta Archaeologica* 34: 97-133.

Mortensen P.
1972 Seasonal camps and early villages in the Zagros. In: P.J. Ucko, R. Tringham, and G.W. Dimbleby (eds.), *Man, Settlement and Urbanism*: 293-297. London, Gerald Duckworth.

Pullar J.
1990 *Tepe Abdul Hosein, A Neolithic Site in Western Iran, Excavations 1978*. British Arachaeological Reports - International Series 563, Oxford.

Riehl S., Benz M., Conard N.J., Darabi H., Deckers K., Fazeli H., and Zeidi M.
2012 Plant use in three Pre-Pottery Neolithic sites of the northern and eastern Fertile Crescent: a preliminary report. *Vegetation History and Archaeobotany* 21.2: 95-106.

Smith P.E.L.
1976 Reflection on four seasons of excavations at Tappeh Ganj Dareh. in F. Bagherzadeh (ed.), *Proceedings of the 4th Annual Symposium on Archaeological Research in Iran:* 1-22. Tehran.

Wright K.
1992 A classification system for ground stone tools from the prehistoric Levant. *Paléorient* 18/2: 53-81.

Zeidi M., Riehl S., Starkovich B., and Conard N.
2012 Excavation results from Chogha Golan, a PPN site in the Zagros Region of Western Iran. *Abstracts submitted to the 11th Annual Symposium of Iranian Archaeology*: 40-41. Tehran, National Museum.

Multilayer Floors in the Early Holocene Houses at Körtik Tepe – an Example from House Y98

Felix Schreiber, Aytaç Coşkun, Marion Benz, Kurt W. Alt, Vecihi Özkaya
(with contributions from Nicole Reifarth and Elisabeth Völling)

Becoming sedentary is considered a decisive threshold in the progress from foraging to farming (*e.g.* Dunbar 2013). In this article we present the stratigraphy of one early Holocene dwelling at Körtik Tepe, southeastern Turkey (37°48'51.90''N, 40°59'02''E), which not only provides evidence for a strong territorial commitment to the tell but it also suggests year-round sedentism. Additionally, micro-morphological analyses of three soil samples from inside this building provide invaluable information concerning the fabrication of a pristine form of textile.

At first sight, the round stone buildings of Körtik Tepe are the most prominent discoveries of the excavations. The walls of these simple dwellings are built of large pebbles, unworked limestone, and large reused stone mortars or grinding stones (Özkaya and Coşkun 2011). Between 2000 and 2012, almost 100 of these buildings were excavated by the Turkish team of archaeologists, directed by V. Özkaya (University of Diyarbakır). Trench A71 provided an opportunity to study one of the earliest Holocene buildings in detail[1]. Consequently, it was then possible to describe architectural details and tackle questions concerning the development of the inner space of the building.

In 2012, via systematic excavation of single natural layers, very thin living floor layers were documented inside the building in a small profile and on the excavated surfaces. Similar observations on ancient house floors and on building micro-layers were already known from other trenches at the site – for example, in the east profile of Trench A21. In several instances at the site, sequences of very thin layers alternating with thicker more heterogeneous layers were documented and radiocarbon dated to the Younger Dryas (Phases VII und VIII) (Benz *et al.* 2012, 2013; Coşkun *et al.* 2012). However, so far, hardly any detailed observations concerning the relationship of these layers and the outer walls of the buildings have been made. The results presented here not only address this issue but also discuss the development of the building (Y98) in Trench A71 and provide further arguments for early sedentism at Körtik Tepe.

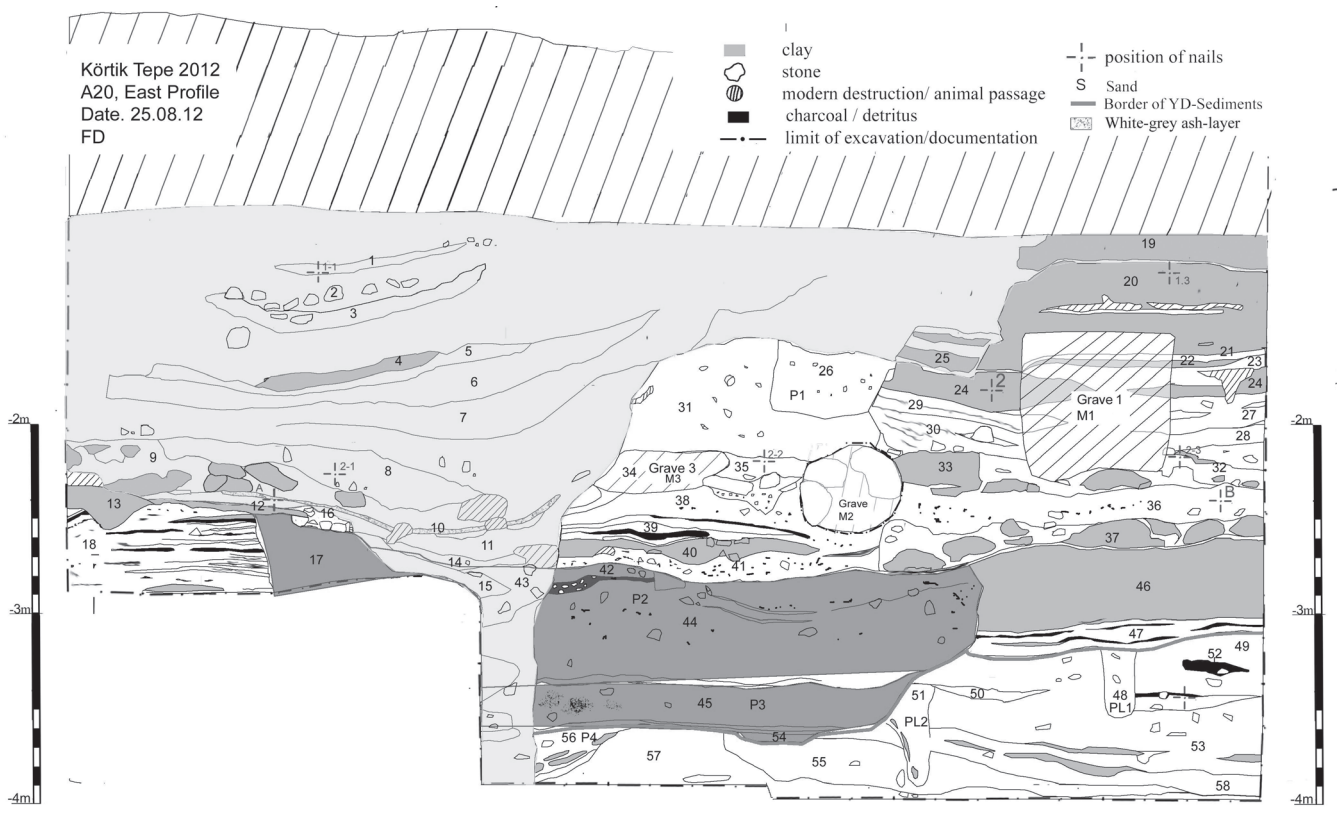


Fig. 1 Eastern Profile of Trench A20 with an early Holocene, semi-subterranean building. The upper layers of this building were destroyed by a huge (pre-)modern pit, similar to the discovered in Trench A71 (illustration: F. Doğan). (A full description of the profile is given in the stratigraphy report here: http://www.vorderasien.uni-freiburg.de/forschung/projekte-der-mitarbeiterinnen/dr.-marion-benz/koertik-tepe).

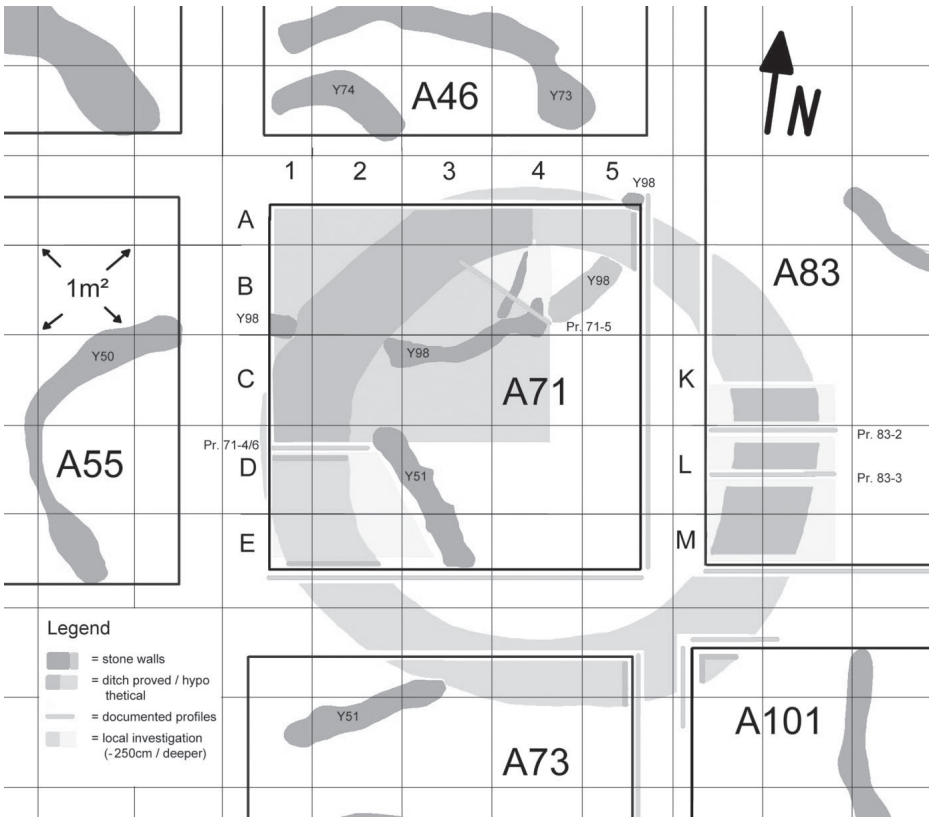


Fig. 2 Schematic illustration of Trench A71's structures and surroundings (illustration: F. Schreiber, after Özkaya *et al*. 2011: 331, Fig. 2).

The Early Holocene Buildings

With the exception of three large buildings – the largest with a maximum diameter of 3.80 m – most of the dwellings at Körtik Tepe have diameters of no more than 3 m. The structures are built up from a single row of dry masonry. Due to the destruction caused by the more recent occupation of the site (here, in particular, during the Islamic Middle Ages up through the most recent periods), in many cases only the lowest row of stones is preserved (Özkaya and Coşkun 2011: 91). The comparison with other early Holocene sites, such as Hallan Çemi, Tell 'Abr 3, Jerf el Ahmar, Mureybet, Qermez Dere and Nemrik, Hasankeyf Höyük, and Gusir Tepe show that these single-roomed, round buildings with plain or semi-subterranean floors are characteristic of the pre-ceramic Neolithic settlements in northern Mesopotamia (Watkins *et al.* 1989; Kozłowski and Kempisty 1990; Peasnall 2000; Stordeur *et al.* 2000; Yartah 2005; Stordeur and Ibañez 2008; Rosenberg 2011; Karul 2011; Miyake 2013).

Hallan Çemi, a site about 65 km from Körtik Tepe up the River Batman, is most similar to Körtik Tepe. There, some of the buildings have been proven to be semi-subterranean. Additionally, they are said to have consisted partly of wattle and daub structural components (Rosenberg 2007, 2011). Impressions of twigs in daub at Körtik Tepe led the excavators to propose tent-like superstructures of wood and clay here too. The thinness of the single-row stone walls implies that the buildings were, at least in the lower part, dug into the soil with the stones serving to fix the earthen walls into place. Although it was not possible to document a semi-subterranean construction in Trench A71 because of the later massive destruction that occurred on-site, such a building and the living floors within this building are well documented in the eastern profile of Trench A20 (Fig. 1).

Hallan Çemi and Körtik Tepe can thus be considered the most ancient permanent sites in the region, promising key information for a better understanding of the process towards sedentism. The results of strontium and oxygen analyses corroborate these observations. They indicate that all of the analysed individuals (n=89) grew up at or nearby Körtik Tepe (Scheeres *et al.* in prep.). However, despite the high commitment to the location, neither the animal bones (Özkaya *et al.* 2011) nor the archaeobotanical remains (Riehl *et al.* 2012) give any evidence for incipient domestication or for specialisation of a few species. On the contrary, the people of Körtik Tepe consumed a wide range of plants and animals, including fish. In the archaeobotanical remains there are very few cereal remains, but a high variety of possible other potential food plants (Benz *et al.* 2013)[2]. The high number of stone mortars and grinding stones points to a high intensity of plants in the diet and underlines the commitment to the site. There is good reason to suggest the people of Körtik Tepe were sedentary, but non-specialised hunters, gatherers and fishermen.

Compared to the Younger Dryas period, the density and sophistication of the buildings increased at the beginning of the early Holocene and Körtik Tepe witnessed a cultural zenith marked by, amongst other exceptional things, rich burial grave goods and elaborate burial rites for some individuals (Özkaya and Coşkun 2011).

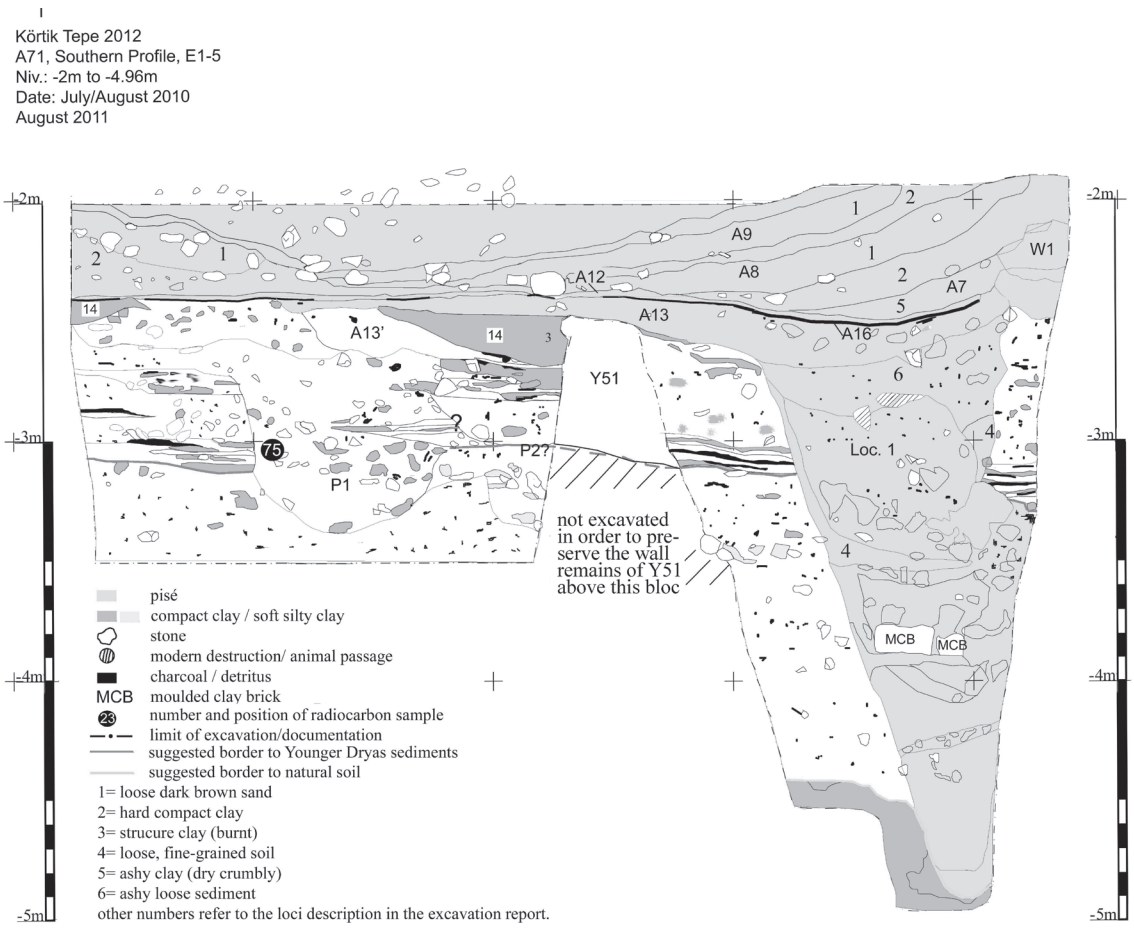


Fig. 3 South Profile of Trench A71 with the ditch construction and its filling marked in light grey (illustration: M. Benz/M.D. Jebb-Albaba/F. Schreiber).

Building Y98

Building (Turkish: *Yapı*) Y98 is located in Trenches A71 and A46 (Fig. 2). Based on its stratigraphic position, it can be dated to the earliest Holocene period of the site. The foundations of the building's stone wall are set into the older layers of the Younger Dryas. In Trench A71 the building was destroyed by a more recent structure (Schreiber *et al.* in prep.), for which the early Holocene remains were taken down to -247 cm (below the excavation zero point), including all the walls of the ancient buildings (Fig. 3). Moreover, in the northwest and northern part of the trench, it is completely destroyed by an enormous round ditch, which belonged to the above mentioned (pre-) modern structure and which was cut through all the ancient layers down to natural soil. Outside this ditch, in the western profile of Trench A71, the remains of the stone wall of Y98 are preserved up to -190 cm, and up to -175 cm in the north-eastern edge of the trench. In Trench A46, the walls of Y73 and one wall of Y74 as well, which probably belonged to Y98, are preserved up to -170 cm.

Building Y98 was first discovered during the documentation of the round ditch construction in 2010 (Özkaya *et al.* 2011: Fig. 4). During the excavations in 2011, its remains were documented in the uppermost planum (Planum 4) (Fig. 4 and 5). In this planum an additional wall within the building was documented segregating the southeastern part of the building from the main room. Inside the building, during the 2011 excavation, a living floor was uncovered, which had already immediately shown interesting details concerning the genesis of the layers. Therefore, in 2012, the excavation continued in a small area within the grid squares of B3 and B4 removing, whenever possible, one layer after the other (down to -346 cm).

The aims of this small test excavation were to:

- identify and excavate single micro-layers, especially from living floors;
- distinguish construction details and their changes during the occupation of Y98;
- and to determine the relationship of the different floors with the stone walls, in order to understand the development of the building and how the inhabitants constantly reused and renewed it.

At first, a profile (Profile A71-5) was created from the southeastern edge of the building to its suggested central point cutting through the segregated room (Fig. 4). The excavation was directed almost entirely by the "natural" layers. Nevertheless, it was nearly impossible to uncover the micro-layers because they were not continuously preserved but, instead, were very patchy and exhibited structured surfaces.

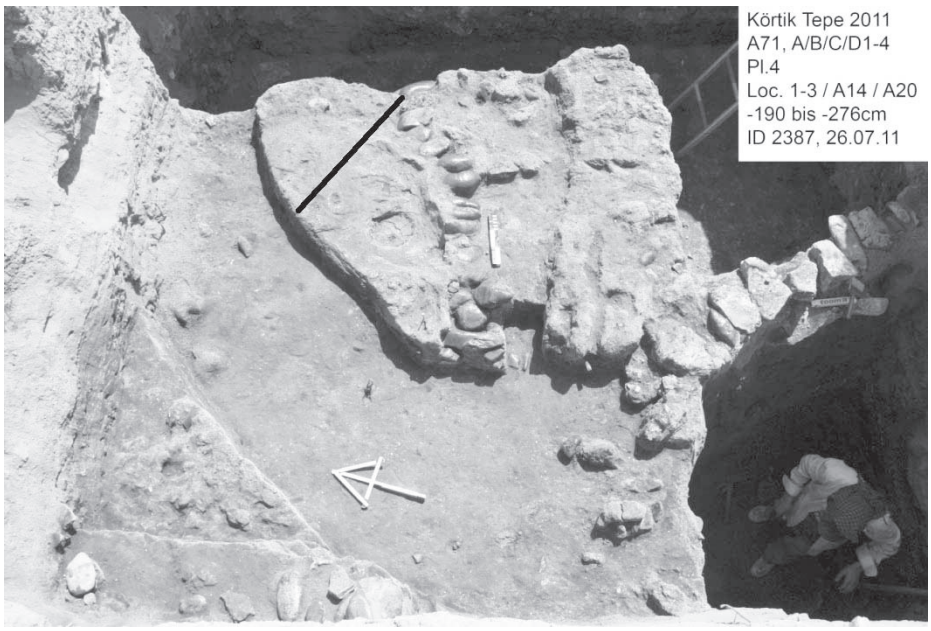


Fig. 4 Planum 4 of Trench A71. The location of the profile cutting through the house layers is indicated by a black line (photo: F. Schreiber).

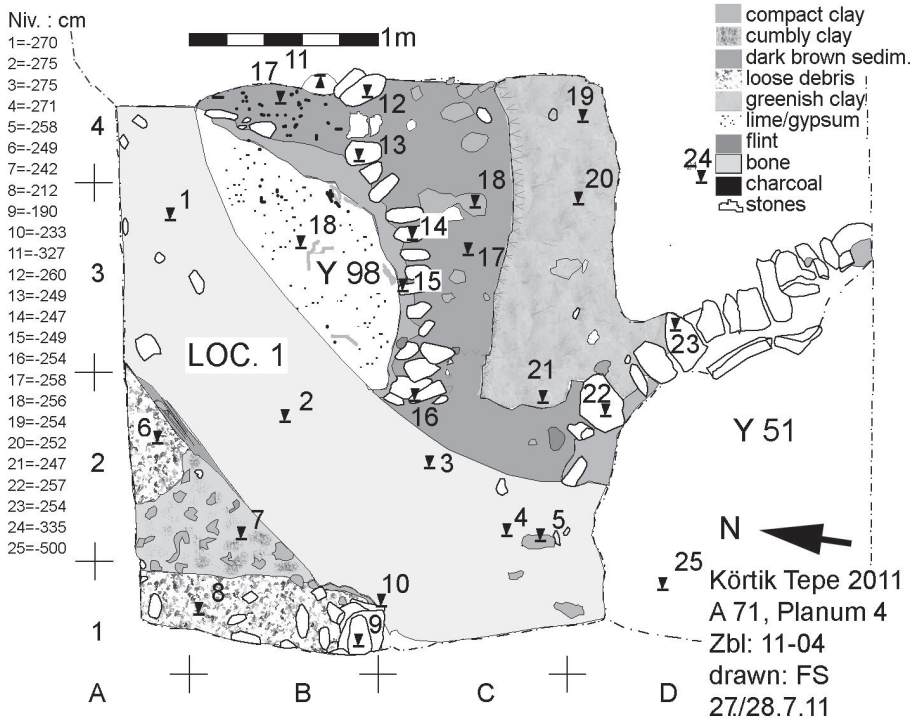


Fig. 5 Illustration of Planum 1, Trench A71 (illustration: F. Schreiber).

Results

In Pr. A71-5 (Fig. 6 and Harris-Matrix in the appendix) three multi-layered levels are visible (Loci 3-iv-5/7, 3-iv-2 and 3-ii-1) alternating with layers of more massive fillings or debris (Loci 3-iv-3, 3-iv-1 and 3-ii-2).

Whereas the three multi-layered levels, each consisting of several very thin layers, can be interpreted clearly as occupational floors (*i.e.*, constructional floors and living floors), it is more difficult to definitively determine the genesis of the more massive layers. One approach is to interpret them as a filling with unstratified settlement debris due to a temporary abandonment of the house. However, the filling does not necessarily imply the abandonment and later re-occupation. It could also be the result of an intentional renovation or rearrangement of the living floor (Fig. 7). This idea is supported by the fact that such an adjustment may have became necessary at Körtik Tepe because of the intense settlement activities at the site, as marked by the general rising of the tell's surface. Perhaps the construction of the walls and roof were also altered in that process. Nevertheless, due to the poor preservation, it is not possible to prove this within the archaeological record.

In terms of their geoarchaeological composition, the multi-layered floor remains are comprised of very thin alternating layers (often less than three millimetres thick) of gypsum, yellow-reddish clay and dark brown

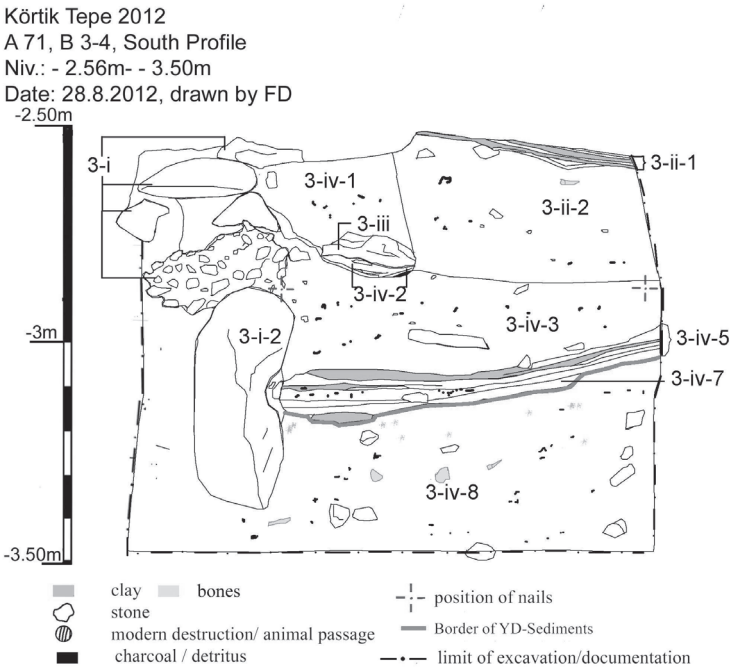


Fig. 6 Illustration of the southern profile of Trench A71-5, B3-4 (illustration: F. Doğan).

to black sediments (Figs. 8 and 9). This sequence is not always complete with one or another of the components missing at irregular intervals. This is especially true for the gypsum layers, which are sometimes so poorly preserved that they appear as very small granules of 1-5 mm. These gypsum pieces probably once represented a continuous layer, now long since washed out (*e.g.*, Locus 3-iv-7). In other sections, the gypsum is well preserved in thick layers, covering bones and other organic materials (*e.g.*, Locus 3-iv-2; Fig. 9).

It is likely that these strata played a purposeful role in the building's construction and/or use. For example, the clay was intentionally applied as a floor to create a smooth and hard surface. Whereas it can be suggested that the dark brown to black layers were from the remains of organic materials accumulated from daily activities. The intentional covering of the floor with organic substances, like grasses or mats, could also be the source of the dark brown to black sediments (see below). The gypsum (conclusively identified by geologist K. Pustovoytov) might have been used for hygienic reasons, perhaps against pests. A final note worthy of mention here is that some corpses were also completely covered by gypsum (Özkaya 2009: 5).

In Planum 4 (Figs. 2, 4 and 5), a segregation wall is visible bending from the main outer wall into the building. This secondary wall ostensibly diminishes the inner space to about two thirds of the original building size. Of course, this is only an estimate as Y98 was only partly documented. Nevertheless, a similar reduction of a structure's inner space by a segregating wall was observed in house Y76, which is only about 6 m northeast of Y98 (Fig. 10).

Additional Observations of Note

In Profile A71-5, an impressively huge stone (53 cm high, 25 cm wide) is positioned at the base of the building. It is a pierced and worn mortar, which was used here vertically, in a secondary position and function (Locus 3-i-2). There was no foundation trench for the stone wall. However, the mortar was pushed into the soil at least 20 cm. The soil in which the building was founded consists of the sandy/silty dark brown occupation layers of the Younger Dryas (here: Locus 3-iv-8). The building thus clearly represents one of the earliest buildings of the early Holocene period. The first floors were formed after the construction of the walls (Figs. 6 and 8).

The first multi-layered level (first occupation phase) (Loci 3-iv-7 and 3-iv-5) is comprised of a high concentration of gypsum particles in its lowermost part (3-iv-7), with some pieces measuring up to 1 cm in thickness. In contrast, the uppermost part mainly consists of alternating layers of clay and dark brown to black sediments (3-iv-5). Here, it is possible to distinguish up to 34 layers, whereas in the lowermost part (3-iv-7) there are only about nine. Generally, these layers slope slightly upwards to the centre of the building. Within one of the layers of Locus 3-iv-5, beneath one of the expanses of organic remains, there was a reddish-brown substance (Fig. 11). This colouring was also likely a result of decaying organic material (possibly bone or leather). Both levels, Loci 3-iv-5 and 3-iv-7, also revealed very small flint flakes. Above these two layers there is a massive (*ca*. 22 cm thick) unsorted

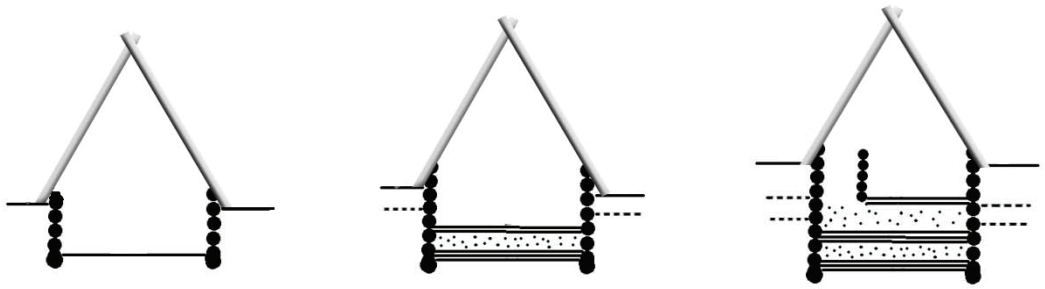


Fig. 7 Schematic sketch of uplifted area inside and outside the house. The roof construction is hypothetical (illustration: F. Schreiber).

Fig. 8 Detail of Profile A71-5. The mortar was in a secondary position within the earliest living floor as one of the foundation stones for the building (Locus 3-iv-5 and 3-iv-7).

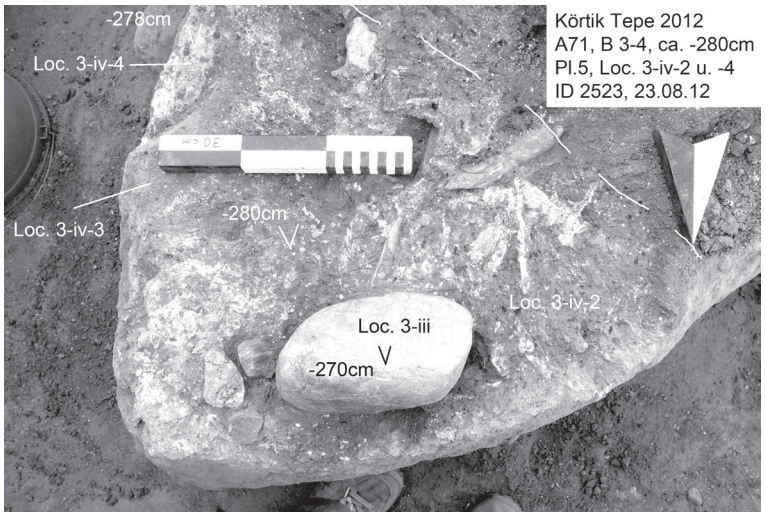


Fig. 9 Gypsum layer within Locus 3-iv-2 of Planum 5.

layer of dark brown sediment (Locus 3-iv-3) made up of a variety of material, such as bone, obsidian, flints, and stones. Strikingly, there are also some light yellow clay clumps present. The largest of which is more greenish with a rectangular form and rounded edges, measuring 16x12x7 cm (Locus 3-iv-6). Inside this clay clump, there were traces of chaffed grasses (Fig. 12). Perhaps these are the remains of a handmade clay brick. Unfortunately, it was an isolated find due to its secondary context and its true intended purpose remains a mystery.

Locus 3-iv-2 (the second occupation phase) is preserved in Profile A71-5 only beneath a rather large stone (Locus 3-iii). However, on the surface, just before the profile, this level appeared with rather thick conglomerations of gypsum covering some of the numerous bones within the debris layer below (Fig. 9). Moreover, within the gypsum many impressions of plant remains (probably grasses) were observed. On the surface of this level remains of red colour were preserved. Both of the latter observations were also reported in other layers (Loci 3-iv-1, 3-iv-2 and 3-iv-4) after micro-morphological analyses were conducted.

Preliminary Results of the Micro-morphological Analyses (Nicole Reifarth and Elisabeth Völling)

In the soil sample UDL (Locus 3-iv-1) white impressions of fibrous structures, originally parallel fibre bundles, were found within a red substrate. According to the IR-spectroscopic and scanning electron microscope (ESEM) analyses, the red colouring consisted of a potassium enriched iron-aluminium silicate, which contains some iron-manganese and arsenic and was penetrated by manganese-rich calcite (analysis by the Drewello and Weißmann Laboratory). The fibre impressions within the calcite inclusions still comprise some silicified plant fibres (phytoliths).

In the sample UDM (Locus 3-iv-4), a white, nearly one millimetre thick layer of very thin, parallel, silicified fibre bundles was also discovered. Similarly, the sample UBP (Locus 3-iv-2) was composed of, both inside and across its soil matrix, an extensive white and approximately three millimetre thick layer of silicified fibre bundles. The diameter of the fibres measures only 15-20 µm. They, thus, can be considered very thin. As a comparison, the finest wool hair measures between 10 und 13 µm, and merino wool runs between 16 and 24 µm (Slootmaker and Müssig 2010: 318-321).

Because of the discovery of numerous phytoliths from varying plant sections, it is clear that the fibres were processed in their original composition and were not prepared in the strict sense of textile production by selecting staple fibres, bundling them and then finally spinning yarn. All three soil samples contained phytoliths of monocotyledons, possibly of the sweet grass family (poaceae/gramineae). This is most astonishing because it is a raw plant material that is usually used for basketry (Wendrich 2007: 232). However, the extraordinary fineness of the fibre bundles of Körtik Tepe is comparable with textile fabrics. The processing of fine natural fibre bundles – probably on some kind of loom – has not yet been documented in the Near East. The silicified fibre bundles are therefore providing truly important information on a pristine form of textile production within the early Holocene. To date, the most ancient remains of processed fibres were found in a fine yarn, which was used to fix myrtle twigs to a tool, probably a comb. This object was discovered in the cave of Wadi Murabba'at near the northwestern shore of the Dead Sea and was AMS dated to 10,220 ± 45 BP[3] (Schick 1995: 199, see also Völling 2008: 218-221).

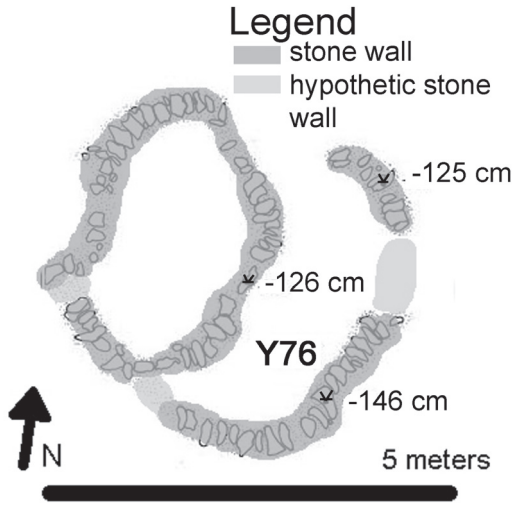


Fig. 10 House Y76 with a secondary partition wall (Trench A83) similar to Y98 in Trench A71 (illustration: F. Schreiber, modified after Özkaya *et al*. 2011: 331, Fig. 2; ID 2528).

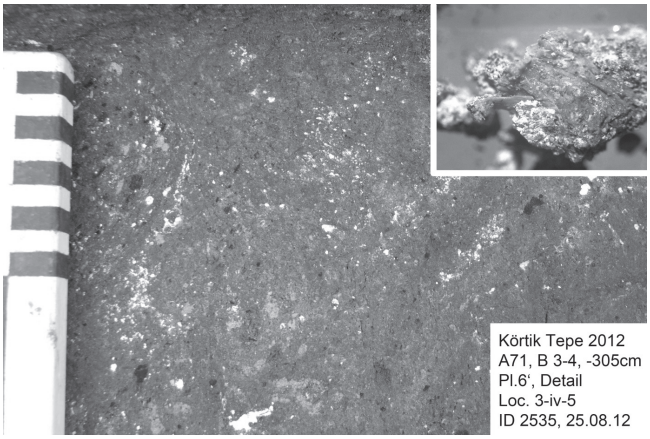


Fig. 11 Reddish-brown substance within layers of Locus 3-iv-5; natural scale and microscopic detail (60x) (photo: C. Rößner; ID 2535).

Fig. 12 Clay lump (brick?) (Locus 3-iv-6) with organic tempering within the debris layer of Locus 3-iv-3 (photo: F. Schreiber; ID 2528).

Reconstructions

With the beginning of a third occupation phase (after two phases of brief abandonment or, more likely, of intentional filling), the inner space was reduced by a segregation wall in the eastern part of the building (Locus 3-iii) (Figs. 2 and 13). Similar to the first wall, the foundation stones were simply pushed into the soil without a ditch first being dug and before the first floor was built (Locus 3-ii-1).

The fact that the wall of Locus 3-iii represents a secondary renovation is supported by the older floors of the building on which it was constructed.

The new floor (Planum 4) is comprised of a rather thick clay layer, which curved onto the stone wall and was thoroughly pressed into it. The clay floor was preserved only inside the building, where it circumscribed its central area (Fig. 14). The most recent floors were confined to the inner part of the building as well but were missing in the small segregated space.

The new stone wall bends in a flat angle from the main wall to cut-off the southeastern portion of the building. As far as it is possible to reconstruct the new layout from our partial excavation, the room inside was probably reduced to about two-thirds of its original size. Wall Y74 in Trench A46 (Fig. 2) possibly represents the continuation of Y98's segregation wall.

The third multi-layered occupation level, Locus 3-ii-1, is made up of at least nine thin layers. It begins with, like previous floors, a gypsum layer applied to an older filling layer (Locus 3-ii-2). Above the gypsum, a clay floor and a dark organic layer follow. On top of this organic layer there is another gypsum layer, a clay floor and then an organic layer again. The most recent micro-layers consist only of several clay floors, alternating with organic layers that are hardly thicker than a few millimetres.

Due to the aforementioned (pre-) modern construction, the more recent occupations of Y98 are not preserved in Trench A71.

Summary and Conclusion

In both successfully excavating these rich archaeological deposits and documenting an important profile, it was possible to gain detailed information on the architecture and occupation phases of one of the first early Holocene houses (Y98) of Körtik Tepe.

The first living floors do not reach to the lowest level of the structure's stone wall, which was uniquely made by pushing the stones into the Younger Dryas layers without a prior foundation trench made. This foundational row of stones consisted of exceptionally large stones, such as a huge worn-out mortar. None of the stones were shaped before being used for the wall.

Three levels with several very thin layers, of a few millimetres each, document several occupational phases within the building. In most cases the multi-layered levels are made up of at least two sequences of three layers, whereby it starts with a layer of gypsum (potentially used for hygienic reasons), followed by a compact clay layer and dark organic layers. In contrast to the clay and organic layers, the gypsum layers vary strongly in thickness from isolated pieces to thick compact layers.

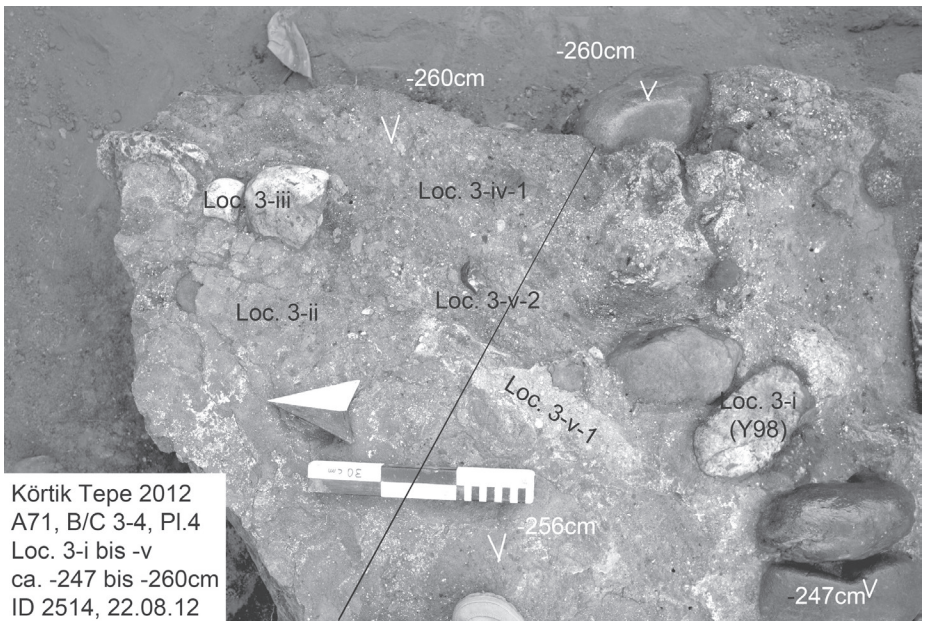


Fig. 13 Planum 4 with the secondary wall, Locus 3-ii/-iii of the third use-phase. The black line indicates the position of the profile (A71-5) (photo: F. Schreiber; ID 2514).

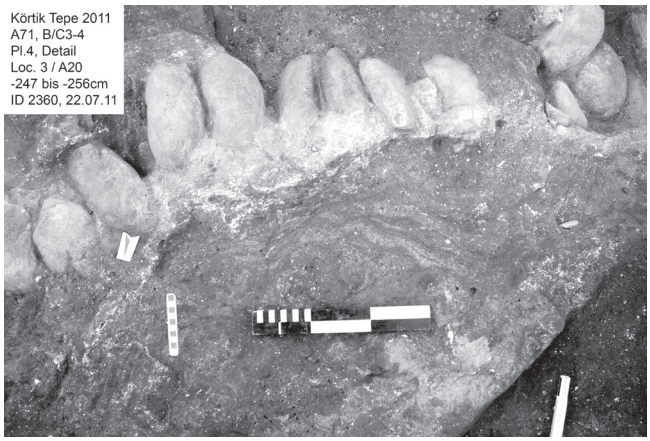


Fig. 14 Wall in Locus 3-i-1 with the layers of the third phase of use (Locus 3-ii-1), Planum 4 (photo: F. Schreiber; ID 2360).

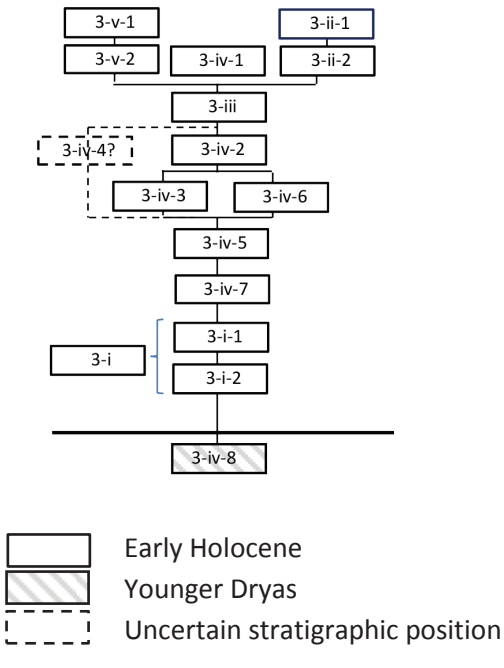
The micro-morphological analyses suggest that some kind of matting, which was partly coloured red, might have covered the clay floors inside the building. However, further analyses are necessary to confirm this.

Between these multi-layered levels, thick, but non-structured filling layers are present. They seem to document either phases of temporary abandonment or, more likely, intentional fillings to elevate the living floors in order to cope with a general rise of the tell's surface (Fig. 7). Whereas the multi-layered floors possibly represent (sub-) annual processes the intentional fillings probably occurred as rare events.

After the second filling, the inhabitants decided to diminish the former layout or to separate a small room inside the building. Whether there was an entrance to this small segregated area or not is no longer possible to assess because of the aforesaid intensive destruction that occurred. The multi-layered floors and their constant renovations, the use of worn-out large stone tools as building materials, as well as the restructuring of the inner space after several years of occupation, are all evidence for a continuous occupation of the house. This suggests the presence of a sedentary lifestyle at Körtik Tepe already during the earliest Holocene period. During the Younger Dryas people had already established a permanent settlement at the site (Coşkun *et al.* 2012). Strontium- und oxygen analyses (Scheeres *et al.* in prep.) and the burials beneath the house floors (Özkaya and Coşkun 2011) underline these results. Hence, Körtik Tepe provides ample evidence for very early sedentism, long before the beginning of farming and herding. Finally, future studies of the fibre remains discovered will provide invaluable information for the early development of textile technology.

Appendix

Harris Matrix of Profile A71-5 (Unit B3-4), inner house room Y98 [M. Benz]:



Endnotes

[1] The German team's excavations were directed by M. Benz. Trench supervisors in Trench A71 were K. Sırlan and F. Schreiber. We are very thankful to the Turkish team for their invaluable help. The German project was financed by the German Research Foundation (BE 4218/2-2, Al 287/9-2). We are very grateful for this generous support. We also wish to express our sincere thanks to M. Deva Jebb-Albaba for her language editing. However, all errors and shortcomings are solely our responsibility.

[2] Detailed analyses of the botanical remains will be published by C. Rößner, PhD candidate of the Körtik Tepe Project (BE 4218/2-2).

[3] ETH-9043: 10,220 ±45 BP (10163-9812 cal BC 95.4%; Oxcal 4.2.3, by Ramsey 2013; https://c14.arch.ox.ac.uk/oxcal/OxCal.html; Bonani 1995).

Felix Schreiber
ArchaeoSupport
Krefeld,
felixschreiber@gmx.net

Aytaç Coşkun
Dicle Üniversitesi Diyarbakır,
aytaccoskun@hotmail.com

Marion Benz
Albert-Ludwigs-University Freiburg,
marion.benz@orient.uni-freiburg.de

Kurt W. Alt
Danube Private University, Krems
Integrative Prehistory and Archaeological Science (IPNA), Basel
kurt.alt@ipna.unibas.ch

Vecihi Özkaya
Dicle Üniversitesi Diyarbakır,
vozkaya@hotmail.com

Nicole Reifarth & Elisabeth Völling
microArchaeology
Saarburg/Würzburg
info@microarchaeology.de

References

Benz M., Coşkun A., Hajdas I., Deckers K., Riehl S., Alt K.W., Weninger B., and Özkaya V.
2012 Methodological implications of new radiocarbon dates from the early Holocene site of Körtik Tepe, southeast Anatolia. *Radiocarbon* 54 (3-4): 291-304. doi: 10.2458/azu_js_rc.v54i3-4.16140.

Benz M., Coşkun A., Rössner C., Deckers K., Riehl S., Alt K.W., and Özkaya V.
2012 First evidence of an Epipalaeolithic hunter-fisher-gatherer settlement at Körtik Tepe. *Kazı Sonuçları Toplantısı* 34,1: 65-78.

Bonani G.S.
1995 AMS Analysis Procedures. *'Atiqot* 27: 205-206.

Coşkun A., Benz M., Rössner C., Deckers K., Riehl S., Alt K.W., and Özkaya V.
2012 New results on the Younger Dryas occupation at Körtik Tepe. *Neo-Lithics* 1/12: 25-32.

Dunbar R.I.M
2013 What makes the Neolithic so special. *Neo-Lithics* 2/13: 25-29.

Karul N.
2011 Gusir Höyük. In: M. Özdoğan, N. Başgelen and P. Kuniholm (eds.), *The Neolithic in Turkey* 1: 1-17. Istanbul: Archaeology and Art Publications.

Kozłowski S.K. and Kempisty A.
1990 Architecture of the pre-pottery Neolithic settlement in Nemrik, Iraq. *World Archaeology* 21 (3): 348-362.

Miyake Y.
2013 Hasankeyf Höyük, Batman. Dicle'nin ilk köyü. *Archeo Atlas* 2013/01: 40-47.

Özkaya V.
2009 Excavations at Körtik Tepe. A New Pre-Pottery Neolithic A Site in Southeastern Anatolia. *Neo-Lithics* 2/09: 3-8.

Özkaya V. and Coşkun A.
2011 Körtik Tepe. In: M. Özdoğan, N. Başgelen and P. Kuniholm (eds.), *The Neolithic in Turkey* 1: 89-127. Istanbul: Archaeology and Art Publications.

Özkaya V., Coşkun A., Benz M., Erdal Y.S., Atıcı L., and Şahin F.S.
2011 Körtik Tepe 2010. Yılı Kazısı. *Kazı Sonuçları Toplantısı* 33 (1): 315-338.

Peasnall B.L.
2000 *The Round House Horizon along the Taurus-Zagros Arc: a synthesis of recent excavations of late Epipaleolithic and early aceramic sites in southeastern Anatolia and northern Iraq.* UMI Microform 9965539. Ann Arbor: Bell & Howell Information and Learning Company.

Riehl S., Benz M., Conard N., Deckers K., Fazeli H., and Zeidi M.
2012 The modalities of plant use in three PPN sites of the northern and eastern Fertile Crescent – A preliminary report. *Vegetation History and Archaeobotany* 21 (2): 95-106.

Rosenberg M.
2007 Hallan Çemi. In: Badisches Landesmuseum Karlsruhe (ed.), *Vor 12.000 Jahren in Anatolien. Die ältesten Monumente der Menschheit:* 54. Stuttgart: Theiss.
2011 Hallan Çemi. In: M. Özdoğan, N. Başgelen and P. Kuniholm (eds.), *The Neolithic in Turkey* 1: 61-78. Istanbul: Archaeology and Art Publications.

Scheeres M. *et al.*
In prep. Creating a home: sedentism as early as the Epipalaeolithic revealed by strontium and oxygen analysis at Körtik Tepe. Unpublished manuscript.

Schick T.
1995 A 10,000 year old comb from Wadi Murabba'at in the Judean Desert. *'Atiqot* 27: 199-202.

Schreiber F. *et al.*
In prep. Evidence of curious deep circular ditches at Körtik Tepe, southeastern Turkey: construction details, possible interpretations and dating. Unpublished manuscript.

Slootmaker T. and Müssig J.
2010 SEM Catalogue for animal and plant fibres. In: J. Müssig (ed.), *Industrial applications of natural fibres. Structure, properties and technical applications*: 312-336. Chichester: Wiley.

Stordeur D. and Ibáñez J. J.
2008 Stratigraphie et répartition des architectures à Mureybet. In: J.J. Ibáñez (ed.), *Le site néolithique de Tell Mureybet (Syrie du Nord) I.* BAR International Series 1843 (II): 33-95. Oxford: Archaeopress.

Stordeur D., Brenet M., Der Aprahamian G., and Roux J.-C.
2000 Les bâtiments communautaires de Jerf el Ahmar et Mureybet. Horizon PPNA. Syrie. *Paléorient* 26/1: 29-44.

Völling E.
2008 *Textilherstellung im Alten Orient. Rohstoffe und Herstellung.* Würzburg: Ergon.

Wendrich W.
2007 Neolithische Korbflechterei. In: Badisches Landesmuseum Karlsruhe (ed.), *Vor 12.000 Jahren in Anatolien. Die ältesten Monumente der Menschheit*: 230-235. Stuttgart: Theiss.

Watkins T., Baird D., and Betts A.
1989 Qermez Dere and the early aceramic Neolithic of N. Iraq. *Paléorient* 15 (1): 19-24.

Yartah T.
2005 Les bâtiments communautaires de Tell 'Abr 3 (PPN A, Syrie). *Neo-Lithics* 1/05: 3-9.

Territoriality in Early Near Eastern Sedentism[1]

dedicated to Abu Shaher[2]

Hans Georg K. Gebel

Abstract: From its beginnings, the sedentism debate has suffered from a lack of definition frameworks and has been characterized by many ingredients of seminal world perceptions of individual scholars. Everywhere sedentism concepts failed to work when applied to understanding the supra-regional trajectories or specific regional mixtures of biotic, abiotic, and cognitive resources and their related socio-economic evolutions and devolutions. Especially research concentrating on the origins and causes of sedentism led to a problematic ignorance of how different and failure-loaded sedentism established over millennia in the Near East. The increasing number and complexity of archaeobiological data made sedentism a problematic approach to and concept for understanding Neolithic processes. Instead, a Neolithic territoriality approach is offered here as a future explanatory framework, enabling to identify in a more multi-conceptual way the various types of early sedentism in the Near East, and to guide research to a more basic and holistic understanding. Since the many types of early Near Eastern sedentism were not only the result of interacting elements in a polycentric process of Neolithic evolutions, imbalances, and set-backs, but also based on the new Neolithic human ethos and its commodification modes introducing a "productive" relationship between the plant/animal and human territories while reducing biodiversities, it is imperative to add ethological, territoriality, and commodification research to the needed re-definition of the Near Eastern Neolithization. The ideas presented here on the linked and ever-shifting sedentism/mobility systems of the Near East's Early Holocene are much influenced by sites from the southern Levant.

This contribution presents a general perspective on early Near Eastern sedentism, offering it – according to the conference's concept – for the global comparison of sedentism. Therefore, it addresses the academic readership working on sedentarization processes in other parts of the world, by approaching the topic in summarizing and concluding ways. However, researchers of the Near Eastern Neolithic may find in this contribution substantially new perceptions on its sedentism trajectory, too.

The Evolutionary Framework of Near Eastern Sedentism

The Neolithic evolution in the Near East between the 11th and the 6th millennium BC was governed by forces and mechanisms of permanent adaptation within all sorts of habitats. They formed diversified sets of regionally distinct natural systems:[3] each providing different conditions to share or exclude ingredients of Neolithic subsistence modes. These subsistence modes, also defined as "local or regional blends of natural potentials and deficits" (Gebel 2002a), included preserving or generating pressures for reversible foraging lifestyles.[4] Near Eastern Neolithic adaptations are characterized by complex interacting commodification and cognitive systems – to which also the domestication of biotic and abiotic sources belong –, all reflecting the ever-changing constraints and counter measures to balance and prevent the latent overexploitation and collapse of biotic, social and ideological sources, and, as a consequence, the failure of a sedentism development. A major role in these processes was played by the integrative powers of newly emerging symbolic and ritual interaction spheres and the cognitive skills and forces behind them. "Ecocides" and "sociocides" characterize the Near Eastern Neolithic evolution (and its processes of sedentarization), and they were complementing each other rather than being separated events. The role of "ideocides" in the Near Eastern Neolithic has not become a topic yet, a topic that might become important for the Göbekli discussion. Perpetual actuators of the overall Neolithic trajectory are agglomeration and aggregation sceneries fed by the prevailing production milieus of the Neolithic, responsible for the establishment of qualitatively (in terms of complexity) and quantitatively (in terms of size) new and prospering systems on all levels of human life. These milieus were not only economically innovative, they also generated a new ethos of the human cultural kind: that of the *Homo neolithicus* var. *orientalis* (Gebel 2010a). The innovation of permanent households, communities, and production became one of the most decisive steps in recent human development. Nothing in this overall process during six millennia was "revolutionary". The sudden turnovers attested are more related to deteriorations in natural and cultural frameworks including social (and cognitive?) implosions that were part of the overall Neolithic evolution. The term "Neolithic Revolution" is more a linguistic idiom than a historic reality.[5]

Although it was a bumpy ride (Belfer-Cohen and Bar-Yosef 2000) with hypertrophic episodes (Nissen 2004) and failure adjustment (Köhler-Rollefson and Rollefson 1990), and many Near Eastern regions could not participate at the same pace or at all in certain periods (*e.g.*, Fig. 1), the overall trajectory of the Near Eastern Neolithization and sedentarization was successful. The general socio-economic stages of Near Eastern Neolithization are generally divided into four episodes described here. Reference in this

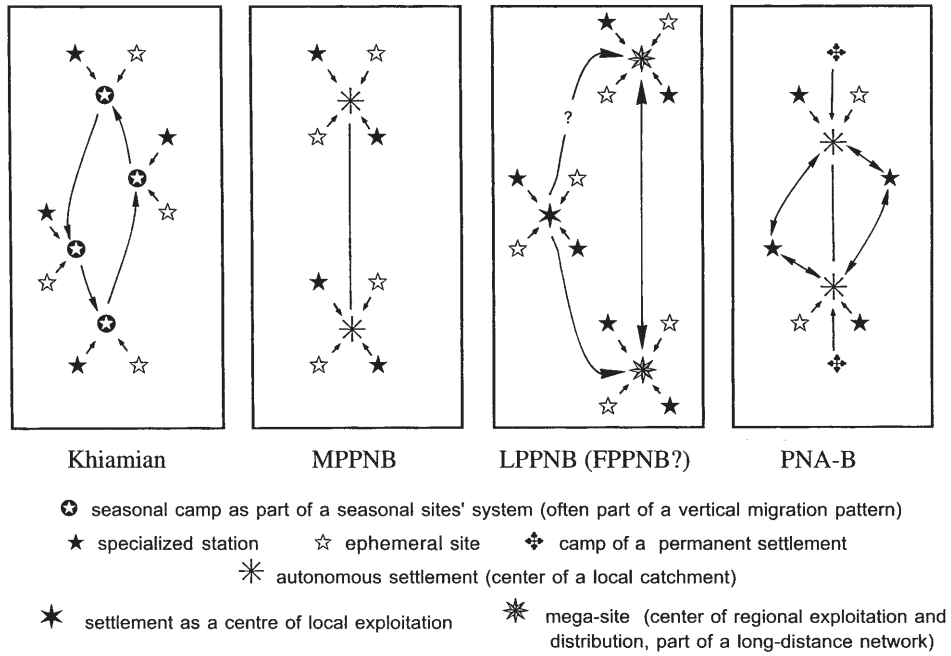


Fig. 1 The example of a Neolithic settlement pattern's development in a present-day semi-arid environment: Greater Petra-Area, south Jordan <smallest units are shown>. (drawing: H.G.K. Gebel).

listing is also made to earlier isolated phenomena of extended residency or sedentism, and to a major later sedentarization process (the oasis cultures). The perception of a stage is geared to its most progressive element. Phenomena preceding Neolithic sedentism include extended residency at Upper Palaeolithic cave sites (40th-19th millennium BC) and sedentary elements or sedentism at Early/Middle Epipalaeolithic open air sites in favored locations with year-round food sources (18th-13th millennium BC).

The major economic stages empowering and triggering Neolithic sedentism comprise these four stages:

1) Sedentarization progresses by increasing the number of permanent dwellings related to favored settings, supported by simple systems of ephemeral and seasonal stations, practicing foraging economies (Late Epipalaeolithic, 12th-11th millennium BC) .
2) Progressive cereal/pulse cultivation and permanent settlements are present, food production increases while contributions from foraging economic strategies decrease. Settlements can be regional "motors" of development (Proto-Neolithic/Pre-Pottery Neolithic A, late 11th-10th millennium BC).
3) Progressive ovicaprine/cattle/pig domestication is detectable alongside established cereal/pulse cultivation and permanent settlements with fully established food production and a further reduction of foraging contributions. Simple settlement systems with centers/centrality trends with established regional and supra-regional exchange have developed (Pre-Pottery-Neolithic B, 9th-8th millennium BC).
4) The last stage is characterized by the development of pastoralism (in semi-arid areas) and hydraulic farming cultures (starting as slope irrigation on foothills in river valleys, expanded as flood irrigation onto alluvial plains), fully established food production at permanent settlements or with migrating life modes. Partly drastic shifts in settlement patterns and locations (*e.g.*, Fig.1) as well as the seizure of semi-arid marginal lands for food production are observable (Pottery Neolithic, 7th-6th millennium BC).

Sedentism phenomena following Neolithic sedentism include the development of oasis cultures using a new domesticate (the date palm) to create a microclimate for horticulture in arid environments (Arabian Peninsula) and the seizure of arid lands for sedentary food production after the climate became drier (previous pastoralism vanishes which was existing through steppe/lake landscapes during Mid-Holocene climatic optima in the 5th millennium [Gebel and Mahasneh 2012], making this the final act in Near Eastern sedentarization [Late Chalcolithic/Early Bronze Age, 4th millennium BC]).

However, as a result of the polycentric nature of the Near Eastern Neolithic evolution, the cultures mentioned here may have flourished at regionally different time scales (both in terms of duration and their absolute dates). These idealized general stages (or even pulses) were embedded in the complex Neolithic evolution, shared and influenced by shifting geographic interaction spheres. It was not at all a linear diffusion by succeeding phases in favored areas, and they regionally could have had specific characteristics: as autochthonous advancement, as stimulated transformation, as chains of impulses, or as rapid pushes. The duration and cultural expression of each of these stages materialized differently in the various ecological zones of the Near East.

The very different Near Eastern regions[6] allowed only for regionally typical combinations of Neolithic

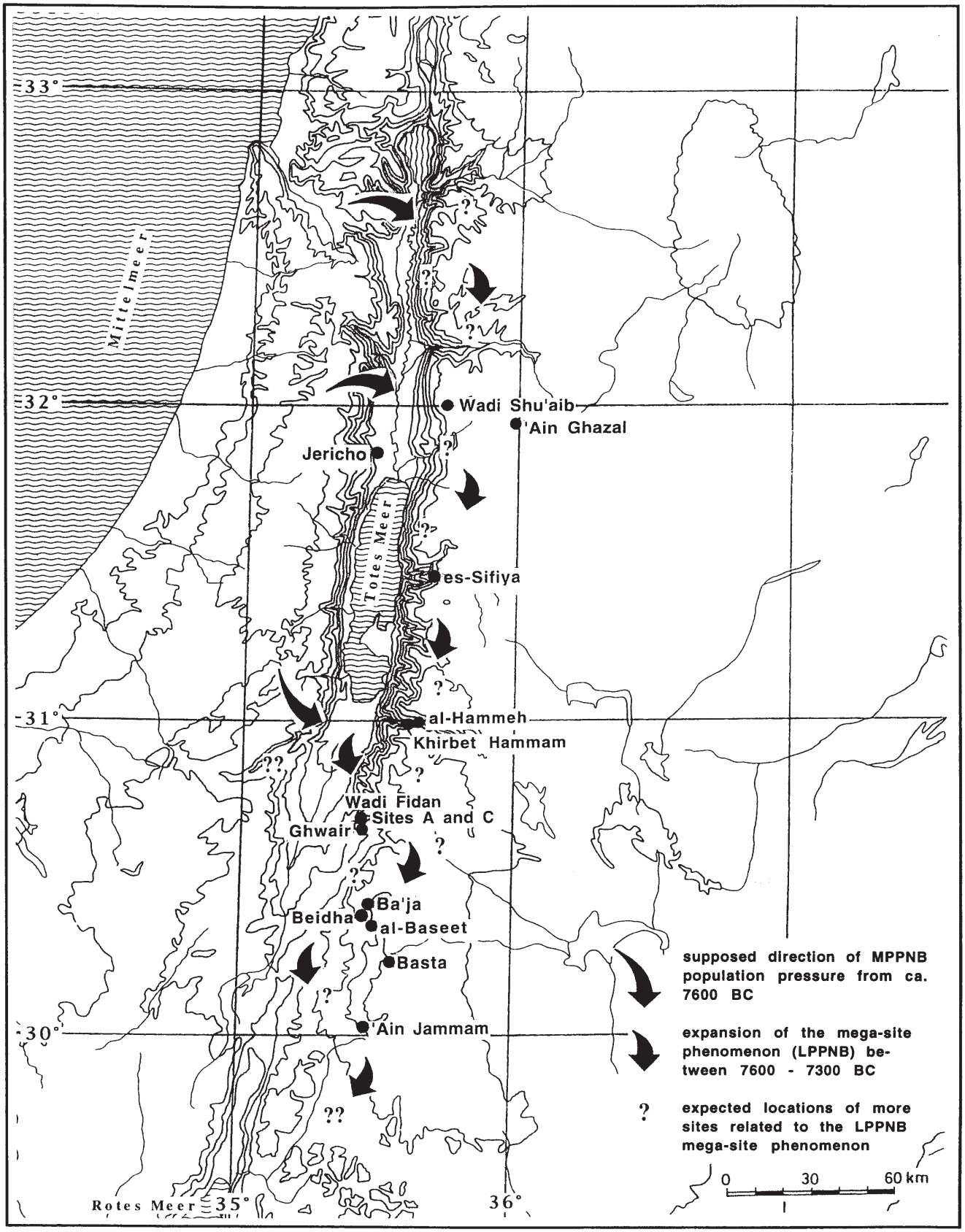


Fig. 2 The expansion of the LPPNB Mega-Site Phenomenon and its major villages in the Jordanian highlands. (map: H.G.K. Gebel)

agents, which created regionally characteristic processes of sedentarization. Some of these stages may even have taken place contemporaneously in one region, or dropped out completely, while in a neighboring region the stages could have followed each other. Parts of the Middle East may have remained ecologically excluded from these economic major economic stages (*e.g.*, parts of the interior Arabian Peninsula),

Fig. 3 The segregated setting of LPPNB Ba'ja. Vertical gorges and rocks delimited the site's area of ca. 1.2 ha. (photo: D. Kennedy)

while others may have joined the evolution at a later stage (*e.g.*, the Turanian lowlands). This all leads to the understanding that the Neolithic evolution was a polycentric, polycausal, and polygenetic affair. But this understanding cannot be promoted without working out the regional trajectories (compare the statements published as Supra-Regional Concepts I-II in Neo-Lithics 2/03 and 1/04,[7] Watkins 2008). Table 1 shows the regionally diverging absolute chronological framework of the cultural and lithic units of the Near Eastern Neolithic:

The Intricacy of the Term *Sedentism* in the Near Eastern Neolithic, Definition of a Term

The very general understanding of sedentism in Near Eastern Neolithization models has not been very helpful so far. Recent dissatisfaction over the term *sedentism* results from new insights into the diversity of territories and territorial behavior in the Near Eastern Neolithic, including the recognition of how to such an immense extent sedentary life was influenced by social and cognitive territories. Examples not only show

Region	Pre-Neolithic culture	Initial sedentism/PPNA	EPPNB/MPPNB	LPPNB	FPPNB/PPNC	PNA	PNB
northern Levant / SE- Anatolia / Zagros	*Late-Zarzien*	*Khiamien* PROTONEOLITHIC/ PPNA	*M'lefaatien / Nemrikien – poss. still the Mureybetien / Aswadien*	*M'lefaatien / Nemrikien*	M'lefaatien / Nemrikien, Syrian Final PPNB / Chatal H. - industries UMM DAB / CHATAL H. / DFBW	*M'lefaatien / Nemrikien - Agro-Standard- Industries* HASSUNA / SAMARRA-HALAF / OBED 1-2	*Agro-Standard-Industries* OBED 3
southern Levant	*Late-Natufien*	*Khiamien / Sultanien / Harifien* PROTONEOLITHIC/ PPNA	*EPPNB / MPPNB (BAI)* EPPNB – MPPNB	*LPPNB (BAI)* LPPNB	*"Ghazalian"/PPNC* FPPNB/PPNC	*Yarmoukien* PNA	*Yarmukien trad.* PNB
Rollefson 1998 (Bar-Yosef 1981)		10,300 - 9600 bp (PPNA)	9600 - 9200 bp (EPPNB) - 9200-8500 bp (MPPNB)	8500 - 8000 bp (LPPNB)	8000 - 7500 bp (PPNC)	7500 - 7000 bp (PN1)	7000 - 6500 bp (PN2)
Hours *et al.* 1994	12,000 – 10,200 BC (Pér. 1)	10,200 - 8800 BC (PÉR. 2)	8800 - 7600 BC (PÉR. 3)	7600 - 6900 BC (PÉR. 4)	6900 - 6400 BC (PÉR. 5)	6400 - 5400 BC (PÉR. 6-7)	5400 - 5000 BC (PÉR. 8)

Abbreviations: PPNA = Pre-Pottery Neolithic A; EPPNB = Early Pre-Pottery Neolithic B; MPPNB = Middle Pre-Pottery Neolithic B; LPPNB = Late Pre-Pottery Neolithic B; FPPNB/PPNC = End-/Final Pre-Pottery Neolithic B /Pre-Pottery Neolithic C; PNA-B or PN1-2 = Pottery Neolithic A-B or 1-2; BAI = Big Arrowhead Industries; in italics: lithic facies; bp = uncalibrated date before present; BC = calibrated date BC.

Table 1 Absolute chronology of cultural units and lithic facies of the Near Eastern Neolithic (entries in italics after Kozłowski and Gebel 1994, Gebel and Kozłowski 1996).[8]

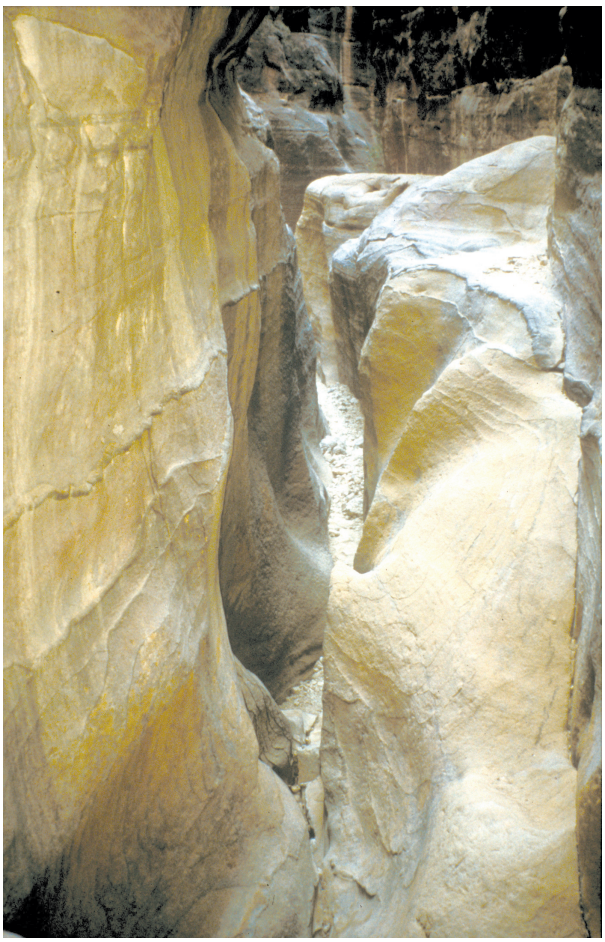


Fig. 4 The access to the LPPNB village of Ba'ja. Climbing through a narrow gorge is the only suitable way to reach the intramontane setting of the site. (photo: H.G.K. Gebel, Ba'ja N.P.)

Fig. 5 A reconstruction of the LPPNB village of Ba'ja: with central space and two-storied terraced housing on the locality's steep slopes (< 40°). Example of spatial aggregation processes characteristic for the Near East's early sedentism. (reconstruction: M. Kinzel, Ba'ja N.P.)

that Near Eastern sedentism research has suffered from its own paradigmatic misunderstanding, it also became obvious how it influenced or even obstructed such research for other sedentism types or centers around the globe. It became necessary to broaden our narrow Near Eastern Neolithic perception by studying sedentism trajectories in other parts of the world (Gebel 2008).

However, instead of criticizing or even dismissing or ignoring the term *sedentism* as a concept, it should be understood that sedentism needs to become a field of study in its own right. The wider concept of territoriality is offered here to analyze regional and local sedentism and sedentism characteristics, and to focus on individual territorial behavioral patterns to evaluate the various types of Neolithic sedentism in the Near East. The territoriality approach would also help sedentism research in the world's other regions of incipient sedentism, wherever an undifferentiated sedentism concept is promoted.

The global perspective of the German Archaeological Institute's Research Cluster I on sedentism has recently questioned the validity and transferability of sedentism concepts developed for the Near East and Europe for other parts of the world and this follows a general research trend (*e.g.*, Marshall 2006). This contribution goes further and expounds the problems of the Near Eastern sedentism concepts in general: there was no single type of Neolithic residency, independent from the local and regional blend of physical and non-physical territories and independent from their development. Landscapes, their physiographic networks and their use do form the ethos of their human inhabitants, too. Furthermore, sedentism and the beginnings of food production – or other Neolithic elements such as pottery making – need not have been linked. As it should be clear from research for decades that elements of the Fertile Crescent's Neolithization did not migrate into parts of the globe other than Eurasia, it should become clear that Neolithic Near Eastern sedentism was not simply becoming a globally active paradigm associated with the spread of food production. In Eastern Asia, South America, parts of Africa including the central Sahara, and other regions independent, different, and specific sedentarization processes took place, related to quite different sorts of food producing trajectories (if at all) and not necessarily over the same millennia; repeated sedentarization of regions over time is in evidence, too. The

global perspectives of sedentism can also help greatly to differentiate hitherto Near Eastern-minded sedentism understanding.

In terms of definition, we understand *sedentism* (or *sedentariness*) as the practice and status of a mode of life characterized by a tendency to year-round permanent residency at a certain location, and that this mode of life is supported and secured by a set of measures and behavioral dispositions that originate in a more aggressive territorial ethology and its related commodification frameworks for space and related cognitive spheres. Sedentary territorial behavior was established through the permanent commodification of tangible and intangible spaces (unlike Abu Shaher in footnote 1, who executed in this definition's terminology a casual commodification of space). Neolithic/food producing modes of life or supply economies were not necessarily a prerequisite for sedentism, although sufficient year-round local natural resources in the "daily" home range's reach are a condition of sedentary life. The Natufian settlements with complex architecture are a nice example of sedentary hunter/gatherer territorialities. For the Near Eastern regions, sustainable sedentism could not be established in the long term without food producing supply strategies and balanced population dynamics; here, sedentism in many regions triggered the cultivation of plants and other (successive) processes of aggregation, domestication, and commodification to secure its bases. The early Holocene grasslands of the Near East played an essential role in the biotic and cognitive agglomeration and aggregation processes, especially in those areas where additional diversity was created by overlapping ecozones.

This definition of sedentism is general, aimed to cover its basic features while providing the option to elaborate it further for larger areas. For example, for the Near East we suggest to link or define sedentism by the "capability" to create cultural landscapes.

In terms of origins and processes, this contribution does not understand Near Eastern sedentism originating and spreading by specific causes; rather, our data let us conclude that sedentism developed from philopatric behavior as a consequence (of combinations) of favorable local conditions (which also could have been casual) allowing residency at a location. Such paradigms of residency then were tested or modified in neighboring areas, initiating a regional sedentism trajectory; it must have been more a circular than a linear process until regions became subject to sedentary life.

Fig. 6 The well-preserved (> 4 m) domestic architecture in Ba'ja Area C. Note the terrace wall with three buttresses. (photo: M.Kinzel and C. Purschwitz, Ba'ja N.P.)

The Ethology of the Near Eastern Sedentism Framework

Near Eastern Neolithization and sedentism cannot be understood without analyzing its ethological, territorial, and commodification background. These fields are interdisciplinary topics, shared with human social biology, behavioral ecology, environmental and religious psychologies, cognitive neuroscience, and others. Prehistoric research on Neolithic ethology and territoriality can work with these disciplines once we have laid the data basis for cooperation. At the moment, discussing Neolithic ethology requires the honesty to acknowledge one's own research dispositions (compare Gebel 2010a, and the five core theses listed below).

During some three decades of Near Eastern Neolithic research, I have come across many features of a characteristically Neolithic ethos and mind (compare also Lewis-Williams and Pearce 2005) which shares many very basic and common behavioral parameters with modern humans (compare the Abu Shaher story in footnote 1). But also remains of a foraging ethos had survived in several Near Eastern areas until sub-recent times;[9] a hypothetical forager's atlas of the Near East would show astonishing islands of hunter/gatherer/fishermen communities for the Arabian Peninsula in Neolithic, proto-historic and historic periods, contrary to the cliché image of a sedentary Near East since the Neolithic of the Fertile Crescent.

The attempt to summarize these observed features of a Neolithic ethos and mind is manifested by the following theses.[10] In order to explain my research position, I must add that I understand Neolithic behavior as directly and indirectly ecologically determined, and I believe ritual practices and perceptions of the otherworld to have been part of the environmental reality and environment-based belief systems of the *Homo neolithicus*. Accordingly, I expect that the Near East's natural regional diversity caused a diversified ritual/religious map sharing only some general perceptions.

The five core theses on Near Eastern Neolithic ethology are the following (Gebel 2002b, updated here):

1) Conservation Thesis: Neolithic progress and growth were not the result of conscious acts or sought-for innovations but rather the result of measures to sustain a current life mode. The immediate satisfaction of life needs took priority over any effort toward social, economic/technological, or ideological alteration.
2) Efficiency Thesis: Changes were only tolerated and permitted when all other possibilities for attaining a goal by easier and inexpensive means had failed.
3) Repetition Thesis: Unsuccessful and disadvantageous behavior was repeated in modified forms by following generations because sedentary learning remained more restricted to individual expertise rather than being transferable/negotiable group-knowledge.
4) Innovation Thesis: Progress and innovation were the result of exploration impulses generated by attitudes during periods of surplus supplies. The surpluses caused growth, which led to more complex social structures, which in turn caused more stressors and further exploration impulses. Stressors from cataclysms also triggered innovations.
5) Exclusion Thesis: Growth resulted in tangible/intangible diversity, which led to more exclusive/segregative behavior and a further decline in generalized reciprocity. The more productive a social unit, the less ready it is to share with outsiders, which tends to increase supplies.

How did the *Homo neolithicus* understand his/her own identity? And how did this understanding differ from that of the forager's idea of man? I assume that during early sedentism a strong forager self-identity must have continued. The individual defined him-/herself by the group's needs, and a sense of autonomous individuality as we understand it did not exist nor does there seem to have been much gender segregation. But I suspect that there was a hierarchy based on age. The individual existed only as a part of a community, and behavioral, conceptual, or economical non-conformity resulted in expulsion from the group. The heterarchical heritage of the foragers must have persisted into early sedentary life. Individualization must have begun with the shift from flat-topped group structures to conical ones, with labor specialization (including ritual and religious specialization), and with the increasing diversity in commodities (Gebel 2002b, 2010a). I suspect that it was in these milieus, which began to be established in the agrarian LPPNB and were fully developed in the agrarian Pottery Neolithic, that we find the origins of the Neolithic individual, together with a male-female dichotomy and their socially segregated individualities. The increasing restriction of the female and her offspring to a more protected domestic environment probably disrupted the balance of the former "gender egalitarianism". The commodification of the male and female roles is expected to have developed in fully agrarian contexts, though the early sedentary "gender egalitarianism" probably was at least partially restored during periods and economies of higher or seasonal mobility (*e.g.*, the pastoral societies existing parallel to the agrarian ones in the 6th millennium BC).

The Character of Near Eastern Neolithic Territoriality, Definition of a Term

The transition from foraging to food production triggered an overall confinement and aggregation of human space; while this was in some core areas a gradual transition other areas adopted the sedentism paradigm rather rapidly (*e.g.*, many remote and/or semi-arid parts of the southern Levant). Resident territoriality created philopatric competition and menta-

lities that caused groups and group members to define/personalize territorial property and to defend/control it. This resulted in more conflict potential, causing the need for new measures in territorial conflict management, including mitigative structures (Gebel 2010b). The principles of resident (or confined) territoriality dominated all spheres of life, including metaphysical territories. Apart from the physical spaces (including natural resources like springs, routes, arable land, water/soil dams, minerals, hunting grounds, as well as built spaces like settlements, houses, rooms, graves, wells), intangible territories developed, mostly to support the structures of physical territories. Intangible/metaphysic territories helped create, or forced the recognition of, physical territories. However, the distinction between physical and non-physical Neolithic territory is perhaps inappropriate since we have to assume that at least in the Early Neolithic there was not much perceived distinction between physical and metaphysical space, and Neolithic ideas, beliefs, the meaning of objects, *etc.*, developed functions similar to those of physical territories. Characteristic Early Neolithic intangible/metaphysic territories were expressed by such phenomena as feasts, commemorations, magic (*e.g.*, hiding: Gebel 2002c), ancestral locations, *etc.*, but also included more ethological and habitational spheres like spaces associated with comfort and safety.

Before we discuss sedentary territoriality, territoriality should be discussed in general, and a distinction should be made between general and confined territoriality.

All territoriality develops when social units or individuals establish themselves in an area by claiming resources through use. The developing number of units and the availability of the resources in a region will make territoriality a subject of conflict when neighboring claims start to overlap. At that moment territoriality becomes a matter of the exclusion of competitive beings and elements, and of the formation of a stronger group identity among the beneficiaries (cohesive bands with coordinated activities). The main criterion for collective territorial behavior is certainly the existence of stable social frameworks that enable claims, defenses, and concessions of territories. Territories thus are subject to and a reflection of social organization, whatever the type of relation among its inhabitants may be (*e.g.*, the various types of kin groups). What differentiates the foragers' territoriality from sedentary territoriality is the latter's productive milieu through which it operates, exists, and becomes confined and exclusive. "Political" territoriality however in general develops when physical territories become important for the organization of groups.

Concerning the general economy of (physical) territories one may assume that the optimal size and ecological productivity of a territory is available when the advantages of its use are in balance with community size, the costs of acquisition (including predictability of the resource) and risks of defense. Whenever the balance becomes disturbed, as through a needed territorial expansion requiring higher costs of daily access and defense, territories will be negotiated again by mutually agreeable measures, aggression, or abandonment. It is expected that in such crucial situations behavior as explained by the Conservation and Efficiency Theses will take place. Similar principles may have ruled the non-physical territories.

From among the many readings and definitions of human territoriality, we select two which appear the most suitable for defining Neolithic territoriality.

Gifford (1997) defines human territoriality as the behavioral pattern and attitude of individuals or of a group, who intend to gain or practice control over concrete physical spaces, objects, or ideas by built occupancy, defense, personalization, and marking.

Altman's (1975) territoriality research identified three different types of present-day physical territories: primary, secondary, and public territories. Translated into the Neolithic sphere, and taken as a preliminary and general basis for Neolithic territorial research, they might be defined as follows:

1. Primary Physical Territories (intra-site and external): permanently, or nearly permanently, occupied; recognized by neighbors as a relatively permanent ownership; closely identified with the group using the space; occupants in full control of use; intrusions by others understood as encroachments.
2. Corporate Physical Territories (intra-site and external): occupation repeated but not continuous; not subject to individual but to corporate ownership; use bound by certain conditions and functions; surveillance of use by representatives of social units.
3. Obtainable Physical Territories (intra-site and external): large number of individuals and groups interested in the use of the territory; rights to it disputed among these individuals and groups, with a high potential for conflict; control of territory is subject to mutual agreement and corporate defense; uses of territory restricted/limited; its transfer into permanent ownership requires mutual acceptance or forced acquiescence.

Gifford (1997) starts from environmental psychology and complements Altman's anthropological approach. Using their thinking, Neolithic territoriality can be defined as the personal sphere of an individual group (rarely of an individual) that is in the position to define physical borders or set norms in social, economic, or cognitive (innovation, tradition/conception/ritual) frameworks, and which can establish and maintain control of social, environmental, and otherworldly relationships and phenomena. Such permanent territories usually develop and persist only by having borders that are well-defined and well-defended. Although we expect that pre-Neolithic hunter-gatherer societies might have developed some aspects of territoriality, such territories no doubt

tended to be rather casual, "porous", and unstable. What distinguishes Neolithic territoriality from foraging territoriality is simply that Neolithic societies produce and consume in a specific territory whereas foragers use and leave territories. We are aware that prehistoric reality is not *quite* so simple; but for the sake of clarity we feel permitted to emphasize that general distinction.

We define sedentism as confined territoriality, whereas we see food producing mobile life-styles (*e.g.* vertical pastoralism not depending on permament settlements) characterized by a special confined territoriality. As attested for the shift of reciprocity patterns from general to confined ones during the transition from hunting/gathering to food production, for territoriality we also have to state a shift from general to confined patterns during the foraging/food producing transition (Gebel 2010a).

Territorial habitation (or sedentary residence, or confined territoriality) in permanently inhabited built structures or cultivated landscapes required the potential of spatially belligerent dispositions, combined with acts of ownership documentation, *e.g.* by "storing" the ancestors in sub-floor burials under the houses (Fig. 10).[11] Aside from identification of ideological property, the *Homo neolithicus* had to develop identities of spatial property. Since he could not easily leave or escape the physical spaces he created, he had to develop aggressive strategies to defend spatial rights. This general Neolithic space ethos and the constraints and demands of its philopatry developed and diversified during several millennia, becoming the ancestral base of the Near and Middle Eastern and European cultures and forming the basic ingredients of sedentary identity, values, and memory of our modern behavior (including Watkins's memes and memeplexes [Watkins 2002]). Sedentary habitation not only means a permanent presence in a structured and defended environment, it also implies that they represent the stable frameworks for performing all sorts of tangible and intangible transactions to guarantee permanent spatial presence. Moreover, it means the ability to share permanently limited space, and to develop values of exchange and mediation to share confined space. It means sharing life with others to a previously unknown and obliging extent. It created a new sedentary identity by providing and structuring the worldly and otherworldly contacts and spaces for the individual. Resident or seasonal foragers of the Near East may already have experienced ingredients of this ethos before whenever they chose reduced space to live together, but it was not before the Neolithic Evolution that it was widely and permanently established.

Sedentary territoriality demanded and therefore developed a series of basic Neolithic adaptations: habitation as marking a territory; habitation as a primary need satisfaction (*sensu* Maslow); habitation as the microsphere for internal and external representation/legitimation/communication; habitation as an instrument to produce political space, power, and the transformation of the we/other dichotomies; habitation as a source of mitigative behavior (Gebel 2010b); habitation as the development of the contrast to the natural environment which – as a consequence of the general aggregation processes – also became the subject of Neolithic territorial structuring.

The major cause of any Neolithic territorial aggression probably was territorial crowding.[12] Territorial aggression must have been common (but see the reservations made below in the chapter on territories of social life, and Gebel 2010b) during the Near East's Early Neolithic period but may have disappeared in certain regions as a major developmental factor during the later Neolithic when the vast alluvial lands and steppes of Mesopotamia were adapted to new subsistence modes (early hydraulic and pastoral societies; see below). Unlike local territorial infringements, territorial crowding has the tendency for supra-communal, supra-local, and supra-regional overthrows. Territorial crowding (compare the development illustrated in Fig. 1) includes such phenomena as insufficient pasture lands for the increase of flocks, the disruption of social hierarchies through the inflation of prestige commodities, competition in social management solutions, and the like, overpopulated villages (Figs. 5, 7), and it results in environmental, social, economic, and ideological stress and conflicts that increase with densities. Density in one sphere can easily provoke a hypertrophic milieu. Several examples of such stress systems are known for the Neolithic in the Near East, one such being the recently-debated Mega-Site Phenomenon in the Jordanian mountain ranges (Gebel 2004a; Fig. 2). Stresses from territorial crowding of course increase with the duration of the crowding and if no outlet or adaptation to new modes of subsistence or ideology is found, the consequence is generally the environmental, socio-economic, and ideological implosion of the involved societies. Examples are the decline of mega-sites during the 8th millennium BC on the Middle Euphrates and in Transjordan, and the subsequent development of pastoralism in the Levant's semi-arid fringes, and Greater Mesopotamia's early hydraulic societies in the alluvial plains and their tributary valleys in the 7th millennium BC. In the sense of the Conservation Thesis, these major and supra-regional overthrows were briefly preceded by stress-lowering measures – the increase of vertical space in villages with the addition of a second and probably third story to buildings (Gebel 2006), an increased share of mobile herding in areas outside the daily walking distance, and the probable genderfication of post-PPNB agrarian social environments. The duration and intensity of density damages the social and economic behavior and values of individuals and groups and raises the levels of intra- and inter-group aggression. According to the Efficiency Thesis, we should assume a decline in innovation and production during the later stage of increasing densities.

The Sedentary Territory as an Issue of Commodification: an Excursus

Territoriality becomes confined through acts of space commodification, or, in other words, sedentary territories were created (*sensu* produced) by acts of giving values to space which enabled them their usage under a sedentary regime.

Commodification, or the production of tangible and intangible values given to things, and things producing tangible and intangible values for people, is the major characteristic which distinguishes foraging from sedentary life (Gebel 2010a). While foraging life modes created values for things in more casual and adaptive frameworks thought to satisfy immediate needs, Neolithic values for things were produced, altered, and accepted to sustain and supply "permanent" needs. The well-established term "things" in the commodification/commoditization[13] concept (original concept presented by Appadurai 1986 and Kopytoff 1986) comprises all life-relevant items and matters of both material and immaterial nature. Basically, all acts of Neolithization are commodification measures; the concept of commodification allows the most holistic approach to Neolithization, including all biotic and non-biotic domestication processes, technological developments, or cognitive-ideological spheres. The importance of the commodification concept and its meaning for future Neolithic research is evaluated in Gebel 2010a where the characteristics of commodities and of its basic commodity types are defined for the Near Eastern Neolithic, using and altering original ideas of Arjun Appadurai (1986) and Igor Kopytoff (1986). In short, Neolithic commodification is present when

• in productive milieus tangible and intangible things become subjects of common acceptance

and value by (re-) production and use, and receive a social value through this;

• a behavioral difference occurs between taking and making things (representing the new/Neolithic ethos in terms of territorial, reciprocal, and commodification behavior using confined sedentary and pastoral milieus in the environmental, technological, social, cognitive and ritual spheres);

• things and their biographies "contribute" stability to prolific material and immaterial regimes/systems, while the same can be done through their de- and ex-commodification;

• it produces the social and individual identity that regulates relations among humans in their productive natural, built and cognitive/ideological environments while at the same time it triggers or directs more/other subjects of commodification allowing growth/surplus production, territorial claims, security/confined reciprocity, *etc.*

Sedentism brought new needs to all spheres of life. Worldly and otherworldly spaces suitable for a sedentary life had to be produced ("commodificated") and constantly reproduced on more complex levels. Progressive population dynamics through philopatry, wealth of time and goods beyond subsistence needs, and competition through diversification demanded order for sedentary life and generated identity.

Whenever consumption of resources becomes dependent on accumulated stocks, it becomes necessary to protect these supplies and to structure their distribution. At the beginning these supplies were probably predominantly nutritional and included the emerging idea that the food producing land around the group's settlement was supply in the guise of property. But the organization of supplies and the activities necessitated by the need to accumulate supplies,[14] forced giving value to materials and then further securing these values by supporting them with ideologies. Commodification promoted security on all levels, as ex-commodification can do. The internal and external security of the individual, his/her group, and his/her *koinon* (*sensu* Jacques Cauvin) is balanced by commodification regimes. The more sedentary and domestic life becomes, the more important is commodification. The values commodification provides are essential to maintaining sedentary loyalties and structures: productive types of commodification are directly related to a sedentary ethos and territoriality, and would hardly work in non-sedentary societies.

The following example should explain territorial commodification and ex-commodification: In a contact zone of late hunter-gatherers and farmers migrating into this zone, arable hunting grounds became occupied by farming and a related permanent settlement. Immediately this permanency created a land claim and conflict potentials. This claim was internally and externally manifested by the farmer's understanding of land as a commodity with all its attached value systems (economic, cognitive, social). This idea of land was not compatible with the land idea that the hunter-gatherers had. Their general territoriality would make them retreat from the land while "adapting to" the claims of the farmers' confined territoriality, provided that similar other hunting-gathering grounds were available, a group's specific territorial behavior not hindering this, and/or that the risks to stay are higher than the risks to leave. If not, the conflict could result in either the hunter-gatherers joining the land commodity sphere by adopting the farmers' life modes, by establishing modes of exchange between both life-styles (also acts of commodification), or an ex-commodification of the arable land. For example, this could be accomplished by the farmers being forced out of the area because of the hunter-gatherers successfully claiming back the land, a drought period, or a territorial restriction preventing the farmers from extending their area or expand demographically. In rare cases and suitable environments also a so-called common-pool resource area could have been established (Eerkens 1999).

The Southern Levantine Expression of Near Eastern Neolithic Territories

To illustrate the establishment of sedentism and Neolithic territories, in the following the sedentism trajectory of the southern Levantine is described as a regional

example. Other larger regions of the Near East passed through different processes of sedentarization and territorialisation, not allowing the presentation of a general Near Eastern trajectory. However, the southern Levantine case explains such processes in principle.

As said before, sedentary territories are not necessarily physical locations. Also in the southern Levant, non-physical, intangible territories could have developed similar forces to sustain sedentary life as physical territories and we have to expect that both of these basic types of territory always stood in a synergetic interplay. While hunter-gatherer territories were less sensitive to infringement due to their non-productive commodification and were more easily subject to abandonment, sedentary territories – including the intangible ones – were hypersensitive to infringement. In the more restricted habitats of the southern Levant (*e.g.*, Gebel 1990: attached sheet on palaeophysiograhic units), invasions, violations, and contaminations (*sensu* Lyman/Scott 1967) may have occurred more often than *e.g.* in the vast grasslands of Upper Mesopotamia. Neolithic examples of invasions could be the forced reorientation of the function of an intra-mural room, the take-over of a high-quality lithic source by a neighboring settlement with a subsequent occupancy of the bidirectional blades market, or the forceful establishment of a new socio-economic or ritual paradigm from outside the local/regional interaction sphere; for all these we have evidence in the southern Levant.

Four major types of territories were selected to illustrate more empirically some confined sedentary territoriality from the Near East, all focusing on examples of the author's main field of research, the southern Levant: territories of land, of built space, of social space (including settlement patterns), and of cognitive spheres.

Territories of Land

Patterns of sedentary land must have developed from isolated settlement areas in the Early Neolithic to vast settled regions in the Near East's later Neolithic. Accordingly, the aggregation and agglomeration of cultivated and pastoral lands has grown at the expense of the hunting/gathering grounds. Only through the distribution of the settlements and their subsistence modes can this process be imagined. The understanding of land territory and built space territory is often overlapping (*e.g.*, terraced fields, watering places).

Productive land in the southern Levant is restricted due to a high proportion of non-arable land, or land in areas of unpredictable precipitation and erosional vulnerability (soils, vegetation cover, *etc*.). Productive land in terms of a structured exploitation of abiotic resources (the various minerals, bitumen, *etc.*) has hardly been studied by anyone. Until around 8000 BC we may speak of the southern Levant as an area in which many parts oscillated between foraging and food production and a distinction between cultural and natural land is extremely difficult to ascertain.

The sedentarization of the southern Levantine landscapes was an asynchronic and polycentric assortment of advances and regressions, mirroring its small neighboring ecological zones (Gebel 2002b: Table 2), which influenced each other to a much higher extent than was the case for large neighboring ecological units such as the Mesopotamian flood plains and the Zagros foothills. Though capable of such corporate action as the "tower" of PPNA Jericho, others migrated as belated hunter-gatherers between seasonal camps in the wadis of the south Jordanian Highlands. It cannot even be taken for granted that the southern Levant followed the classical four major steps of Near Eastern Neolithic evolution through substantial and synchronic phases. It is more likely that some potential "motor" regions were hindered from sharing the Near Eastern "sedentism trajectory" by the neighboring semi-arid "deficit" regions, which acted as a drag on their progress. An example is the Greater Petra Area, in which eight palaeophysiographic units neighbor each other from west to east within only some 40 - 45 km distance (Gebel 1990, 1992), and of which only three to four should have been able to sustain Neolithic subsistence modes for any extended period. In such areas, socio-economic and related changes are virulent: forces and mechanisms of permanent adaptation within spatially restricted and ecologically sensitive habitats – which are subject to intense human impact – rule their development. Their limited and diversified sets of natural conditions allowed the sharing or the rejection of necessary ingredients of Neolithic subsistence modes, and created pressure to return to foraging lifestyles. In southern Jordan, the loss of the balance between exploitation of limited biotic resources and population growth frequently necessitated innovative human adaptation to avoid a regional regression from Neolithization. This, for example, happened through the regional emergence of pastoralism (the "palaeobedouins") in the LPPNB/FPPNB after 7000 BC (onsets of pastoralism already in the LPPNB, 7500-7000 BC).

Territories of Built Space

Built space means – in terms of sedentary territoriality – imposing boundaries and separating primary and corporate physical territories (Table 2) from land; such areas may already be occupied by other sorts or the same sort of territoriality. Social, cultural, and behavioral structures and rules jointly determine the permeability and use of these boundaries. Built space is transferred by rights which may be based on mixed elements of heritage rights (*e.g.*, birth rights, kinship), transactions (*e.g.*, all sorts of land property exchange), symbolic/mythological traditions, or it may be taken or destroyed by acts of violence. Built spaces in the southern Levant's Neolithic can be landscapes occupied and altered by food production and other sorts of organized exploitation (extra-site route system, hun-

ting, pens, field terraces, water harvesting, mineral exploitation, *etc.*), locations of habitation (*e.g.*, houses, settlements, including caves/natural shelters used as a sedentary base; examples Figs. 5-6, 10), places of commemoration/religious activity/social gathering (*e.g.*, graves, burial grounds, shrines, assembly rooms; example Fig. 10), and communal installments (*e.g.*, protective walls against aquatic erosion/enemies, wells, intra-site routes; but also controlled settings/access, *e.g.*, Figs. 3-4). All these are manifestations of protection and commodification needs and of individual and collective security. The core feature of built space in the southern Levant's Neolithic is the domestic structure, although Late Epipalaeolithic Wadi al Hammeh 27 and Mallaha already give evidence of building for (exclusively?) symbolic/ritual purposes, or domestic structures with a prominent symbolic/ritual inventory, at the onsets of sedentary life.

The findings of built milieus for the protection and transaction of economic, social, and ideological needs are opposed in the excavations by an overwhelming body of archaeological findings proving the excommodification of built space. The problem is that research does not much conceptualize them as such, resulting in a loss of information for the understanding of the ethos and mind of early sedentary life. Field research likes primary contexts, while *in situ* secondary and tertiary contexts are given restricted attention. But these contexts (especially garbage areas and room and pavement fills) inform about the intentional and unintentional abandonment and discard of spaces and items or their commodification and de-commodification. Only detailed stratigraphic work reconstructing room biographies (*e.g.*, Purschwitz and Kinzel 2008) would help to analyze intra-site built territories.

Intra-site built territories during the Early Neolithic in the southern Levant show a general trend (stages idealized here):

1) isolated, round structures agglomerate to
2) clusters of round structures, then these clusters are transformed into
3) multi-roomed rectangular houses expanding
4) the vertical space to a second story.

It might be that each region in the southern Levant underwent this general development, but at a different pace and not necessarily contemporarily and linearly. All these stages are highly dependent on local socio-economic dynamics; *e.g.*, the vertical space stage (Gebel 2006) must not have materialized where intra-site population growth did not cause space allocation problems, or the round structure stage continued to exist at the fringes of the LPNNB Mega-Site Phenomenon (see below) having MPPNB social structures and using a LPPNB chipped lithic industry like in 'Ain Abu Nukhailah (Donald O. Henry pers. comm., Henry 2005) or Ghwair (Fig. 2) in Wadi Feinan, showing a perfect LPPNB mega-site with MPPNB radiocarbon data (Simmons 2007).

This general process in built territoriality exhibits several major elements of space commodification, whose adaptive-innovative character and elements originated and resulted from the social and cognitive experience of built space. The major classes of features of tangible architectural commodification in the southern Levant (many representatives for the overall early architectural development in the Near East; compare also Gebel *et al.* 2006) are:

- aggregation/agglomeration: *e.g.*, through introducing the rectangular room, densely built houses/room clusters on building terraces, transfer of corporate space onto roofs (open spaces, lanes), second stories
- functional diversification: *e.g.* compartmentalization, room size variability, specialization of rooms
- space signals: *e.g.* "internalized" entrances, staircases, wall openings direct indoor interaction, defensive character of complex and confined ground plans, structured neighborhood interaction by settlement layout (social map of settlement), intra-mural burials as testimony of ownership (compare also Stordeur and Khawam 2007)

In order to illustrate the existence of sorts of primary physical territories in pre-Neolithic times, Table 2 is presented. It shows that built space is not an exclusive phenomenon of sedentary territoriality during the Neolithic but has antecedents.

Period (cultural entity) absolute chronology	Non-ephemeral structural features in Pre-Neolithic Near Eastern sites (site examples)
Upper Palaeolithic 40,000-18,000 BC	wall dividers in caves, "storage pits", stone-built fireplaces (Abu Noshra, Hayonim Cave D, Qadesh Barnea 500, and others)
Early Epipalaeolithic (Kebaran) 18,000-14,500 BC	subterranean brush huts (4-5 m diam.) with stone footings, stone platforms, large fire pits (Ohalo I-II, Ein Guev I, and others)
Middle Epipalaeolithic (Geometric Kebaran) 14,500-12,000 BC	brush huts, postholes, stone-footed installations, roasting pits (Lagama-N VIII, Mushabi V, Ein Guev III, and others)
Late Epipalaeolithic (Early Natufian) 12,000-10,200 BC	large semi-subterranean (communal) structures (5-15 m diam.) partly dug into slopes, lined with several courses of stones, postholes attesting complex roofing, formal hearths, structured spaces; terrace walls; daub/plaster use; mortuary and symbolic architecture; immobile mortars (Eynan, Wadi Hammeh 27, Hayonim Cave and Terrace, el-Wad B, Wadi Mtaha, and others)
Final Epipalaeolithic (Final Natufian) 10,200-9500 BC	small semi-subterranean structures (3-5 m diam.), bedrock mortars, terrace walls, mortuary and ritual architecture, formal hearths, "stone pipes" (Mallaha, el-Wad B, Rosh Zin, Nahal Oren, Hayonim Cave B, and others)

Table 2 Built space in pre-Neolithic southern Levantine contexts.

Territories of Social Life

As elaborated before, the Near Eastern sedentary physical territories could only flourish because of social structures which allowed and could sustain such territories. It is therefore imperative to understand the social territories as well, since they link the major spheres of sedentism: land, built space, cognitive fields. Too often the investigation of social life territories concentrates on the Neolithic settlements' microframes, while in addition it would be necessary to see them within the macroweb of the region's social land/built space/cognitive territories, meaning that *e.g.*, settlement patterns are to be investigated as territories of social life, too. Information on the LPNNB Mega-Site Phenomenon of the Jordanian highlands (Figs. 1-2) is stressed in this chapter, since it exemplifies well how a sedentarization trajectory can be interrupted during the early establishment of sedentary life in a sensitive region.

The emergence of sedentary communities in the southern Levant and their inherent social transformations show two basic tendencies: 1) complex social structures were replaced by less complex ones before more complex social structures developed again, and 2), most likely connected to that, heterarchical and hierarchical patterns were linked to various degrees. That is to say, the more need there was for social regulation, the more heterarchical elements triggered corporate, hierarchical, and central structures and new types of sedentary conflict must have occurred. The development of household and communal life modes moved as shifting waves through the ecozones of the southern Levant. Core household structures (MPPNB: small "houses"/families) were replaced by corporate[15] households structures (LPPNB: large extended "houses"/families) which then again were replaced by core household structures (FPPNB - PNA-B: smaller "houses"/families). Heterarchical communities (PPNA) were replaced by hierarchical communities (MPPNB - LPPNB), before pastoral-heterarchical communities developed (FPPNB - PNA-B) and co-existed together with the hierarchical permanent settlements of the FPPNB- PNA-B. Qualities and momentum of this general development may have differed according to regional ecological conditions, including reversible and conservative regional developments.

It has been difficult to reconstruct social changes during the southern Levant's early Neolithic (Gebel 2002b, 2007), since the numerous different neighboring conditions in the small-scale habitat areas demanded different adaptations in terms of heterarchy and hierarchy, household size, communal structure, and the like. The overall social development behind the spread of sedentism in the southern Levant between the 12th to 6th millennium BC seems to follow this sequence:

Late Natufian: rather sedentary territorialities of groups/bands (12,000 - 10,200 BC)

Proto-Neolithic/PPNA: heterogeneous (transitional) structures of corporate sedentary (small or large) and communities in favored areas, and semi-sedentary small households in segmentary communities in marginal areas (10,200 - 8800 BC)

EPPNB- MPPNB: corporate small households and communities (8800 - 7600 BC)

LPPNB: corporate large (extended) households and communities (7600 - 6900 BC)

FPPNB - PPNC: disintegrative structures with increasingly emerging pastoral groups (early tribal structures?) in the steppe environments and small

Fig. 7 A pre-planned domestic unit of the LPPNB village of Basta (Area B): Ground plan with rows of small rooms arranged along a central space and adjacent remains of other such units, indicating extended households. Buildings/room units resting on artificial terraces. No open spaces/lanes are found between the house units of this living quarter. (photo: Y. Zu'bi, Basta J.A.P.)

to large farming households and communities in the arable areas (6900 - 6500 BC)

PNA - PNB: established dualistic structures of pastoral groups (tribal structures?) in the steppe environments and small (to large?) farming households and communities in the arable areas (6500 - 5400? BC; 5400? - 5000? BC)

Foraging mobile communities with their rather direct consumption developed supply strategies and firm social structures based on dependencies to a much lesser degree than sedentary agricultural communities. Their generalized reciprocities (for the reciprocity definitions see Gebel 2010a) must have operated on less complex and confined levels and did not yet involve a larger need for social segregation by diversity packages in subsistence and commodities. During the period of the local Near Eastern transitions from foraging to food producing – the Neolithic evolution from the 11th to 6th millennium BC – the generalized reciprocity systems had to adapt to the needs of the new confined sedentary social systems which could not be established and could not work without the new behavioral patterns in territoriality and commodification described before (Gebel 2007, 2010a): the *Homo neolithicus* shifted into types of confined reciprocities as the new social norms. The mutualistic conditions of generalized reciprocity changed through the establishment of the sedentary diversity packages, and developed into other mutualistic forms, thus helping the confined reciprocity needed in productive frameworks. Generalized reciprocities thus became confined reciprocities. The co-existence of generalized and confined reciprocities has to be expected in areas like the semi-arid margins of the southern Levant, which force or allow contrasting socio-economies (Gebel 2002b: Table 2). Sedentary human aggression was prompted by different new types of motivation originating in aggregated life modes. Aggression must not have increased *per se* through sedentism, but sedentism must have developed a number of hitherto unknown and unneeded pacifying and mutualistic devices meant to cope with the enhanced conflict potentials created by the new tangible and intangible territorial densities. (Gebel 2010b)

The Mega-Site Phenomenon in the LPPNB (7600 - 7000 BC; Fig. 2) is a superb example of a powerfully spreading and self-suffocating social and cultural paradigm of early sedentism, once creating extensive territories of social coherence in the Jordanian highlands and being of relative uniformity. It is presented here to elaborate on how social identities could territorialize in larger areas of the Fertile Crescent's Early Neolithic[16]. The hypothesis that the Jordanian highlands witnessed an influx of people – or started to accommodate a successfully migrating socio-economic paradigm – arriving from the central Jordan Valley after 7600 BC (Rollefson 1989, 2004a) could not be neglected, rather it has to be enforced (Gebel 2004a: Fig. 1). The understanding is that population pressure and the depletion of resources made the sedentary villagers west of the central Jordan Valley seek lands in the east; settlements like Jericho[17] might have been bridgeheads. Here they – or their economy – met the small MPPNB/Early LPPNB villages like ʻAin Ghazal and Wadi Shuʻaib which started to prosper on the basis of the vast steppe-like hinterlands with their migrating ungulates. At the same time these vast steppe environments allowed herding to an extent not known from west of the Jordan. Evidence shows that the households grew from small households to large corporate ones with "extended families". During the spread of the phenomenon the corporate structures must have become vital for the survival of the social territories, especially when this new socio-economic paradigm migrated further south to the less favorable and smaller semi-arid catchments. Like a domino effect, the new sites es-Sifiya (Fig. 9), Khirbat Hammam, Ghwair, Basta (Fig. 7), Baʻja (Figs. 4, 3-6, 8, 10), al-Baseet, and ʻAin Jammam were founded (Fig. 2), and MPPNB sites like Beidha, Shkarat Msaied, adh-Dhaman, and Ail 4 (?) were deserted due to the integral power of the new socio-economic paradigm. We may assume that the LPPNB Mega-Site Phenomenon reached favorable areas even north of ʻAqaba.

During a half millennium that this phenomenon flourished, hardly any signs of regression occurred. The sudden and rather complete collapse of the Mega-Site-Phenomenon must have happened within one century, if not within decades (around 7000 BC). Several reasons might have jointly contributed to this implosion: 1) a pace of developing social complexity and intra-site population pressure to which the balancing measures through commodification and territoriality could not react fast enough anymore, 2) the resulting collapse of the social and economic exchange system, 3) environmental impacts (Gebel 2009), and 4) the overstraining of near-site catchments. Since the social territories were disturbed and parts of the population began to move into pastoral mobility, no recovery of this trajectory took place. The Pottery Neolithic settlements in the area remained small and showed all signs of locally restricted foci.

Territories of Cognition

In our view, and as indicated above, the commodification approach is the most holistic and testable procedure to allow research in the cognitive territories of the *Homo neolithicus*. This type of research is new for our discipline and has to be developed with the cognitive sciences. Therefore, this chapter is necessarily premature and short on the one hand, on the other hand it should explain by means of examples from the widely established sedentism during the LPPNB how we can prepare our archaeological data for the study of the Near Eastern Neolithic territories of cognition. Prior to that, we should discuss the basic character of territories of cognition.

According to Robert Gifford (1997, 2002), all ideological frameworks – including meaning bearing innovative milieus and objects – are territories. As

Fig. 8 The specialized workshops' waste of sandstone ring production in LPPNB Ba'ja. The stone rings most likely are commodity coupons. (photo: H.G.K. Gebel, Ba'ja N.P.)

human beings mark, personalize, and defend physical territories and objects, they mark, personalize and defend ideas, beliefs, traditions, *etc.* (in our understanding all these are commodities if operated in productive sedentary environments). Both tangible items and intangible ideas provide identity in similar ways and create territories. We refer to the example provided by Harvey Whitehouse (1995, 2000) describing original rituals (imagistic and emotional modes of religiosity of small-scale societies in Papua New Guinea), being commodified by serving a following cognitive territory of doctrinal religiosity as a religious substratum.

Trevor Watkins stressed in several recent contributions that southwest Asia's "external symbolic storage networks are extraordinarily powerful" (*e.g.* Watkins 2002, 2005, 2009a), and that they – being partly non-verbal – originate in the Neolithic. He understands that the "core of the Neolithic revolution lies in the emergence of symbolic culture, particularly external symbolic storage, which allowed the formation and sustaining of large, permanently co-resident communities". And further: "As these communities developed practical farming to sustain their own growing populations, they opened the way for the export of the whole package – the culturally rich environments of large permanent communities supported by a highly productive economic system." (Watkins, pers. comm.). Future research applying the commoditization and territoriality approaches to all cognitive – not only the symbolic – and material spheres will not only underline this understanding, it probably will show how symbolic storage networks had to "cooperate" (or had to be altered) and how they existed through the general web of networks formed by all sorts of innovation and decline in all the socio-economic and environmental spheres.

In terms of the empirical evidence for territories of cognition, we found in our working area (sites of Basta and Ba'ja, southern Jordan; Fig. 2) the following find and feature categories to be most suitable for information on cognitive territories, especially as related to commodification, reciprocity and identity provision:

- production chains and technological innovation (stone ring production, bidirectional blade production, certain types of ground stone tools?);
- burials/funeral practices/grave goods (from collective and individual primary [trash] burials, intra-mural depositions, secondary burials, tertiary human remains contexts);
- symbolic commodities (stone rings and related "pirate" copies [Gebel 2010a; Fig. 8], tokens like *e.g.* Fig. 9, grave good "weaponry", accessories and hidden objects, various "ex-commodified" items);
- confined territories/spaces (architecture, interior alterations in walls, floors, windows, or floor lay-out, communal spaces);
- tenured/seized/claimed territories/spaces (abiotic and biotic resources);
- materials that did not become commodified or that were removed from commodification.

The list demonstrates that we aim to focus our research on a rather empiric basis on the commodification, territories, values, and norms, in order to reduce or even exclude the inherent guess working (Gebel 2010a).

Accordingly, we expect that the LPPNB diversification of commodities and commodity spheres in Ba'ja and Basta

- were a result of the social need to diversify/ segregate identities on house/gender, communal,

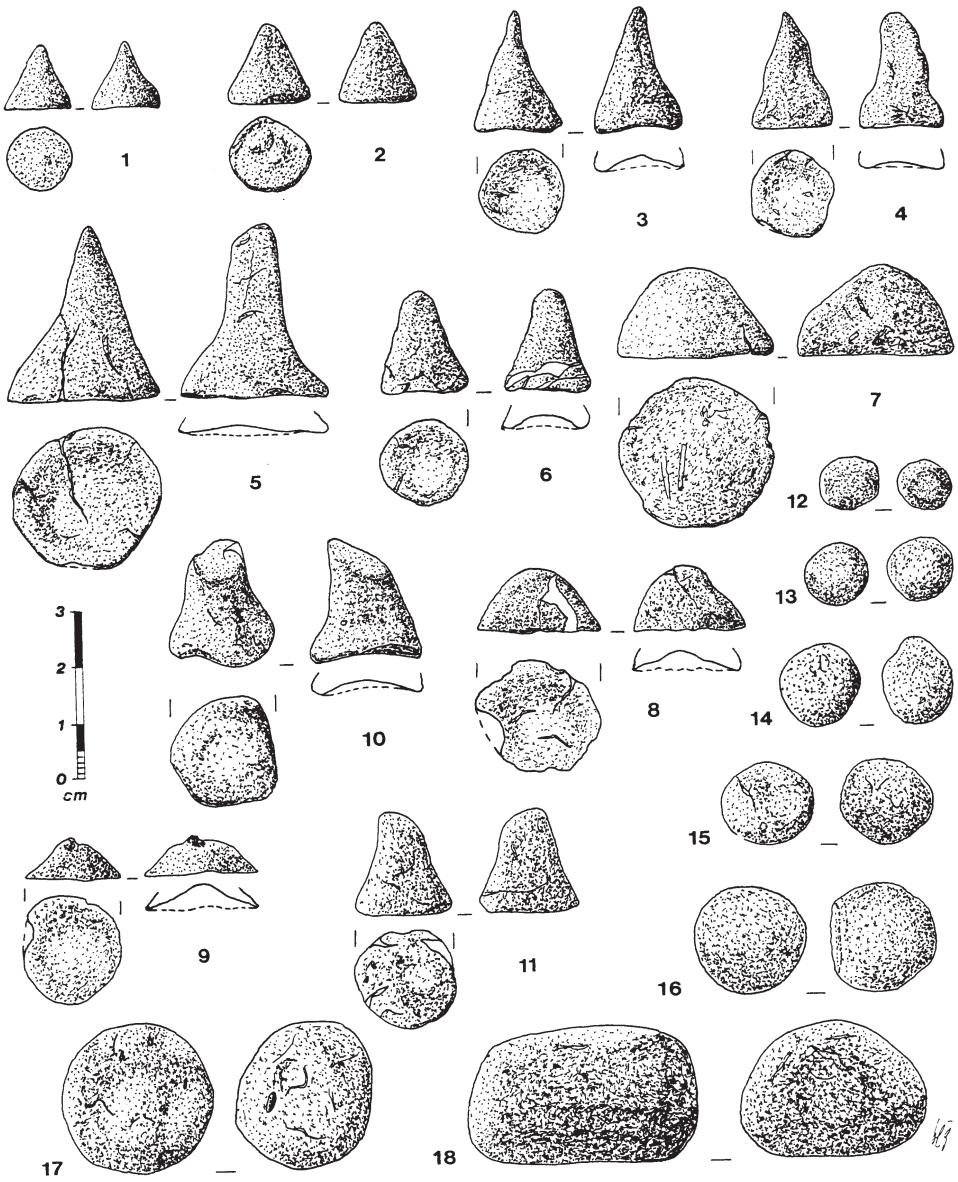


Fig. 9 The tokens ("calculi/counters/gaming pieces/geometrics") from es-Sifiya, central Jordan, possibly witnessing early transactions/recording. (Mahasneh/Gebel 1999; drawings: H.G.K. Gebel)

and regional levels, and may include elements or tendencies to "individualize" identity and action by things (Fig. 8);
- led to or increased the share of new fashions and related demands;
- led to or increased the share of innovative technologies showing hierarchical work organization (example Fig. 8);
- led to or increased the share of site-related specialized knowledge;
- show clear tendencies toward multi-craft and multi-subsistence site economy (craft and subsistence diversification);
- led to or increased the share of territorial control of abiotic resources;
- separated production and consumption to a hitherto unknown extent;
- joined production knowledge to "market knowledge" (for "commodities by destination");
- presumably caused surplus production that resulted in increased long-distance reciprocity;
- established commodity coupons and early recording systems (notions of values, changing notions of values; examples Figs. 8-9).

Concluding Note

This contribution aims to stress that the Near Eastern Neolithic packages were saturated by new territorial milieus functioning through newly introduced value producing regimes (or, confined commodification systems), and that Neolithic sedentism features cannot be analyzed and explained without understanding the territoriality and commodification supporting and allowing sedentary life. It claims that a set of Neolithic

Fig. 10 The example of an intra-mural (small room) sub-floor collective burial: Collective burials in Ba'ja are placed in pits or a chamber with space less than 0.75 m^2, hosting up to 13 individuals (majority are babies). Example of marking/legitimizing house territory by "ancestors' storage"? (photo: J. Gresky, Ba'ja N.P.)

packages, each formed by its regional blend of (interacting) natural, social and cognitive environments (including the inherent territoriality concepts), finally established sedentism in the Near East, but not as a linear development having its origin in a certain cause, or set of certain causes. Rather it was a complex web of circular interacting regional events, each caused by those varied local conditions which allow and sustain residency, which are characterized by temporary failures and set-backs (illustrated by the example of the Mega-Site Phenomenon) on their sedentism trajectory. Innovative adaptations, successful and unsuccessful socioeconomic, technological and/or ideological paradigms, and changing local conditions affecting sedentary life influenced each other over the five millennia of sedentarization in the moderate and semi-arid Near East. "Sedentism" becomes a dominant feature of the Neolithic, but it is not a completely new ingredient in the Neolithic packages. We can unwrap Neolithic packages and see their contents, but we will understand Neolithic packages only by understanding in what they are wrapped: confined territoriality, confined commodification regimes.

Acknowledgements: I would like to express my gratefulness to all colleagues to whom I owe the intellectual debts enabling me to write this contribution. You contributed to my thinking in many direct and indirect ways, by being taught or affecting opposed views, through publications, in the field and at conferences, and the many occasions we shared our material. It would be unjust to mention some of you and to leave out others. Our Neolithic family, as I like to call the colleagues working in the Near East's Neolithic, never has been so reproductive as today, both in terms of our expanding community and in terms of publications, ideas, *etc.* We are participating in a Mega-Research Phenomenon which develops in all spheres of the discipline's territories ... This contribution benefited from this development. I am also aware that by this contribution I took liberties typical of a senior researcher, meaning not hesitating to nurse the holistic and general views.

I warmly thank Gary Rollefson, Craig Crossen, Mirko Wittwar, and Denise Kupferschmidt for copy-editing.

Postface

In their recent article on *To be or not to be ... Neolithic. "Failed attempts" at Neolithization in Central and Eastern Europe and in the Near East, and their final success (35000-7000 B.P.)*, O. Aurenche, J.K. Kozłowski and S.K. Kozłowsky (*Paléorient* 39.2, 2013: 5-45) confronted us with a different – yet quite enviromentalistic and materialistic – understanding of Neolithization. They identified – in their view – a lot of attempts to establish Neolithic life-ways and features from the Aurignacien onwards ("culture was ready"), and that these failed because "nature was not able to give a favorable answer to the request of man". They see these attempts attested with many features of sedentism/mobility and habitat use, with thicknesses of deposits, in some industries and tools, with storage structures and burials, in pyrotechnology, features of plants and animals use, *etc.*

While we can agree that characteristics of Neolithic production and technology may occur in some sectors of a pre-Neolithic period or a locations's economy, it must be refuted that these make an attempt at Neolithization or even are Neolithic. The overall context in which such features occur is decisive. The authors ignore that Neolithization also means a Neolithic mind and ethos, not only a habitat use and some materials resembling the Neolithic. The essential characteristic of all Neolithic environments is the *productive* character of its milieus establishing rather stable tangible and/or intangible territories by constantly creating and modifying values. It is not so important what triggers what in such polycentral and polycausal webs, and different tangibles or intangibles may have acted as prime movers of Neolithization. Of course, our concepts of the Neolithic can be problematic in many ways, but one basic characteristic cannot be ignored: that productive frameworks and networks are an absolute criteria of Neolithic life.

Hans Georg K. Gebel
Institute for Ancient Near Eastern Archaeology
Free University Berlin
hggebel@zedat.fu-berlin.de

Endnotes

[1] This is the pre-publication of a contribution to the long-awaited volume Sedentism. Worldwide Research Perspectives for the Shift of Human Societies from Mobile to Settled Ways of Life, ed. by M. Reindel *et al.* Proceedings of an International Workshop of the German Archaeological Institute, Research Cluster 1. Berlin, 23rd-24th October, 2008. I thank Markus Reindel for the permission to publish the manuscript, originally submitted in May 2010.

[2] When I asked Abu Shaher (from the al-Bdul, al-Fakrah Clan, village of Umm Zeihoun, Jordan) to choose a suitable site for our 1983 dig camp near Sabra (4 hours south of Petra) he checked an area for its shadow and wind conditions, stony cover, soil, potential scorpion/snake danger, and rock topography. And he asked the fellow donkey drivers not to unload our materials until he marked the future camp's area. He started collecting stones, first marking the corner points of the camp and an "entrance" before he continued doing single-row stone alignments between the corners: Being an al-Bdul and entering the neighboring al-Sa'idiyyin area only with gun and pistol, he separated a Primary Physical Territory (see below) from their tribal area. Only then our materials were unloaded in the stones' rectangle. Later, I observed our instinctual behavior not to step over the stone alignment and to try to approach the camp by the "entrance". Visitors from the rival tribe of the al-Sa'idiyyin, coming for entertainment and food,

also respected the "entrance" and avoided to walk across the *ca*. 10 cm high stone alignment (well, over time shortcuts were made). From that October 1983, I have thought about territoriality and its ethology in the Neolithic. I thank Abu Shaher for teaching me. Abu Shaher died in May 2013. I dedicate this article to him.

[3] Just as today; for modern examples see Abdulsalam 1988.

[4] Compare also other new understandings presented *e.g.* in Benz 2000, Cappers and Bottema 2002, Verhoeven 2004, Zeder 2009.

[5] Gebel 2002a, 2002b, 2004, 2007, 2010a; see also the recent works of Trevor Watkins following similar general ideas: 2005, 2006, 2008, 2009a, 2009b.

[6] Including the Fertile Crescent the present-day Middle East covers about 25 principal geographical units that consist of *ca*. 130 major natural regions; the latter can be subdivided further into ca. 500 ecologically different natural sub-regions (Abdulsalam 1988). The early Holocene subdivision, its boundaries and climate, and the preserved natural environments will have looked somewhat different, but the general pattern must be expected to have been structured roughly similar to the present.

[7] *i.e.* Hermansen 2003, Hole 2003, Watkins 2003; Asouti 2004, Bar-Yosef 2004, Benz 2004, Gebel 2004b, Henry 2004, Hermansen 2004, Nesbitt 2004, Özdoğan 2004, Peltenburg 2004, Peters 2004, Rollefson 2004b, Rollefson and Gebel 2004, Simmons 2004, Stordeur 2004, Willcox 2004.

[8] All dates used in this contribution are calibrated BC; dates follow the ASPRO periodization (Hours *et al.* 1994).

[9] For example, although in contact with sub-modern communities, hunting shell fishers continued to occupy spots of the littoral Oman Peninsula, Dhofar, and Yemen in the last century, practicing Epipalaeolithic lifestyles.

[10] Admittedly, they sound quite valid for the sedentary ethos of other historic periods and even for our modern societies. The explanation might rest in the fact that historic sedentism and our modern sedentary ethology are rooted in Neolithic foundations.

[11] Other spatial burial understanding also existed, as reflected by „trash burials", burials in ruins (Bienert *et al.* 2004), secondary skull burials after removing skulls from their primary contexts, *etc.* The location of more off-site graveyards or „villages of the dead" (*e.g.*, Goring-Morris and Kolska-Horwitz 2007; Galili *et al.* 2009) – also for the Early Neolithic period – has to be expected, too.

[12] Of course consequences of environmental impacts can also result in increased aggression and even Neolithic war (Bar-Yosef 2010), connected with the collapse of settlements and societies. But here again the question is whether we should step into the traps of monocausal explanation: How to identify a major cause in a complexity of *e.g.* combined social deterioration, environmental degradation, climate impact, subsequent crowding, and commodification regimes acting against territorial aggression (Gebel 2010b).

[13] Arjun Appadurai (1986) and Igor Kopytoff (1986) used the term commoditization for what we here call commodification. We cannot discuss here (but see Gebel 2010a) the – so far not sufficiently discussed – distinction between commodification and commoditization, but present here our preliminary understanding, based on the ideas of Douglas Rushkoff (http://rushkoff.com/2005/09/04/commodified-vs-commoditized/, accessed March 2010):

1. commoditization: a process by which unique/segregated things/values having a distinct economic account become common things/values (originally a term of business theory)
2. commodification: a process by which things of no value are assigned a commonly accepted value (originally a term of Marxist theory).

[14] An extensive survey of Near Eastern Neolithic storage findings was published by Bartl 2004.

[15] Definition of corporate: a general term for the socioeconomic and ideological milieu in which different individuals and parties share and maintain tangible and intangible properties (material spaces, skills, beliefs, *etc.*) for securing and maintaining their living mode and its related structures. Joint ventures and feasts increase mutual dependence and decrease potential conflicts. Those who leave a corporate reciprocity regime are socially ostracized. Corporate behaviour is confined to one's own group or, when extended outside of one's own group, conditioned by its interests. "Corporate" refers to behaviour, "communal" to organization/structure. Corporate activities may not necessarily take place for an immediate, or for any rational tangible or intangible, benefit.

[16] Similar phenomena, of course, are represented by the earlier mega-site phenomenon on the Middle Euphrates and the Göbekli Tepe ritual interaction sphere.

[17] MPPNB Jericho might have already developed features like the later mega-sites to the east, since the migrating gazelles in the rift valley provided the hunting grounds to grow; possibly Jericho was a kind of progenitor of the Mega-Site Phenomenon.

References (until 2010; see footnote 1)

Abdulsalam A.
1988 *Vorderer Orient: naturräumliche Gliederung / Middle East: natural regions, 1:8000000.* Tübinger Atlas des Vorderen Orients A VII 1. Wiesbaden.

Altman I.
1975 *The Environment and Social Behavior: Privacy, Personal Space, Territory, Crowding.* Monterey.

Appadurai A.
1986 Introduction: commodities and the politics of value. In: A. Appadurai (ed.), *The Social Life of Things. Commodities in Cultural Perspective*: 3-63. Cambridge.

Asouti E.
2004 Supra-Regional Concepts II: The contribution of subsistence archaeology to generating supra-regional models for understanding Near Eastern Neolithisation. *Neo-Lithics* 1/04: 23-24.

Bartl K.
2004 *Vorratshaltung: Die spätepipaläolithische und frühneolithische Entwicklung im westlichen Vorderasien – Voraussetzungen, typologische Varianz und sozio-ökonomische Implikationen im Zeitraum zwischen 12.000 und 7.600 v. Chr.* Studies in Early Near Eastern Production, Subsistence, and Environment 10. Berlin, ex oriente.

Bar-Yosef O.
1981 The "Pre-Pottery Neolithic" period in the southern

Levant. In: J. Cauvin and P. Sanlaville (eds.), *Préhistoire du Levant: chronologie et organisation de l'espace depuis les origines jusqu'au VIe millénaire,* 1: 555-569. Paris.

2004 Supra-Regional Concepts II: Targets of current Neolithic research in southwestern Asia. *Neo-Lithics* 1/04: 24-27.

2010 Conflict and warfare in the Near Eastern Neolithic. *Neo-Lithics* 1/10: 6-10. Berlin.

Belfer-Cohen A. and Bar-Yosef O.

2000 Early sedentism in the Near East: a bumpy ride to village life. In: I. Kuijt (ed.), *Life in Neolithic farming communities: social organization, identity, and differentiation.* Fundamentals Issues in Archaeology: 19-38. New York.

Benz M.

2000 *Die Neolithisierung im Vorderen Orient: Theorien, archäologische Daten und ein ethnologisches Modell.* Studies in Early Near Eastern Production, Subsistence, and Environment 7. Berlin, ex oriente.

2004 Supra-Regional Concepts II: The emic view: Social questions of the Neolithisation of the Near East. *Neo-Lithics* 1/04: 27-28.

Bienert H.D., Bonogofsky M., Gebel H.G.K., Kuijt I., and Rollefson G.O.

2004 Where are the dead? 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: 157-177. Berlin, ex oriente.

Cappers R.T. J. and Bottema S. (eds.)

2002 *The Dawn of Farming in the Near East.* Studies in Early Near Eastern Production, Subsistence, and Environment 6. Berlin, ex oriente.

Eerkens J.W.

1999 Common pool resources, buffer zones, and jointly owned territories: hunter-gatherer land and resource tenure in Fort Irwin, southeastern California. *Human Ecology* 27: 297-318.

Galili E., Eshed V., Rosen B., Kislev M.E., Simchoni O., Hershkovitz I., and Gopher A.

2009 Evidence for a separate burial ground at the submerged Pottery Neolithic site of Neve-Yam, Israel. *Paléorient* 35: 31-46.

Gebel H.G.K.

1990 *Vorderer Orient: Neolithikum: Beispiele zur Fundortökologie: Petra-Region (Jordanien). <Middle East. Neolithic. Examples of the Ecological Setting of Sites. Petra Region>.* Tübinger Atlas des Vorderen Orients B I 15.1. Wiesbaden.

1992 Territories and palaeoenvironment: locational analysis of Neolithic site setting in the Greater Petra area, southern Jordan. In: S. Kerner (ed.), *The Near East in Antiquity. German Contributions to the Archaeology of Jordan, Syria, Lebanon and Egypt* 3: 85-96. Amman.

2002a The Neolithic of the Fertile Crescent: an essay on a polycentric process and other current research problems. In: A. Hausleiter, S. Kerner and B. Müller-Neuhof (eds.), *Material Culture and Mental Spheres: Rezeption archäologischer Denkrichtungen in der Vorderasiatischen Archäologie.* Alter Orient und Altes Testament 293: 313-324. Münster.

2002b *Subsistenzformen, Siedlungsweisen und Prozesse des sozialen Wandels vom akeramischen bis zum keramischen Neolithikum, II: Grundzüge sozialen Wandels im Neolithikum der südlichen Levante.* In: http://www.freidok.uni-freiburg.de/volltexte/466. Freiburg. (accessed: June 20, 2011)

2002c Walls: loci of forces. In: H.G.K. Gebel, B. Dahl Hermansen, and C. Hoffmann 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.

2004a 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 Early Near Eastern Production, Subsistence, and Environment 5: 1-19. Berlin, ex oriente.

2004b Supra-Regional Concepts II: There was no center: The polycentric evolution of the Near Eastern Neolithic. *Neo-Lithics* 1/04: 28-32.

2006 The domestication of vertical space: the case of steep-slope LPPNB architecture in southern Jordan. In: E.B. Banning and M. Chazan (eds.), *Domesticating space: Construction, Community, and Cosmology in the Late Prehistoric Near East.* Studies in Early Near Eastern Production, Subsistence, and Environment 12: 65-74. Berlin, ex oriente.

2007 El surgimiento de sociedades sedentarias en el Levante meridional del Cercano Oriente. In: P. Kaulicke and T.D. Dillehay (eds.), *Procesos y expresiones de poder, identidad y orden tempranos en Sudamérica.* Boletín de Arqueología PUCP 11 : 289-324. Lima.

2008 The global diversity of early sedentism. Report on the Workshop: Worldwide research perspectives for the shift of human societies from mobile to settled ways of life. German Archaeological Institute, Berlin (Forschungscluster 1), 23rd-24th October, 2008. *Neo-Lithics* 2/08: 36-38.

2009 The intricacy of Neolithic rubble layers: The Ba'ja, Basta, and 'Ain Rahub evidence. *Neo-Lithics* 1/09: 33-48.

2010a 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 Early Near Eastern Production, Subsistence, and Environment 14. Berlin: 31-80.

2010b Conflict and conflict mitigation in Early Near Eastern sedentism. Reflections. *Neo-Lithics* 1/10: 32-35.

Gebel H.G.K., Kinzel M., Nissen H.J., and Zaid Z.

2006 Summary and conclusions. In: H.G.K. Gebel,

H.J. Nissen, and Z. Zaid (eds.), *Basta II: The Architecture and Stratigraphy.* bibliotheca neolithica Asiae meridionalis et occidentalis & Yarmouk University Monograph of the Faculty of Archaeology and Anthropology 5: 203-224. Berlin, ex oriente.

Gebel H.G.K. and Kozłowski S.K.
1996 Remarks on taxonomy and related questions of Neolithic chipped stone industries of the Fertile Crescent, as related to their contemporaries in the adjacent regions. In: S.K. Kozlowski and H.G.K. Gebel (eds.), *Neolithic chipped stone industries in the Fertile Crescent, and their contemporaries in adjacent regions*. Studies in Early Near Eastern Subsistence, Production, and Environment 3: 453-460. Berlin, ex oriente.

Gebel H.G.K. and Mahasneh H.M.
2012 Qulban Beni Murra. Unknown Mid-Holocene sepulchral green desert landscapes, pastoral well cultures, and the origins of Arabia's oasis economies. In: R. Eichmann, F. Klimscha, C. Schuler and H. Fahlbusch (eds.), *Wasserwirtschaftliche Innovationen im archäologischen Kontext. Von den prähistorischen Anfängen bis zu den Metropolen der Antike*. Menschen, Kulturen, Traditionen 5: 101-122. Rahden.

Gifford R.
1997 Environmental psychology: principles and practice. 2nd edition. Boston.
2002 Environmental psychology: principles and practice. 3rd edition. Colville.

Gopher A.
1994 *Arrowheads of the Neolithic Levant: a seriation analysis.* American Schools of Oriental Research, Dissertation Series 10. Winona Springs.

Goring-Morris N. and Kolska Horwitz L.
2007 Funerals and feasts during the Pre-Pottery Neolithic B of the Near East. *Antiquity* 81: 902-919.

Henry D.O.
2004 Supra-Regional Concepts II: Assessing the degree of supra-regional homogeneity in cultural elements within the Near Eastern Neolithic. *Neo-Lithics* 1/04: 32-33.
2005 Ayn Abu Nukhayla: Early Neolithic adaptation to the arid zone. *Journal of the Israel Prehistoric Society* 35: 353–370.

Hermansen B. Dahl
2003 Supra Regional Concepts I: Introductory remarks. In: *Neo-Lithics* 2/03: 32-33.
2004 Supra-Regional Concepts II: Supra-regional concepts from a local perspective. *Neo-Lithics* 1/04: 34-38.

Hole F.
2003 Supra Regional Concepts I: Centers in the Neolithic? *Neo-Lithics* 2/03: 33-35

Hours F., Aurenche O., Cauvin J., Cauvin M.C., Copeland L., and Sanlaville P. avec la collaboration de P. Lombard
1994 *Atlas des sites du Proche Orient (14000-5700 BP).* Travaux de la Maison de l'Orient 24.1 (texte), 24.2 (cartes). Lyon.

Köhler-Rollefson I. and Rollefson G.O.
1990 The impact of Neolithic subsistence strategies on the environment: the case of 'Ain Ghazal, Jordan. In: S. Bottema, G. Entjes-Nieborg and W. van Zeist (eds.), *Man's role in the Shaping of the Eastern Mediterranean Landscape*: 3-14. Rotterdam.

Kopytoff I.
1986 The cultural biography of things: commodification as process. In: A. Appadurai (ed.), *The Social Life of Things: Commodities in Cultural Perspective:* 64-91. Cambridge.

Kozłowski S.K. and Gebel H.G.K.
1994 Editors' concluding remarks on chipped lithics techno-taxa and interaction spheres throughout the 9th to 6th millennium B.C. In: H.G.K. Gebel and S.K. Kozłowski (eds.), *Neolithic Chipped Stone Industries of the Fertile Crescent.* Studies in Ancient Near Eastern Production, Subsistence and Environment 1: 595-601. Berlin, ex oriente.

Lewis-Williams D. and Pearce D.
2005 *Inside the Neolithic Mind: Consciousness, Cosmos, and the Realm of the Gods.* London.

Lyman S.M. and Scott M.B.
1967 Territoriality: a neglected sociological dimension. *Social Problems* 15: 236-248.

Mahasneh H.M. and Gebel H.G.K.
1999 Geometric objects from LPPNB es-Sifiya, Wadi Mujib, Jordan. *Paléorient* 24: 105-110.

Marshall Y. (ed.)
2006 *Sedentism in Non-Agricultural Societies.* World Archaeology 38.

Nesbitt M.
2004 Supra-Regional Concepts II: Can we identify a centre, a region, or a supra-region for Near Eastern plant domestication? *Neo-Lithics* 1/04: 38-40.

Nissen H.J.
2004 Proto-urbanism, an early Neolithic feature? 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: 41-44. Berlin, ex oriente.

Özdoğan M.
2004 Supra-Regional Concepts II: Definitions, perceptions, and borders. *Neo-Lithics* 1/04: 41-42.

Peltenburg E.
2004 Supra-Regional Concepts II: Space and perishables: Some implications of an expanded Near Eastern Neolithic. *Neo-Lithics* 1/04: 42-43.

Peters J.
2004 Supra-Regional Concepts II: Supra-regional understanding of Near Eastern Neolithization: An Archaeozoological perspective. *Neo-Lithics* 1/04: 43-45.

Purschwitz C. and Kinzel M.
2008 Ba'ja 2007: two room and ground floor fills: reconstructed house-life scenarios. *Neo-Lithics* 2/07: 22-35.

Rollefson G.O.
1989 The Late Aceramic Neolithic of the Levant: a synthesis. *Paléorient* 15: 168-173.
1998 The Aceramic Neolithic of Jordan. In: D.O. Henry (ed.), *The Prehistoric Archaeology of Jordan*. BAR International Series 705: 102-126. Oxford.
2004a LPPNB tribes or chiefdoms? 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: 145-156. Berlin, ex oriente.
2004b Supra-Regional Concepts II: A reconsideration of the PPN *koiné*: Cultural diversity and centralities. *Neo-Lithics* 1/04: 46-48.

Rollefson G.O. and Gebel H.G.K.
2004 Supra-Regional Concepts II: Towards new frameworks: Supra-regional concepts in Near Eastern Neolithization. Short note on an 4ICAANE Workshop held in Berlin, 1-2 April 2004. *Neo-Lithics* 1/04: 21-22.

Simmons A.H.
2004 Supra-Regional Concepts II: Comment on the supra-regional concept issue. *Neo-Lithics* 1/04: 48.
2007 *The Neolithic Revolution in the Near East: Transforming the Human Landscape.* Tucson.

Stordeur D.
2004 Supra-Regional Concepts II: New insights and concepts: Two themes on the Neolithic of Syria and South-East Anatolia. *Neo-Lithics* 1/04: 48-51.

Stordeur D. and Khawam R.
2007 Les crânes surmodelés de Tell Aswad (PPNB, Syrie): Premier regard sur l'ensemble, premières réflexions. *Syria* 84: 5-32.

Verhoeven M.
2004 Beyond boundaries: nature, culture and a holistic approach to domestication in the Levant. *Journal of World Prehistory* 18: 179-282.

Watkins T.
2002 Memes, memeplexes and the emergence of religion in the Neolithic. In: H.G.K. Gebel, Hermansen B. Dahl and Hoffmann Jensen C. (eds.), *Magic practices and ritual in the Near Eastern Neolithic.* Studies in Early Near Eastern Production, Subsistence, and Environment 8: 41–47. Berlin, ex oriente.
2003 Supra Regional Concepts I: Developing socio-cultural networks. *Neo-Lithics* 2/03: 36-37.
2005 The Neolithic revolution and the emergence of humanity: a cognitive approach to the first comprehensive world-view. In: J. Clarke (ed.), *Archaeological Perspectives on the Transmission and Transformation of Culture in the Eastern Mediterranean*. Levant Supplementary Series 2: 84-88. Oxford.
2006 Neolithisation in southwest Asia – the path to modernity. *Documenta Praehistorica* 33: 71-88.
2008 Supra-regional networks in the Neolithic of southwest Asia. *Journal of World Prehistory* 21: 139-171.
2009a Ordering time and space: creating a cultural world. In: J. Córdoba, M. Molist, C. Pérez, I. Rubio and S. Martínez (eds.), *Proceedings of the 5th International Congress on the Archaeology of the Ancient Near East* 3: 647-659. Madrid.
2009b From foragers to complex societies in southwest Asia. In: C. Scarre (ed.), *The Human Past: World Prehistory and the Development of Human Societies* (2nd edition): 200-233. London.

Whitehouse W.
1995 *Inside the Cult: Religious Innovation and Transmission in Papua New Guinea*. Oxford Studies in Social and Cultural Anthropology. Oxford.
2000 *Arguments and Icons: Divergent Modes of Religiosity.* Oxford.

Willcox G.
2004 Supra-Regional Concepts II: Last gatherers/first cultivators in the Near East: Regional and supra-regional developments. *Neo-Lithics* 1/04: 51-52.

Zeder M.A.
2009 The Neolithic macro-(r)evolution: macroevolutionary theory and the study of culture change. *Journal of Archaeological Research* 17: 1–63.

Stories from the Past: Insights from a Children's Archaeology Project in Turkey

Maria Theresia Starzmann

The everyday stuff gives life meaning. It is often the mundane and commonplace things – "the small things forgotten" (Deetz 1977) – that speak in most significant ways to past human experience. Yet, because these are also the most inconspicuous traces of human life, we tend to loose sight of them easily.

This brief note about a public archaeology project in Turkey is written in defense of the small facts, the whimsical archaeological finds, and the uncommon stories about common people. My insights draw on my experience of teaching archaeology in classroom settings outside the university, in this particular instance at a middle school in Urfa. The goal of the project was to engage the local community in ongoing research about Late Neolithic village cultures as well as to share archaeological knowledge and skillsets with a lay audience. As it turned out, the non-academic classroom was the perfect space for taking archaeology beyond the limits drawn by chronological charts, matrices, and timelines, and into historical particularities. Much of the school children's concern with the archaeological past revolved around a history of the everyday and the stories of individual people.

Fig. 1 Mina Eroğlu gives a presentation to 5th-graders at Ilgi Okulları in Şanlıurfa. (photo: M.T. Starzmann)

Fig. 2 Nilgün Çakan answers a student's questions during the workshop. (photo: M.T. Starzmann)

"How did people in the past fix broken things (especially when there was no glue)?" was a question asked by one 10-year old student. This sincere query, which applies a common event in the present – we drop something, it breaks, we attempt to fix it – to the past, goes right at the core of a history of everyday life. The sherds of a broken pot are nothing other than the small things forgotten that so often elude the archaeologist.

Seeking an understanding of the idiosyncrasies and peculiarities of history – of its small curious facts – was an explicit goal of my dissertation research about Late Neolithic communities at the site of Fıstıklı Höyük (Starzmann 2013). Studying archaeological material culture with a focus on the underside of history, my work expanded standard typologies by recognizing the different life cycles that an object might have gone through. A broken pot, for example, did often not get fixed at all by the villagers living at Fıstıklı Höyük, but the sherds were reworked into other useful objects, such as pierced disks, scrapers, or jetons, and reused.

There is more to an ancient pottery sherd than meets the eye and not every broken pot was considered 'wasted' in past societies. Starting out from the question about a mundane event – the breaking of a pot – the children who participated in my project ended up exploring various possible responses to problems that existed in the past. In doing so, they recognized not only that there is a range of human practices, but they also understood that there are different ways of 'reading' the archaeological record. In conversations with the students, this educational project thus actively aimed at opening up possibilities by taking into account "other possible forms of human social existence" (Graeber 2007: 1) and to avoid what Joan Gero (2007: 311) has called "mechanisms of closure" toward alternative histories.

The goal to resist certitude in our archaeological interpretations of Fıstıklı Höyük structured both format

Fig. 3 A student works with an image detailing the excavation of an ancient site. (photo: M.T. Starzmann)

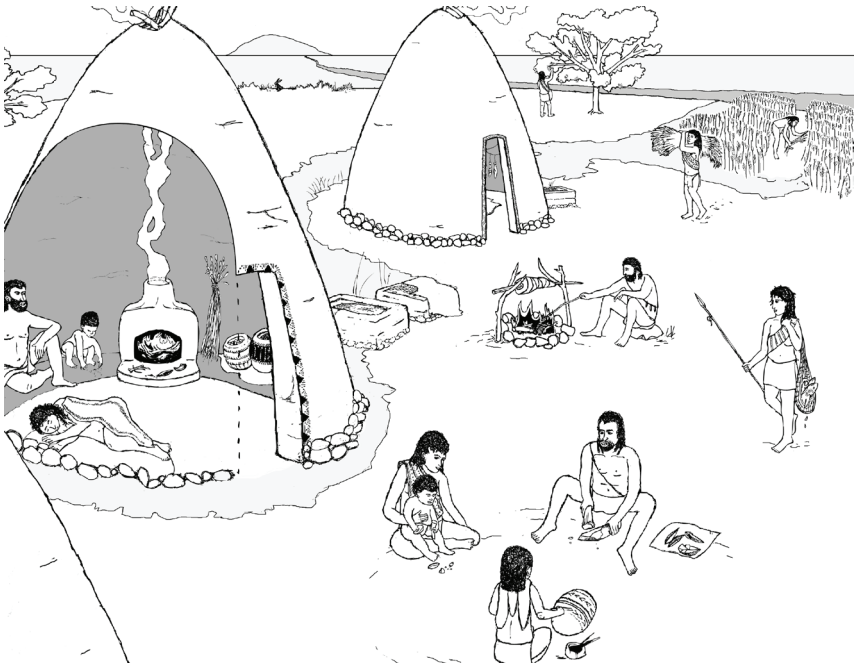


Fig. 4 Reconstruction drawing of Fıstıklı Höyük prepared by Bryan DePuy.

and content of my archaeology project in Urfa, including the design of teaching materials. The use of reconstruction drawings, while helpful in engaging a lay audience, was particularly challenging here: not only did the drawings have to ensure an accurate portrayal of the archaeological facts without limiting the artist's freedom by forcing strict realism, but they also needed to account for cultural bias (Diane Gifford-Gonzalez 1993). The artist commissioned to do the drawings tried to be sensitive of the fact that we know near to nothing about the gender-specific attributes (dress, hairstyle, body adornment, *etc*.) of individuals in prehistoric contexts. It was also crucial not to over-represent men and to include women and children in the images without reducing them to mere 'background' figures. Women likely participated in a variety of activities of ancient village life, so that we cannot presume a gendered division of labor according to which women were solely responsible for child rearing. In fact, child rearing could easily have been a task that was shared by members of the whole community rather than the women of a nuclear family.

The resulting images provided the school children with information on life in a Late Neolithic village, which allowed them to formulate questions such as "What did people at Fıstıklı Höyük eat?," "Where did they sleep?," "What tools did they have?," or "How did they fix things?" Yet, the drawings were not used as a blueprint for a coherent narrative about the past that was closed to interpretation. The images merely offered background information for the students, based on which they could come up with stories about a day in the life of a villager at Fıstıklı Höyük. They did so by narrating the past from their own perspective and inadvertently highlighted rather than obscured the presence of children in past societies, thus taking a look into some of history's unexplored corners: the archaeology of childhood (Baxter 2008).

To accompany the young students into these unknown corners was an essential component of this as of any archaeological project that seeks to reach out to local communities or the general public (Moshenska 2009). That is to say, at the very moment when we begin to engage non-academic audiences we must provide the space for interpretive frameworks that differ from that of the archaeologist (Colwell-Chanthaponh and Ferguson 2008; Marshall 2002; Smith 1999). The resulting historical narratives may not be more accurate than those of professional archaeologists, nor closer to a supposed 'truth,' but they are valid insofar as they diversify the existing agreed-upon canon of archaeological scholarship.

Engaging in an honest dialogue about the past with children is thus an incredibly powerful experience – one that offers aspects of what Lee Bloch (2014) has called "decolonizing social imagination." Opening our academic endeavors to different ways of knowing and narrating the past, this project made space for oft-silenced voices: those of children. By taking seriously the fact that children too are invested in the past, public educational projects in archaeology clearly have the potential to destabilize "taken for granted assumptions in the dominant archaeological discourses" (Bloch 2014: 74; *cf*. Atalay 2012).

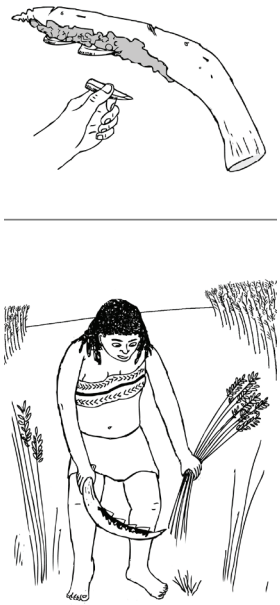


Fig. 5 Reconstruction drawing of a sickle and harvesting prepared by Bryan DePuy.

Fig. 6 Reconstruction drawing of pottery techniques prepared by Bryan DePuy.

Acknowledgements: As much as this project lived of the enthusiasm of the children at Saraç Eğitim Kurumları İlgi Okulları, I could not have carried out this work by myself. I am deeply indebted to Nilgün Çakan and Mina Eroğlu for their commitment, encouragement, and friendship. Bryan DePuy has contributed amazing artwork, dedicating much time and thought to the reconstruction of archaeological life-worlds. I would like to thank Prof. Evangelia Pişkin of Middle Eastern Technical University for her support and responsiveness throughout the project, as well as Mr. Halil Sarac and Mr. Mehmet Tokgöz who helped coordinate our stay at *İlgi Okulları*. Thanks are also due to the students from my Near Eastern Archaeology class at McGill University, who contributed story ideas to the project. Funding was provided by an Engaged Anthropology Grant of the Wenner-Gren Foundation for Anthropological Research.

Maria Theresia Starzmann
McGill University
Department of Anthropology
maria.starzmann@mcgill.ca

Bibliography

Atalay S.
2012 *Community-Based Archaeology: Research With, By, and For Indigenous and Local Communities*. Berkeley: University of California Press.

Baxter J.E.
2008 The archaeology of childhood. *Annual Review of Anthropology* 37: 159-175.

Bloch L.J.
2014 The unthinkable and the unseen: Community archaeology and decolonizing social imagination at Okeeheepkee, or the Lake Jackson Site. *Archaeologies* 10(1): 70-106.

Colwell-Chanthaponh C., Ferguson T. J.
2008 *Collaboration in Archaeological Practice: Engaging Descendant Communities*. Lanham: AltaMira Press.

Deetz J.
1997 *In Small Things Forgotten: An Archaeology of Early American Life*. New York: Anchor Books.

Gero J.M.
2007 Honoring ambiguity/Problematizing certitude. *Journal of Archaeological Method and Theory* 14(3): 311-327.

Gifford-Gonzalez D.
1993 You can hide, but you can't run: Representations of women's work in illustration of Palaeolithic life. *Visual Anthropology Review* 9(1): 22-41.

Graeber D.
2007 *Possibilities: Essays on Hierarchy, Rebellion, and Desire*. Oakland: AK Press.

Marshall Y.
2002 What is community archaeology? *World Archaeology* 34(2): 211–219.

Moshenska G.
2009 What is public archaeology? *Present Pasts* 1: 46-48.

Smith L.T.
1999 *Decolonizing Methodologies: Research and Indigenous Peoples*. New York: Zed Books.

Starzmann M.T.
2013 Spontaneity and habitus: Stone tool production in communities of practice at Fıstıklı Höyük. In *Interpreting the Late Neolithic of Upper Mesopotamia*, ed. by O.P. Nieuwenhuyse, R. Bernbeck, P.M.M.G. Akkermans, and J. Rogasch: 161-196. Turnhout: Brepols.

Fig. 7 Maria Theresia Starzmann and Mina Eroğlu with 5-th graders and their teacher at İlgi Okulları in Şanlıurfa. (photo: N. Çakan)

The Construction of Neolithic Corporate Identities Report on an ICAANE July 2014 Workshop in Basel

Marion Benz, Hans Georg K. Gebel and Trevor Watkins

A workshop on "The Construction of Neolithic Corporate Identities", organized by Trevor Watkins, Hans Georg Gebel and Marion Benz, took place within the framework of the 9th International Congress on the Archaeology of the Ancient Near East at Basel, between the 9th and 10th of July, 2014. Nine contributors were invited to give short input-statements or comments on an introduction that was pre-circulated, and on three section-introductions, which were pre-circulated shortly before the workshop among the participants and the potentially interested audience (via the Neo-Lithics mailing list). Unfortunately, Eleni Asouti and Christa Sütterlin had to cancel their participation for different reasons, but Michael Morsch spontaneously agreed to contribute results of his research on Neolithic clay figurines from Nevalı Çori.

The workshop launched what might become a new concept of socio-ideological interpretation of the archaeological record. The central question is whether it is possible to discern, to differentiate, and to trace a development, of different forms of corporate identities across the transition from foraging to farming and from mobile to sedentary ways of life, between the Upper Palaeolithic and the early Holocene in the Near East. The purpose of the workshop was to focus attention on this new concept by discussing the changes, but also the challenges and possible traps.

Section 1: Neolithic Corporate Identities in Evolutionary Context

Trevor Watkins opened the first section, *Neolithic Corporate Identities in Evolutionary Context*, pointing out that, in terms of the timescale of human evolution, the transition from Upper Palaeolithic mobile forager bands into large, permanently co-resident communities was both extraordinarily rapid and an unprecedented transformation. The transformation poses substantial questions. For example, why did people abandon the mobile forager band way of life that had existed for more than a million years, and why did they set about creating new social worlds that were so different in scale and kind from anything that previous humans had experienced? How did these new communities construct the strong corporate identities that were essential to their social stability? And how should we describe these new kinds of community, both the community that lived permanently together within a settlement, and the larger-scale, dispersed community that engaged in social exchange and the sharing of significant cultural traits, or the creation of a site like Göbekli Tepe.

There were three papers in this first section, offered by Nigel Goring-Morris and Anna Belfer-Cohen, Tobias Richter, and Lisbeth Bredholt Christensen. The paper by Nigel Goring-Morris and Anna Belfer-Cohen concentrated on the Epipalaeolithic period, and emphasised that many of the characteristics that we commonly consider typically 'Neolithic' were already present in Epipalaeolithic communities. They showed how the advance of sedentism, and the sense of territoriality and group identity are inter-related, and are accompanied by increasing amounts and variety of material culture, which in turn required increased exchange within networks of communities. This situation, they argued, was intermediate and transitional, no longer like the typical Palaeolithic mode, but not in accord with the rules of the fully-fledged agricultural societies of the Near East. They concluded that we have tended to contrast Palaeolithic hunter-gatherers and Neolithic farmers, and have not properly explored the cultural koines that came into existence in the Epipalaeolithic, considering to what ex-

Fig. 1 The audience of the workshop's first day at Basel University. (photo: H.G.K. Gebel)

Fig. 2 The audience of the workshop's first day at Basel University. (photo: H.G.K. Gebel)

tent they reflect diffusion of ideas, or movement of and interaction among people.

Lisbeth Bredholt Christensen focused on the objectification of things as part of forging of corporate identities in the new circumstances of the later Epipalaeolithic and early Neolithic periods. She asked to what extent the increased involvement with humanly produced objects contributed to an objectification and a lifelessness attributed to both individual objects and perhaps also to fellow human beings. As someone interested in the history of religion, she said that she found it difficult to speak of religion in early prehistory. To some extent this difficulty arose because of the very different ways in which religion has been defined. She noted that religion allowed the expression of authority beyond the normal human level; and she remarked that many authorities agreed that shared religious beliefs and practices formed an important part of social identity. Clearly, material culture was being used in the Epipalaeolithic and especially in the early Neolithic to create monuments and imaginative sculptures in new ways, as at Göbekli Tepe. Was this the transition from shamanic practices into religions that could be described as cults? Religious cults, she explained, are commonly associated with special (sacred) and monumental places, used for rituals at regular times, often under the control of specialised people, using particular kinds of paraphernalia. Was the purpose of the imagery and monumentality of Göbekli Tepe to orchestrate feelings of terror, awe and submission? Were the enclosures instrumental in construction authority among a large, regional community?

Tobias Richter wanted to caution against the uncritical acceptance of Neolithic corporate groups as entirely novel or as a fundamental component of early agricultural societies. He argued that the tendency to see a black-and-white contrast between the Palaeolithic and the Neolithic was an unfortunate misrepresentation, rooted in simplistic and outdated ideas. There were historic reasons why Palaeolithic archaeology and Neolithic archaeology were viewed differently, and usually studied by different people. But he argued that we will understand the Neolithic societies only when we learn how they evolved from earlier, Upper Palaeolithic and Epipalaeolithic societies. He pointed out that the archaeological and ethnographic record showed that cooperation was a key evolutionary characteristic of Upper and Epipalaeolithic societies, and mobile forager groups demanded high levels of cooperative behaviour, as much as Neolithic communities. We should be asking why mobile forager bands preferred looser, more egalitarian structures, and seeking to discover how and why more rigidly defined networks of social engagement emerged.

Section 2: Identity and Socioeconomy

In his pre-circulated introduction to Section 2, which was presented to the audience condensed in 5 statements (Neolithic Corporate Identities and Socio-Economy), Hans Georg K. Gebel stressed that Neolithic corporate identities were formed and ruled by three interrelated and interacting regimes: evolutionary dispositions, socio-economic substrata, and ideological systems. All their tangible and intangible sub-fields permanently restructured their specific interaction mechanisms with the other sub-fields; some were behaving in a more stable manner, while others were highly reactive to changes in other sub-fields. Corporate identities are permanently altered by adaptations required by developments in the regimes' sub-fields, such as social life or economic life. The major relevant socio-economic sub-systems, or arenas, that played a role in the formation of Neolithic corporate identities were: landscape and physical environment, territoriality regimes, commodification regimes, the house (household)/ kinship/ lineage, the "individual", gender (binarism?), the communal, the supra-communal, tangible productive milieus, and the socio-political and socio-religious regimes. All these arenas were pivotal parts of the self-optimising systems which characterise Neolithic developments, supported by – and altering – ideological and evolutionary principles still working in our modern systems.

H.G.K. Gebel emphasized that the confined productive milieus of the Neolithic lifestyles required new concepts in identity formation in order to promote themselves and to survive, and thus conditions of identity formation were totally different from those of hunter/ gatherer identity formations. The standards of the corporate ethos became controlled – more than ever – by the need to sustain and promote the tangible and intangible territories of the productive milieus, by constantly creating and modifying values (commodification processes) in shifting polycentric and multi-causal webs. From the Neolithic onwards, productive commodification regimes began also to rule identities in evolutionary and ideological developments, including introducing ideocracies, different ethical dispositions, concepts of social stratification, and the like (*e.g.* formal doctrinal religious systems [Göbekli Tepe], sedentary property understanding, the family/gender, etc.).

H.G.K. Gebel concluded that Neolithic corporate identities cannot be discussed without understanding the need to permanently diversify and segregate corporate identities the more acceleration and aggregation productive systems gave rise to. But he also pointed out that there might be productive socio-economies, or situations in such environments, which do not require or at times have to neglect sorts of corporate identities in order to function, collapse, or restructure.

A (pre-circulated) table by H.G.K. Gebel illustrated this understanding – in a thesis-like manner – containing the most "active" characteristics/ principles/ forces in Neolithic corporate identity formation according to the socio-economic arenas in which they (must have) acted.

Two contributions were presented in Section 2: Kurt Alt and Marion Benz reported on *Teeth story writing: Basta and the difficult path to farming communities*, and Amy Bogaard on *Neolithic 'cooperatives'? An*

archaeobotanical approach to Neolithic corporate identities. Unfortunately, the contribution on *The role of climate instability and resource predictability in the formation of Neolithic corporate identities in Southwest Asia* by Eleni Asouti could not be presented due to other pressing commitments.

K. Alt and M. Benz reported about the methods to reconstruct blood relationship by epigenetic characteristics of teeth and skull bones in southern Levantine and Middle Euphrates early farming communities, focussing on the LPPNB key site of Basta, Southern Jordan. Systematic strontium (Sr) isotope analysis of tooth enamel opened the possibility of reconstructing mobility patterns for the Basta population. The frequency of congenitally missing maxillary lateral incisors in Basta is exceptionally high (35.7%). The high frequency of this anomaly can only be explained by close familial relationships akin to endogamy. The results of the strontium analyses indicate a local origin of almost all investigated individuals. The exceptionally high evidence of missing incisors within Basta represents the earliest evidence of a self-imposed exclusive mating system. The authors see this as direct and strong evidence for the fundamental social changes that accompanied the transition from mobile hunter-gatherers to sedentary farmers, when flexible social structures were tied into more permanent social bonds and blood relationship became important in household formation. On the other hand, they stressed that the modern concept of family should not influence the understanding of early Neolithic households since other forms non-biological relationship may have played a role in their formation.

Amy Bogaard's archaeobotanical approach to Neolithic corporate identity brought up the question whether 'cooperatives' were flourishing in Çatalhöyük. Evidence from the site gave direct archaeobotanical evidence for crop production, storage and use being deeply intertwined with supra-household cooperation. Such recent data from Çatal Höyük, Central Anatolia and other late PPN-PN sites challenge the idea that domestic consumption necessarily reflects domestic production, and considers the implications of (at least partially) cooperative farming for understanding the consequences of the agricultural transition in western Asia. At the end her lecture, A. Bogaard's returned to the PPNA evidence from Jerf el-Ahmar (EA30 and its bins); she commented that instead of seeing this evidence as something oddly different to what emerged later on at 'Ain Ghazal and even later at Çatalhöyük, we may be looking at different points along a continuum of farming productivity and that farming as a community had a persisting tradition among small-scale, residential households.

Section 3: Ideology and Identities

In her introduction to the third section, Ideology and Identities, Marion Benz emphasized that corporate identities can be highly situational, meaning that it depends on the context, which identity is of relevance for a group. Additionally, corporate identities are often multiple, whereby different aspects of these identities can be contradicting or mutually reinforcing. It does not suffice to discern that, for example, there are strong familial ties in a community. Instead it is crucial to study the relationship of several potential identity markers, such as the commitment to a place, common symbolism or daily praxis (economy, nutrition, *etc*.).

The specific characteristics of the archaeological data are an additional challenge. Ancient objects are rarely found in their original use context, but where they were discarded or deposited. To reconstruct their role in the network of corporate identities is therefore very difficult. However, using the approach of mediality studies we may be able to gain further evidence. Studies of mediality focus on use processes, context, emotional and social impact a medium (including all forms of identity markers) has as well as on several other aspects which can give possible clues for social structures of a community. Given the possibility to reconstruct different forms of corporate identities, it might also become possible to attribute them to specific socio-economic structures and in the end perhaps discern an evolution of corporate identities on the long run as requested by Trevor Watkins.

The last section was intended to tackle Neolithic corporate identities and ideology. Though the term ideology itself was only rarely addressed, all three speakers showed by excellent examples how it is possible to trace corporate identity markers and thus corporate identities in the archaeological record of the early Holocene. Gary Rollefson contrasted the "fluid" and "very flexible" nature of hunter-gatherer groups, based on a generalized reciprocity and open access to resources, with the communities which are on their way to sedentism and farming. With the increase of sedentism and larger group sizes, some groups start to segregate themselves from the community. Generalized reciprocity did still exist, but it became restricted to certain individuals which were above all, members of the family but also members of a household or friends. Sharing became confined on a regular basis.

Inalienable possessions become discriminators for a group. In illuminating examples Gary Rollefson illustrated the importance of the land and familial relationships which become constitutional elements of corporate identities, even when personal ties to an ancestor drifted into the realm of mythology. Only in such a social setting the phrase "that's ours, not yours" makes sense. Disposing of such inalienable things requires group decisions. Special places, ceremonies, ancestors, all sorts of things can belong to these inalienable possessions. To legitimize the confined access, history and ancestors start to play an important role for the corporate identities: Be it the plastered skulls of 'Ain Ghazal or the ritual landscape around Nahal Hemar Cave. Rollefson also pointed to the so-called trash burials at 'Ain Ghazal to show that the differences in burial practices might be a conclusive indicator of who belonged to the group and who not.

With the demographic increase, these segregated groups also became larger, forming – according to Rollefson – sodalities or even larger communities. The reasons why the system of mega-sites collapsed are still under discussion. But obviously, also their social system was not prepared to cope with the environmental changes the people partly caused themselves.

Building on a very long experience as an anthropologist working in the Near East, the evidence Theya Molleson presented from Abu Hureyra and Çatal Höyük is in strong contrast to the evidence from Basta and the hypothesis of the importance of familial relationships.

At none of these two sites, according to dental morphologies, familial blood relationships seemed to play an important role. Activity patterns discerned on the bones point to special technical skills of some inhabitants, such as the severe abrasion of teeth within the basket makers or facets due to long kneeling position for grinding. The fact that some activities have been observed already in children, might give some clue. Differences in daily practises as it is suggested by gender specific facets on bones might hint at further social differentiations. Moreover, the question of who has the right to be buried within a house might help to identifying group structures transcending familial ties. Theya Molleson's most striking example of the embodiment of possible corporate identities was the binding of the skull. As it does only include some special individuals, the possibility that this was not a fashion but a strong marker of a corporate identity is very high. Did these persons belong to a certain family; did they belong to a special social category or ideological group? It would be a very promising study to see, whether these specialized activities or the irreversible alteration of physical appearance contributed to a corporate identity.

The last talk of the Monday-Session by Michael Morsch made clear that there is invaluable information in the standardization of special buildings as well as in human figurines from Göbekli Tepe and Nevalı Çori. Both data might give important clues for the reconstruction or existence of corporate identities. Michael Morsch's studies of the human figurines of Nevalı Çori demonstrate that there was not only a clear idea about "dress codes", but also how men and women should have been represented in public, at least this idea was in the mind of those who sculptured the figurines and T-shaped pillars. Moreover, the "artists" always followed the same techniques for the modelling of the figurines. Michael Morsch convincingly traced similar hairstyles and clothing traditions from Göbekli Tepe to Nevalı Çori and even to Central Anatolia, in the wall paintings at Çatal Höyük. This would not only mean a very large extension in space but also in time covering at least more than 1500 years, if not more. Although a critical analysis of media specific features and their relationship to daily praxis remains to be done, these depictions indicate a high, probably idealised standardisation to which – even many generations later – people were still referring, at least in their imagination or ideals.

Discussions

Whereas the first day of our workshop was planned to illuminate as many aspects as possible from different times and places on the subject of corporate Neolithic identities, the second part was devoted to critical discussion and questions on the concept. It goes without saying, that this new concept still needs a lot of elaboration and mutual discussion in order to continue research on this track, all the more, because this approach will be highly trans-disciplinary. Without a clear idea of the concept, misunderstandings between the different subjects are very probable.

Above all, a clear methodology how it is possible to discern corporate identities in the archaeological records is a crucial necessity. The situational and multidimensional character of corporate identities makes it impossible to define the label itself on a practical level, because in every regime different features may be relevant for a corporate identity. Yet, the discussion showed that in order to elaborate the approach it is necessary to define the research strategy more clearly.

Another important point was to clarify that the term "evolution" does not imply any teleological evolutionistic biological concept (in a 19th, century style). On the contrary, as Trevor Watkins, stated, humans always actively engage with nature and form their cultural niches. Yet a gradual development from mobile hunter-gatherer groups to sedentary farming and later to urban societies cannot be denied. This does not mean that these developments were linear, substitutive or absolute. They were gradual and additive. Although triggered by conscious decisions, many consequences of human behaviour and decisions were unforeseeable. According to Marion Benz the decisive difference of the early Holocene groups was that obviously some people considered it necessary to demonstrate their group identities by strongly standardized symbolic systems. This need neither existed before, nor afterwards during the later phases of the Neolithic. Although Tobias Richter, in a short discussion on Monday after his talk, had agreed that there was indeed a difference in the material between the Epipalaeolithic and the early Holocene, he remained sceptic how we should know whether groups became more circumscribed. On several occasions, Anna Belfer-Cohen underlined the strong links between the Natufian and the PPNA in the Levant. She considers it an increase in complexity in the PPNA of something that had already been there before. Nigel Goring-Morris pointed out that increasing population densities, scalar stress and environmental changes were important factors in that development.

Although no agreement was reached during the discussion about the role of changes in cognitive capacities, it should be emphasised that on a minimal level, we agreed that potentially all humans share the same "cognitive hardware". However, neurobiology has demonstrated clearly that there is a dialectical relationship between the brain and the environments (social and natural) and that habits, skills, experiences *etc*. can

endurably influence the functioning of the brain and thus transform it to a certain degree (neuronal plasticity). Nevertheless, it remains to be demonstrated whether and if so, how cognitive capacities and psychology changed during the transition to sedentary farming live.

Anna Belfer-Cohen suggested that during the Natufian, face-to-face knowledge was so intense, that outward signs of identities were just not needed. Only with the increase of population sizes, outward markers of identities became necessary.

Amy Bogaard underlined the fundamental difference between hunter and gatherers, who did not hoard things, and sedentary farming communities. The latter were keeping a treasure – the genetic of the crop, meaning that over generations the knowledge, environment and genetic characteristics of food plants became more and more sophisticated and adapted to a certain landscape. In consequence, "the more people you can convince to buy into this, the better you are going." This might be one explanation why in productive milieus – as Hans Georg Gebel called them – leaving is not an easy option anymore. Yet, it was too fast reasoning, thinking that every household now hoarded storages for itself. As emphasised by Amy Bogaard, cooperation and communal labour still were essential aspects of early Neolithic communities.

As a provocative question, Marion Benz asked whether religion – or better a strong ideology materialised in the canonised symbolism of northern Mesopotamia – could be explained as a creation to keep these larger groups together, to protect that "genetic treasure" against forgetting and fission.

Trevor Watkins also stressed that one advantage of larger groups was that they were the better innovators. Innovations were created, accepted and spread more quickly and more efficientlly than in small groups. Beside the innate human desire to do things as most people do them, this aspect might also be an explanation why people stay in larger groups, instead of leaving, despite considerable stresses.

Lee Clare pointed to the high degree of the vulnerability of social systems, which are highly specialized and using their environment up. In case of environmental or other external changes, it may become difficult – or even impossible – for these highly complex systems to adopt new forms of life.

To conclude the report of this workshop we would like to point out some perspectives and possible research strategies. The multidimensional character of corporate identities makes a holistic, trans-disciplinary approach a *sine qua non*. The highly situational character also requires studying different regions in their own way, with a strong emphasis on the context, and correlating and comparing data from different levels and subjects of archaeological research. The archaeological material can only serve as a point of departure. It is a decisive task to sharpen our analysis concerning the role material culture played in the process of the construction of corporate identities and – as Hans Georg K. Gebel emphasised several times – how we can extrapolate from the archaeological data to the intangible and invisible markers of corporate identities, too.

A diachronic perspective might thereby allow to discern differences and similarities, traditions and breaks more clearly, and contribute to a better understanding of socio-ideological processes during the transition from mobile hunter-gatherers to sedentary (and also nomadic) productive groups.

Acknowledgements: The organizers are very grateful to all the participants for their invaluable and constructive contributions. We hope the workshop inspired you to new research. The participants agreed to publish the contributions as a SENEPSE volume in the curse of 2015. We would also like to express our sincere thanks to Marlies Heinz, who kindly chaired the second day's discussion, and to the ICAANE organizing team for their friendly and always patient support in all matter during the conference.

Appendix: Workshop Programme

Monday 9th June, from 14:30 to 18:30h:
SECTIONS 1-3 (PRESENTATIONS
AND RELATED DISCUSSION)

Section 1: NEOLITHIC CORPORATE
IDENTITIES IN EVOLUTIONARY CONTEXT.
Trevor Watkins: Neolithic corporate identities
in evolutionary context. (Introduction)
Nigel Goring-Morris and Anna Belfer-Cohen:
'Moving around' and the evolution
of corporate identities.
Lisbeth Bredholt Christensen: Things
animate and inanimate: objectification of
things as part of corporate identity?
Tobias Richter: The corporate group reconsidered:
counter-power, cooperation and agency in Epi-
palaeolithic societies in southwest Asia

Section 2: IDENTITY AND SOCIO-ECONOMY
Hans Georg K. Gebel: Identities and
Socio-Economy (Introduction)
Kurt W. Alt and Marion Benz: Teeth Story Writing:
Basta and the difficult path to farming communities
Amy Bogaard: Neolithic 'cooperatives'? An archaeo-
botanical approach to Neolithic corporate identities

Section 3: IDEOLOGY AND IDENTITIES.
Marion Benz: Identity and Ideology. (Introduction)
Gary Rollefson: "I am We": The display of
socioeconomic politics of Neolithic commodification
Theya Molleson: Physical signs of corporate identity
Michael Morsch: Dresscode, hairstyles and
body art. Markers of corporate identities in
T-shaped-pillar sites of Upper Mesopotamia?

Tuesday 10th June, from 9:00-10:45h:
PANEL AND PLENARY DEBATES.

Report on the International Symposium "Bridging Continents. Earliest Neolithic Communities Across Anatolia. Recent Research, Future Challenges." Commemorating Klaus Schmidt. 21-23 September 2014, Şanlıurfa, Turkey

Gary O. Rollefson

In the spring of 2014 invitations were sent out to archaeologists to attend an international symposium concerning results of numerous recent archaeological excavations dating to the late Epipaleolithic and the Early Neolithic periods in Anatolia.

The conference centered around the extraordinary cult site of Göbekli Tepe, situated approximately 6 km northeast of the town of Şanlıurfa. This site is an important location for German-Turkish cooperation in prehistoric archaeology. It is being studied by an interdisciplinary team of scholars funded by the German Research Foundation (DFG) in the framework of a long-term project. Thus, it is consistent that this place, which is on its way to becoming a World Heritage Site, hosted an international symposium underlining the site's importance for research and cooperation and further developing its outstanding potential.

The symposium was organized by the German Research Foundation (DFG) in cooperation with the German Mining Museum (DBM) as part of the German-Turkish Year of Research, Development and Innovation. Both countries are committed to bringing attention to the importance and successes of their cooperation in all fields of scholarly research.

Besides Ünsal Yalçın from the German Mining Museum, the project leader of Göbekli Tepe, Klaus Schmidt (German Archaeological Institute) was instrumental in developing parts of the concept of this conference. The tragic death of Klaus Schmidt in July of 2014 dealt a serious emotional blow to all of the prehistoric archaeology world, so it was agreed to hold the symposium as a commemoration of Schmidt's dedication to the prehistory of Turkey over more than two decades. Among many officials from the symposium's collaborating and supporting institutions (Ministry of Culture and Tourism, General Directorate of Cultural Heritage and Museums, Ankara; Government of Şanlıurfa; Municipality of Şanlıurfa; Şanlıurfa Museum; Harran University; German Archaeological Institute), the president and the vice-president of the German Research Foundation, Peter Strohschneider and Peter Funke, attended the symposium.

Sixteen papers by 25 international authors and co-authors were presented at the symposium, to which 20 discussants from Turkey, Europe, and North America were also invited; numerous students from nearby Harran University and other educational institutions attended, bringing the total number of people at the symposium to 100 or more participants. The symposium was held at the Nevali Hotel in Şanlıurfa, where meals were also provided and where many of the participants stayed.

The lead paper ("Specifying the Core Area of Primary Neolithization") was presented by Mehmet Özdoğan (Istanbul University). Özdoğan's discussion concentrated on the polycentric nature of the initial development of the revolutionary aspects of the Neolithic period, with the simultaneous emergence throughout SE Anatolian and Northern and Southern Levantine clusters of permanent settlements and the changes in mentality that that phenomenon led to, such as concepts of "home", social complexity, technological and economic innovation, land tenure, and spiritual/religious intensification inspired by symbolism and signs.

The following paper ("Anatolia: At the Center of

Fig. 1 Participants of the DFG-Symposium *Bridging Continents. Earliest Neolithic Communities Across Anatolia. Commemorating Klaus Schmidt.* Şanlıurfa, September 21-23, 2014. (copyright: H.D. Bienert)

Fig. 2 Zülküf Yılmaz, Deputy Director-General of the Cultural Heritages and Museums Authority, highlights the significance of interdisciplinarity and international cooperation in archaeology in his welcome address. (photo: H.D. Bienert)

Fig. 3 Peter Strohschneider, president of the German Research Foundation, emphasizes in his opening address the importance of strengthening further German-Turkish cooperation in archaeology and related sciences. (photo: H.D. Bienert)

the Neolithic") by Bill Finlayson (Council for British Research in the Levant-London) stressed the evolutionary nature of the changes from hunter-gatherer to food producer status, and that the Neolithic "Revolution" was a gradual and long-term process that also was not a unilinear one. Nor, in Finlayson's opinion, should the eastern Mediterranean region be considered simply as a homogenous "culture area"/*koine*, which diminishes the importance of local village clusters as sources of inspired experimentation and adoption of socioeconomic and sociopolitical changes in the evolutionary tracks of the region.

Michael Rosenberg (University of Delaware - Wilmington University) spoke of the "Symbols and the Social Dimension of Public Buildings in the Aceramic Neolithic of Southeastern Anatolia". In particular, differences in the buildings he excavated at Hallan Çemi and their decorations suggested that two of them might have been ritual structures associated with secret societies, or sodalities, that were each responsible for certain ritual ceremonies that served to enhance community solidarity, as was the case in small and large settlements in the early Neolithic of the Southwest in the United States.

Marion Benz (Freiburg University) delivered a presentation co-authored by Vecihi Özkaya (Diyarbakır) titled "Consequential Interactions between People, Environment and Material Culture at Early Sedentism – Körtik Tepe as a Key Site". The settlement at Körtik Tepe was founded during the Younger Dryas, and subfloor burials were already a characteristic feature of the treatment of the dead, and a long-term occupation into the Neolithic period witnessed changes in burial practices and provided good stable isotope interpretations of demographics. Faunal and floral remains reflect a steady and increasingly broad diet, and burials indicate increasing differentiation among the interred. Symbolism at Körtik Tepe was rich, and many of the elements were shared with communities as far away as Jerf al-Ahmar in Syria, although Körtik-specific symbolism was also a notable feature.

A report titled "Excavations at Hasankeyf Höyük: An Early Neolithic Site in the Upper Tigris" was presented by Yutaka Miyake (Tsukuba University). The site is a tell with deposits more than 9.5 m deep, spread over a diameter of 150 m. In addition to a wealth of residential and subsistence data during the second half of the 10th millennium, the settlement

Fig. 4 The symposium's audience listening to the opening addresses. (photo: H.D. Bienert)

Fig. 5 Marion Benz, Jens Notroff, Joris Peters, Franz Becker and Nico Becker (from right to left) exchange news during the symposium. (photo: H.D. Bienert)

Fig. 6 Ricardo Eichmann, Mehmet Özdogan and Gary Rollefson (from right to left) enjoy each others company during the symposium. (photo: H.D. Bienert)

is also rich in ritual behavior and symbols. Subfloor burials were numerous, sometimes with multiple burials under the same buildings. Under one rectilinear building (domestic structures and storage buildings were curvilinear) the skull of an extended burial was removed and replaced with a clay disc; the bones of other burials, including infants, children, and adults, were sometimes painted with red and black pigments.

Necmi Karul (Istanbul University) discussed another PPNA site in a paper titled "Gusir Höyük – Emergence of Sedentary Life at the Upper Tigris Valley". Here numerous structures have been found, although it has not always been easy to distinguish residential from ritual buildings. Some buildings up to 9 m in maximum dimension contained many burials. One structure had a central pillar decorated with many sheep crania and horns, and another had benches and four pillars, one of which was engraved. A possible beer trough was also excavated.

A summary of research over the past 20 years at Göbekli Tepe was reviewed by Lee Clare (DAI-Berlin) and colleagues "Pointing the way to the Neolithic: Klaus Schmidt and the First 20 Years of Research at Göbekli Tepe". The summary was wide-ranging, but among the points covered in the delivery was the strong likelihood that feasting was practiced at the ceremonial site that would have accommodated many more than the limiting Dunbar's number of 150 people as a "comfort/trust limit" for a socially cohesive community. The co-authors also mentioned the death symbolism entailed in many of the sculptures, as well as the intentional destruction of the ritual structures/temples after the observances were finished.

Harald Hauptmann (Heidelberg University) delivered a eulogy on the life and development of Klaus Schmidt over his lifetime ("Klaus Schmidt – Some Personal Remarks on an Extraordinary Scholar"), followed by a presentation on "Community Buildings in Nevalı Çori and Çayönü", including commentary on the development of symbolism and artwork at such sites as Göbekli Tepe, Körtik Tepe, Hallan Çemi, Tell 'Abr 3 and others. He specifically mentioned that contrary to earlier "conventional wisdom", the Neolithic did not originate in the Levant and spread later into Turkey, but that Anatolian neolithization was a vital and original process in itself.

Jerf al-Ahmar was the focus of Danielle Stordeur's (CNRS-Paris) discussion ("The Neolithization in North Syria. Jerf al-Ahmar and the Transformations of the Social System"), especially the importance of communalism (shared with groups at Mureybet and Tell 'Abr) in the collective labor for the construction of terraces and architecture, as well as common storage of cultivated plant crops. The communal store house of the earlier phase was transformed into a central meeting place, probably for only some of the members of the community.

Mihriban Özbaşaran (Istanbul University) spoke on behalf of her co-author Güneş Duru on results of recent work in her presentation "Common Concepts, Local Trajectories: Aşıklı Höyük – Central Anatolia" that dealt with architectural and social evolution from its founding at 9100 BC through the mid-8th millennium. The architectural complexity at Aşıklı appears to have been very different from northern Mesopotamia and the northern Levant.

In his delivery of "Göbekli Tepe and the 'Faunal Revolution'", Joris Peters (Munich University) noted the possible role of the cultic center in the relation from hunting to herding, perhaps due to the perceived needs for ceremonial feasting at the site. There appear to have been different centers for the original domestication of sheep, goats, pigs, and cattle, though these controlled animals "migrated"/diffused throughout the region during the early-middle 8th millennium BC.

Amy Bogaard's (Oxford University) presentation considered the "Archaeobotany of Early Farming in Anatolia". Noting that there was no singular point of plant/cereal domestication in the Near East, she remarked that einkorn and emmer wheat and rye were already being cultivated at Jerf al-Ahmar even though the site is outside the natural habitat of these species. She also noted that communal storage may have alleviated potential competition for fields in early cultiva-

tion, but later private storage facilities developed, although no evident private amassing of surpluses might indicate redistribution of harvests among less fortunate families.

Physical anthropology was the central theme of Metin Özbek's (Ankara) presentation of "Neolithic People of Anatolia". Astoundingly, at Çayönü 75% of subadults died before maturity. Males tended to outlive females by 6% vs. 2% who reached 50 years or more. At the Skull Building, all of the skulls in the latest use of the building were burned, possibly as a form of sacrifice (?). At Aşıklı infant mortality was 60%, and subadults at 48%; one female's occipital trepanation had clearly healed. Finally, the number of plastered skulls at Köşk Höyük is now 15, with dental evulsion common.

Sociologist Hans-Georg Soeffner (Essen) looked at the symbolic content of the Göbekli sculpture and noted a certain duality that might indicate social organization in one form or another. For him, the taller central pillars might have represented ancestors, or possible supernaturals, even gods? He noted the importance of social belonging, citing Konrad Lorenz: "a single person is not a person".

For Johannes Müller (Kiel University), there were strong differences in his presentation: "Neolithization and Monumentalization in Europe: A Structural Comparison with North Mesopotamia". In NW Europe monumentality and neolithization proceeded in tandem, while in the North European Plain and Scandinavia monolithic structures preceded agriculture by many centuries; in Eastern Europe there were enormous sites (up to 320 hectares) at *ca*. 3700 BC in which a small number of large public structures were interspersed among many smaller residential buildings.

Finally, Yılmaz Erdal spoke on "Bone or Flesh? Körtik Tepe (Upper Tigris)". Much of his discussion treated demographic statistics, such as 41% infant mortality and 40% auditory exostosis (a situation also noted by Özbek at Çayönü). Violence was noted in the case of two crania with imbedded arrowheads, as well as a rate of 34% cranial fractures and substantial amounts of post-cranial injuries. Violence affected both sexes: 46% of males exhibited healed cranial depression fractures, as did 36% of the females.

A field trip to visit Göbekli Tepe was arranged one afternoon with Jens Notroff and Lee Clare (DAI Berlin) acting as archaeological docents. For participants at the symposium who had not seen Göbekli Tepe before, there was some disappointment due to the visual impact of heavy timber scaffolding that supported a temporary roof to protect the excavations from weather, and only peeks of the monumental architecture and decorative elements could be seen at a time. Nevertheless, the view from the top of the hill provided a spectacular 360° panorama of the landscape around the site, which was impressive in itself. A visit to the new Şanlıurfa Museum compensated in some degree, for here new displays of reconstructed pillars and other elements of the site were displayed.

Gary O. Rollefson
Whitman College, Walla Walla
rollefgo@whitman.edu

Review of Ferran Borrell, Juan José Ibáñez and Miquel Molist (eds.), *Stone tools in transition: from hunter-gatherers to farming societies in the Near East. 7th Conference on PPN chipped and ground stone industries of the Fertile Crescent* by Catherine Perlès

The 7th Conference on PPN chipped and groundstone was held in Barcelona early in 2012 when one could start to worry seriously about the situation in some regions of the Near East. Two years later, one may wonder whether this publication may not be the last testimony for some of the sites and remains described, and this gives the reading an unusual and sad dimension.

The volume contains, nevertheless, so many interesting contributions (36 in total) that the reader is rapidly absorbed into more scientific considerations. A graph published by the editors shows that the political situation hardly impacted the geographic coverage and balance of the contributions, with Israel representing two thirds of the papers, followed by Syria, Jordan, Turkey and Iran (the apparent increase in contributions concerning Iran is slightly spurious, since two pairs of articles concern a single site each). Cyprus, Lebanon and Iraq are represented by one or two contributions each. The chronological range covers the Natufian through the Halaf, with a focus on the PPNB largely due to the high number of contributions on PPNB chipped stone assemblages. The contributions are not homogeneous in scope. Some are brief preliminary reports, mostly descriptive, while others synthetize years of in-depth research. Given the diversity of the contributions, I will not try to do justice to all, but will develop a few themes that struck me as especially relevant.

The first striking aspect of the volume is the large range of sites studied, which provides a rich vision of the Epipalaeolithic and Neolithic humanscape of the region. Besides well-known permanent settlements such as Yiftahel,[1] ʻAin Ghazal, Baʻja, Halula, Tell Aparchiyah, Çatalhöyük, short-term occupations are also well represented. Their interpretation varies: campsites for small foraging groups, seasonal pastoralist occupations, isolated specialized workshops, or, for repeated occupations, aggregation camps.[2] The number and variety of "short-term" occupations raise several questions: (a) the criteria which underlie these various interpretations, sometimes but not always clear and convincing; (b) the concept of "mobility", rather vaguely defined and which encompasses here displacements of clearly different nature, from logistic forays to permanent nomadism, and (c), the organization of lithic production, with spatially split *chaînes opératoires* that coexist with domestic *in situ* production. Finally, two contributions focus on lesser-known sites such as quarries.[3] The undated quarry of Har Parsa (Israel), in particular, shows how much archaeological investigation has still to be done, even in a country with a long tradition of research: despite very large amounts of bifacial preforms in the waste piles, the raw material – larnite – was unknown as a prehistoric raw material and not a single larnite tool has ever been found in an archaeological assemblage.

Another exciting aspect of the volume is the importance of the new data and perspectives brought by newly excavated permanent settlements. For early periods this obtains, for instance, with the rich Natufian site of Qarassa 3 in Syria, with Güsir, one of the earliest permanent settlement in SE Turkey, and with the remarkable discovery of a PPNA communal building at Klimonas on Cyprus.[4] New long-term PPN settlements are excavated in Iran, such as the deeply stratified PPN tells of Choga Golan and Tell-e Atashi,[5] the first PPN settlement in the region of Dam in Iran. Two later sites are remarkable for the amount of obsidian: 1) PPNC/PN Hagoshrim in Israel, exceptional for the amount of pressure-flaked bladelets and 2) the PPNB to PN settlement of Tell Labwe South in Lebanon, which appears to be a long-standing centre of redistribution for the obsidian of Central and Eastern Anatolia.[6]

If chipped stone tools constitute the focus of "stone studies" in this volume, groundstone tools are represented by interesting contributions, but their small number does allow common themes to emerge. Let us mention first the innovative research carried on bedrock mortars from the Natufian settlement of Qarassa 3, which integrates use-wear, starch and phytoliths analyses, and would appear to confirm their use for de-husking hulled cereals. (Terradas, Ibáñez, Braemer, Hardy, Iriarte, Madella, Ortega, Tadini and Teira). Conard and Zeidi illustrate the wide range of groundstone tools at Chogha Golan. Vered provides a useful overview of the typology, function(s) and chronology of grooved stones in the Southern Levant, while Molist, Bofill, Ortiz and Taha publish the preliminary results of multidisciplinary research on incised grooved stones and macroliths at Halula, well inserted into their domestic and funerary contexts.

As stated above, studies of chipped stone assemblages constitute the core of the volume and give it its thematic unity. It is noteworthy that in many cases lithic studies do not constitute an end by themselves, but constitute a starting point to address more general anthropological questions. Three recurrent axes can be highlighted: the interpretation of the site and nature of occupation(s), cultural variations as denoted by knapping traditions, and the question of specialization.

Several contributions already mentioned fully integrate the characteristics of the lithic assemblages in order to elucidate of the nature of the occupation. Fujii and Adashi underline the massive predominance of el-Khiam points and microdrills to define Wadi al-Hajana 1 as a task specific Khiamian workshop. Maher and MacDonald convincingly contrast the assemblages of two Geometric Kebaran sites in Jordan to interpret the first (Uyun al-Hammam) as a campsite (although the long period of occupation, the presence of stone-lined pits and burials shows it was all but an ephemeral campsite), and the second, Kharaneh IV, as an aggregation site. In a similar vein, but from a diachronic prospect, Jayez and Garazhian interestingly compare the earlier PPN assemblages of Tell-e Atashi in SE Iran, coming from sedentary occupations, to the more recent ones, when occupations become seasonal. Intriguing functional variations are also

involved in the different composition of the assemblages between the late Cypriot PPNA settlement of Klimonas and the specialized site of Throumbovounos, as shown by Briois, Vigne and Guilaine.

Other contributions address the question of cultural variations and suggest complex cultural dynamics that probably included more movements of populations in the PPN and PN than previously thought. The once monolithic "naviform" PPNB method has already exploded into several "bipolar systems". More regional and chronological variants are now well diagnosed, and a similar variability could probably be exemplified within unipolar flaking methods. In-depth analyses of many assemblages allow Barzilai to reconstruct a complex cultural history in the southern Levant from the EPPNB to the Early PN. The homogeneous EPPNB "one-to-one" complex is replaced by two MPPNB "bidirectional complexes", with two different regional facies in the Mediterranean complex. During the LPPNB only the "predetermined upsilon" facies is maintained, albeit with different geographical boundaries, while it only survives in the northern part of the southern Levant during the FPPNB and Early PN. This allows Barzilai to reconstruct different modes of interaction, including cultural diffusion, cultural differentiation and demographic shifts. This analysis is echoed, for the northern Levant, by Borrell's important contribution based on his analysis of the off-set bidirectional blade production strategy. The chronological and geographic contextualisation leads him to emphasize a population break in the Middle Euphrates valley at the dawn of the MPPNB, together with the introduction of fully developed agriculture and herding. In parallel, several movements of population would be involved in the "conquest of the steppes" during the Middle/Late PPNB and FPPNB, leading to a more complex vision of the Neolithization process that previously acknowledged.

According to Carter and Milić, long-distance movements of populations, coming from SE Anatolia, would also be involved in the shift from Göllü Dağ to Nenezi Dağ obsidian at Çatalhöyuk, linked with the introduction of pressure flaking. Nishiaki's reappraisal of the PN chipped stone assemblages from Tall-i Jari in SW Iran opens up similar perspectives. The introduction of a full-fledged agropastoral economy (at a later date than in the Levant) corresponds to the replacement of regular bladelets by large blades and a decrease in the level of flaking expertise. This last case study, however, could be interpreted both in terms of movements of populations and of change in the organization of production, in other words in the degree of specialization of the flint and obsidian knappers.

The question of "who was producing what and for whom?" is addressed, implicitly or explicitly, in many contributions. A majority directly concern bidirectional blade production, but other contributions, dealing with different sets of data, also raise the question of the degree of specialisation in these early Neolithic societies. Let us state immediately that there is no consensus among authors concerning bidirectional blade production. This is in part due to the fact that the level of skill involved in the bidirectional productions appears rather variable – contrast Kaletepe and the Kayırlı-Bitlikeler workshops, both PPNB and both on the Göllü Dağ obsidian sources (Balcı), for instance, – and in part to the fact that the situation was probably different according to the region and period.

However, the discrepancies are also due to the reliance, by different authors or sometimes even in the same article, on two radically distinct definitions of "specialization", deriving respectively from Quintero and Costin. Several authors refer to Quintero's appraisal of bidirectional productions as "specialized", given the level of expertise involved. However, while a high level of expertise may signal specialized productions when it goes together with a productivity well beyond the needs of individual households, it is not, by itself, a sufficient criterion. The best Solutrean laurel leaves or the long blades from Magdalenian Etiolles are the products of highly skilled experts, but there is no evidence of economic specialization in these Palaeolithic contexts. Conversely, economic specialization as defined by Costin – *i.e.*, a production intended for being exchanged or traded – does not necessarily rely on high levels of expertise. Recent examples in flint knapping, such as specialized workshops for gunflints or threshing-sledges, often made use of very simple techniques even though the products were widely traded. Economic specialization involves a disjunction between producer and consumer, frequently associated with a spatial disjunction between the area of production and the area of consumption. Specialized workshops will thus be characterized by a deficit in designated products, while receiving sites will be characterized by the poverty of *in situ* flaking residues.

Relying on these criteria, different situations appear to obtain in different sites: impressive refits by Mitki, Barzilai and Goring-Morris[7] at the short-term knapping workshop of Nahal Evan 1021 clearly show that most of the targeted products have gone, although the scale of the production is not necessary indicative of economic specialization. At Yiftahel (Khalaily, Milevski and Barzilai), to the contrary, the rate of production is very high and community specialisation is suggested on the basis of the discrete spatial localisation of knapping dumps, the presence of caches, and probable exchange with other sites. At Tell Labwe (Khalidi, Gratuze, Haidar-Boustani, Ibañez and Teira) economic specialization would involve the procurement of obsidian and the redistribution of finished products. On the other hand, Ba'ja (Purschwitz) would be a receiving site for some at least of the bidirectional blades, while unidirectional blades were produced in a domestic context on local raw materials. Hagoshrim (Schechter, Marder, Barkai, Getzov and Gopher) shows a more complex situation, with a shift from the acquisition of selected obsidian blanks to increasing on-site production. The situation remains slightly confusing – for me at least – at 'Ain Ghazal (Barket) and at Shir (Rokitta-Krumnow), despite the impressive skill displayed in the production of Late Neolithic bidirectional blades in the latter site. In the

absence of other criteria, Borrell, to the contrary, clearly states that the high level of skill involved in the production of bidirectional blades in the Northern Levant is not a sufficient argument to infer a specialized production.

Standardization is another aspect often linked with specialization, although here again, the relation between standardization, levels of expertise, and economic standardization can be ambiguous.[8] The progressive standardization of sickles inserts between the PN and the Chalcolithic lead Vardi and Gilead to suggest increased specialization, not only in the production of the flint inserts, but in agriculture itself. Progressive specialization is also inferred through use-wear studies of microdrills, in the production of ornaments from the Natufian to the Khiamian in the northern Levant, with an early introduction of mechanical drills, increased standardization, and spatial organization of the production.[9] These findings significantly reinforce those of Fujii and Adachi to anchor the rise of specialized production at least in the Khiamian.

The criteria used to define specialized production as well as the various modes of specialization thus appear as good candidates for future PPN lithic meetings. In this order of ideas, I was asked by the editors to comment on the enlarged chronological and thematic scope of the "chipped and groundstone PPN conference". I found the PN and Chalcolithic contributions important and relevant, since they directly addressed questions relating to the organization of lithic production and allowed a better perception of continuities and discontinuities vis-à-vis earlier periods. The thematic enlargement seems to me more problematic. First, a smaller number of contributions would probably have allowed the editors of the volume to reproduce the illustrations at a larger scale, when some are here barely readable.[10] Second, I was personally interested by Haïdar-Boustani's synthesis of the Neolithic in Lebanon, by Campbell and Healey's article on obsidian ornaments from Aparchiyah, and by Shaham and Belfer-Cohen's paper on incised slabs from Hayonim Cave, for instance, but I doubt they will find the audience they deserve in this volume, even if the two last deal with stone artefacts.

This leads me, *in fine*, to a question addressed to Gebel, and to the organizers of future 'PPN lithics' meetings. Gebel's paper, the only purely theoretical paper of the volume, is a provocative reflection on the changes induced by sedentarization, advocating the "commodification" approach to stone artefacts and attempting a comprehensive understanding of their various roles and values. Discussing this paper would require a review by itself; for instance, I feel ill at ease with the statement that "stone products created and supported (…) value systems" and consider that the value given to stone products is a highly arbitrary *social* choice. More fundamentally, I shall ask the question: was "stone" a relevant emic category for Neolithic groups? If *they* had organized this meeting, would they have considered there was any relation between mortars, arrowheads, obsidian beads and incised slabs? Between artifacts that are either flaked, pounded, grinded or incised? That serve in widely different spheres of activities and social contexts? I have little doubt, though I cannot prove it, that "stones that can be chipped" constituted an emic category." "Stones that can be ground", under which we classically include pestles, mortars, but also polished axes, is already more problematic. Would Neolithic thinking include stone figurines or seals in the same category? I would rather doubt it. In fact, did they (the Neolithic people) even have a (single) word for stone?

Catherine Perlès
Université Paris Ouest Nanterre la Défense
CNRS, UMR 7055
catherine.perles@mae.u-paris10.fr

Endnotes

[1] Contributions by Khalaily, Milevski and Barzilai on Yiftahel; Barket on 'Ain Ghazal; Purschwitz on Ba'ja; Molist, Bofill, Ortiz and Taha on Halula; Campbell and Healey on Tell Aparchiyah; Carter and Milić on Çatalhöyük

[2] Respectiveley: Birkenfeld and Goring-Morris for the PPNB site of Nahal Hava 1 in the central Negev; Gopher, Lemorini, Boaretto, Carmi, Barkai and Schechter for the PPN, PN and Chalcolithic occupations of Qumran Cave 24 on the Dead Sea; Maher and Macdonald for the Middle Epipaleolithic site of Kharaneh IV in Jordan; Fujii and Adachi for the Khiamian outpost of Wadi al-Hajama 1 in central Syria; Mitki, Barzilai and Goring-Morris for Nahan Lavan 21 in the western Negev; Balcı for a PPNB workshop on the Göllu Dağ, as well as other workshops on the Göllu Dağ mentioned by Balkan-Atlı, Kayacan, Balcı, Astruc and Erturaç.

[3] Herzlinger, Grosman and Goren-Inbar about waste piles and quarry management in the PPNA of Kaizer Hill, Israel; Vardi on the quarries and workshop of Har Parsa in the southern Judean desert.

[4] Terradas, Ibáñez, Braemer, Hardy, Iriarte, Madella, Ortega, Tadini and Teira on stone mortars at Qarassa 3; Altınbilek-Algül on Güsir's lithics; Briois, Vigne and Guilaine on the early PPN of Cyprus.

[5] Preliminary reports on chipped and ground stones from Choga Golan by Conard and Zeidi, Zeidi and Conard; Jayez and Gharazian, Shakooie and Gharazian on chipped stone assemblages from Tell-e Atashi.

[6] Schechter, Marder, Barkai, Getzov and Gopher on Hagoshrim; Khalidi, Gratuze, Haïdar-Boustani, Ibañez and Teira on Tell Labwe

[7] I would like to suggest that the variable levels of craftsmanship may also be linked with the potential presence of apprentices.

[8] See the Geometric Kebaran, for instance.

[9] González-Urquijo, Abbès, Alarashi, Ibánez and Lazuén; note that no evidence for a mechanical drill was found in contemporary Huzuk Musa in Israel (Yaroslavski, Rosenberg and Nadel).

[10] In the same order of ideas, I would gladly recommend to forbid black-and-white photographs of obsidian, unless done by exceptionally good photographers!

Review of Metin Yeşilyurt, ***Die wissenschaftliche Interpretation von Göbeklitepe. Die Theorie und das Forschungsprogramm*** **(Berlin: LIT. ISBN: 978-3-643-12528-6) by Marion Benz.**

The shift from climatic or demographic to socio-religious explanations for the adoption and establishment of permanent farming was a gradual process. It was initiated by Robert Braidwood in the early 1960s when he coined the often-cited phrase, "culture was not ready". In addition to other influential studies, such as that of Barbara Bender and Brian Hayden, Jacques Cauvin (1997) and Ian Hodder (*e.g.* 2010, with references to earlier publications) have vigorously promoted the focus on the social and religious aspects of the adoption of farming. Ritual, feasting, and religion have become so *en vogue* as explanations for the archaeological findings that any publication on this subject must mention these key words at least once. Moreover, the remarkable discoveries of an expressive figurative symbolism and of monumental special buildings in northern Mesopotamia seemed like an incontrovertible archaeological proof of the "religion-first theses". (All relevant references to Göbekli Tepe and other sites with T-shaped pillars are provided in the bibliography of the book.)

It is concerning this interpretive shift that the recently published dissertation of Metin Yeşilyurt (2014) has its merits. Yeşilyurt summarizes with analytic sharpness the theoretical foundations of science in general and of archaeology in particular as "human studies in the past". He categorically rules out religion as a scientific explanation for the rise of agriculture. In his view, archaeological findings provide no evidence concerning beliefs or religion. Interpreting archaeological data as material traces of religion is, to use the words of Marcus and Flannery cited by the author, "a kind of bungee jump into the land of Fantasy" (28). Yeşilyurt doesn't mince words, arguing that interpretations using religious explanations hide, by means of "the sacralisation of the inexplicable" (40), the inability of the mind to understand complex phenomenon. He thus denies the validity of discussions of prehistoric concepts based on transcendental explanations, endeavouring to replace *religion* by *science*. Because of the many problematic modern definitions of religion, this would be excellent if Yeşilyurt was not using *science* in the same dogmatic manner as others have used religion.

Yeşilyurt interprets Göbekli Tepe by a radical functionalist positivism supplemented with a phenomenological approach. He argues that the depictions of animals are intended to mean nothing more and nothing less than what they represent. However, for many years neurobiology has questioned the primacy of "ratio", instead positing a dialectical relationship of body and mind and the selective perception of the human mind due to socialisation and personal experiences.

Yeşilyurt begins by criticizing other authors for their evolutionistic concepts, which he asserts ignore the cognitive capacities of ancient communities (29). But the assumption of religious reasons for the erection of the monumental buildings at Göbekli Tepe does not necessarily deny developed cognitive capacities to our early Holocene ancestors. It seems as if the author presumes the evolutionistic reasoning of former interpretations in order to support his argument, in which he grants high cognitive abilities to all humans.

Many of the theoretical explanations on the following 80 pages can be read as an encyclopaedia of theoretical thoughts. Yeşilyurt explains "interpretation", and advocates the explicit use of analogies in archaeology and the difficult but indispensable cross-disciplinary approach (79-83). His bibliography is a guidebook to social and philosophical theories. His insistence that not only the "classical" disciplines, such as physical anthropology, archaeozoology, archaeobotany, and climatology, but also psychology and philosophy be included in archaeology is commendable; but his sophisticated theoretical knowledge often ignores the archaeological data. For example, he claims to base his interpretation on "methodological individualism" (108); but it is highly questionable that it is possible to perceive individuals in prehistory, except for the study of skeletons or in some other exceptional instances. Public architecture, such as Göbekli Tepe, and technological skills, were surely more determined by social conventions, cultural preferences, and concepts than by individual personality and choices. Significantly, when it comes to his interpretation, the supposed individuals are characterized by universal anthropological features or by the roles they are supposed to have played.

Yeşilyurt justifiably emphasises that every discipline has its own ontology and that the results must be critically assessed. However, it seems difficult to satisfy this requirement. For example, he applies the definition of "institution" from sociology; but in early Holocene communities "institutions" were only in the process of being established. This questionable proceeding would not be worth mentioning if it was not the basis for an avalanche of interpretations in the last section of his book.

In a short conclusion, Yeşilyurt argues that the monuments at Göbekli Tepe were institutionalized research labs with professorships. He claims that the animals shown on the monuments illustrate the research done in the monuments and that, when the research about the represented animals was completed, the monument was backfilled. This projection of modern concepts onto a prehistoric community takes into account neither the socio-economic and environmental conditions, nor the possible ideological or ethical background. Yeşilyurt's rigid separation between rationality and religious or ideological concepts should be critically reconsidered. This does not mean that the possibility that the buildings of Göbekli Tepe served profane functions should be dismissed out of hand; on the contrary, the special buildings could well have been men's meeting houses or the sites of initiation rituals.

Yeşilyurt's therefore ignores his own theoretical methodological programme when it comes to his explanation of the causal chain of neolithisation. In particular, he does not acknowledge his hypotheses to be such, but presents them as basic facts ("Grundtatsachen"/"Basissätze") in a supposedly logical chain of reasoning (125-127).

Without a doubt, the special buildings of Göbekli Tepe are chronologically at an early point of neolithisation. The author's conclusion that the subsequent process of animal domestication was the result of the praxis done in these special buildings (130) is methodologically questionable: a chronological sequence does not necessarily imply any causal relationship, and the causal sequence of interdependent factors of the process of neolithisation is still strewn with many challenges and pitfalls. Despite recent advances in archaeobiology, the search for the origins of domestication remains a delicate task.

Yeşilyurt urges "that archaeology as a scientific approach has to be independent of any political, religious, financial or other profit or personal interest, but should solely pursue the search for truth and the enlightenment of the public about it" [translation MB] (46). This is, of course, an honourable ideal, but it denies factual constraints and negates the ontological perspective that Yeşilyurt himself advocates so fiercely. In the same way, his claim to unveil subjectivity is only superficially satisfied. His attempt at a straight-forward new interpretation actually reveals more about modern scientific research than it does about conditions of prehistoric hunter-gatherer societies on their way to sedentarism. His book is a call for scientific transparency and a critique of main-stream dogmatic research in which paradigms are favoured over critical creative ideas.

Moreover, the link between various theories and the specific archaeological data of the early Holocene communities in northern Mesopotamia is rather superficial in Yeşilyurt's book. But perhaps the author should not be blamed for this. In fact, his study not only reveals that the high degree of specialisation in the different disciplines requires work in cross-disciplinary networks, but that archaeology as a one-man-show is no longer possible – if it ever was. Because human life is multi-dimensional, many disciplines are required to gain a holistic picture of our past – not only when it comes to the interpretation, but also in preliminary research and excavation. The lack of communication between the disciplines has been ossified in segregated departments caught up in a highly competitive struggle for financial resources.

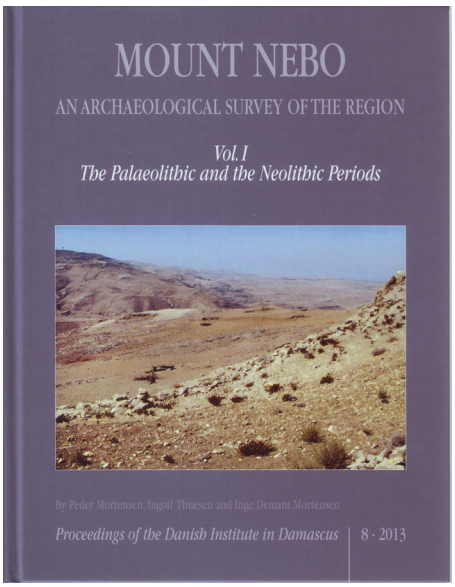
Yeşilyurt's study is thus very illuminating for archaeological disciplines and is valuable to any serious student of archaeology who wishes to learn something about how interpretations are created. It is a must for all those who aim at combining transparent theoretical approaches with solid archaeological data. For them, Yeşilyurt's book is an inspiring and revealing lecture.

Marion Benz
Albert-Ludwigs-University Freiburg,
marion.benz@orient.uni-freiburg.de

References

Cauvin J.
1997 *Naissance des divinités. Naissance de l'agriculture*. Paris: CNRS Editions.

Hodder I. (ed.)
2010 *Religion in the emergence of civilization. Çatalhöyük as a case study*. Cambridge: University Press.



Recently published by Aarhus University Press:

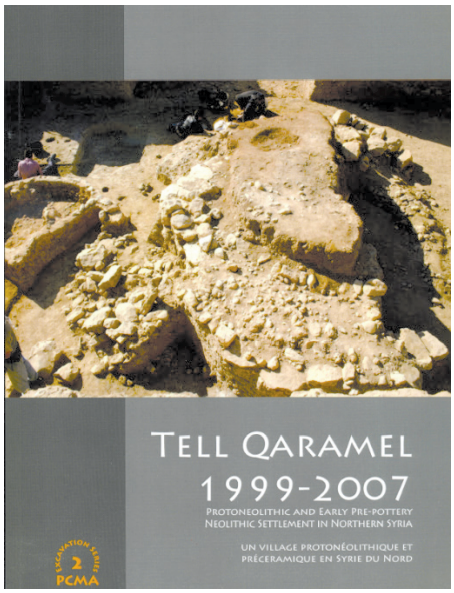
Mount Nebo
An Archaeological Survey of the Region
Vol. I
The Palaeolithic and
the Neolithic Periods

Peder Mortensen, Ingolf Thuesen and
Inge Demant Mortensen

Proceedings of the Danish Institute in Damascus, 8
(with 9 chapters, 146 pages, 96 figures
hardcover – 40 $)

ISBN-13 9788771240788 – ISBN-10 8771240780

During six seasons (1992-1998) an intensive survey of the Mount Nebo region was accomplished under the auspices of the Franciscan Archaeological Institute at Mount Nebo and the Danish Palestine Foundation. It was followed by a brief reconnaissance in 2008. The survey was centered around Siyagha, covering an area of approximately 35 square kilometres. This volume is dedicated to the description of 79 locations and single finds, which can be attributed to the Stone Age. In the presentation the material has been divided into four chronological groupings, covering the Lower, Middle, Upper-Epipalaeolithic, and the Neolithic periods based on diagnostic artifacts, such as for example Acheulean handaxes, Levallois- and Mousterian points, Neolithic arrowheads, bipolar blade cores, and pottery.



Tell Qaramel 1999-2007.
Protoneolithic and Early Pre-Pottery Neolithic
Settlement in Northern Syria
edited by
Ryszard F. Mazurowski and Youssef Kanjou

PCMA Excavation Series 2, 2012. Warsaw

(with 9 chapters, 144 pages (text in English and French),
147 plates (90 colour), soft folio cover – 60 €)

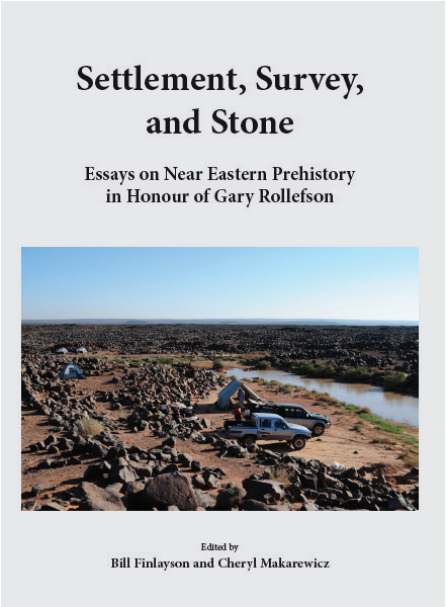
ISBN 978-83-903796-3-0

Orders: Polish Centre of Mediterranean Archaeology
of the University of Warsaw (PCMA), pcma@uw.edu.
pl, pam.pcma@uw.edu.pl, or Wydawnictwa Uniwersytetu
Warszawskiego: dz.handlowy@wuw.pl

Contents

Settlement, Survey and Stone. Essays on Near Eastern Prehistory in Honour of Gary Rollefson

edited by Bill Finlayson and Cheryl Makarewicz



published by ex oriente, Berlin in collaboration with the Council for British Research in the Levant, London (2014)

(24 contributions, IX+ 259 pages, 136 figs. incl. 4 colour pages, 21 tables. softcover – 45 €)

ISBN 978-3-944178-07-3

Contents

Submissions NEO-LITHICS, Dr. Dörte Rokitta-Krumnow/Dr. Hans Georg K. Gebel,
ex oriente, c/o Free University of Berlin, Hüttenweg 7, 14195 Berlin, Germany,
Emails: d.rokitta-krumnow@gmx.de · hggebel@zedat.fu-berlin.de, Fax 0049 30 98 311 246.
NEO-LITHICS, Prof. Dr. Gary O. Rollefson, Department of Anthropology,
Whitman College, Walla Walla, WA 99362, USA, Email: rollefgo@whitman.edu.

Orders (New Subscriptions, Payment of Subscription Renewals, Back Issues):
via https://www.exoriente.org/bookshop/ or purschw@zedat.fu-berlin.de
Payment of Subscription Renewals: via https://www.exoriente.org/bookshop/ (please, mention the invoice number under Message to ex oriente Bookshop from Customer in the shopping basket) or send credit card details (card type -Visa or Master-, cardholder name, credit card number, expiry date, CVV number) to ex oriente Fax 0049 30 98311246 or by letter to ex oriente, c/o Institute for Near Eastern Archaeology, Hüttenweg 7, 14195 Berlin, Germany.
Back Issues before 2010: can be downloaded from www.exoriente.org/downloads/neolithics.php

Subscription
Minimum of three years subscription requested = 6 issues, c. 40-50 pages each, 66 Euro for 6 issues/ minimum subscription period (postage included); back issues available; members of ex oriente receive Neo-Lithics free of charge (included in the annual membership fee: 40 Euro for employed members, 15 Euro for students/ unemployed members).

Deadlines twice a year: 15th of May and 15th of November

Submission Guidelines
Text formats: in Word without formatting; for the general style of text, bibliography, and captions consult this or a recent issue of Neo-Lithics - Illustration formats: individual EPS, TIFF- files or JPEG in high resolutions; illustrations should not be embedded in the Word file. Please, sent a hard copy of the manuscript in case of complex contributions; keep bibliographic references to the utmost minimum. Authors are obliged to present with their submissions formal letters of agreement by copyright owners if they use illustrations, texts, materials, or ideas from oral presentations obtained from sources not their own. Captions of photo and graphic illustrations must mention the author(s) of the photo or graph, even if rights for these are in the hands of the institution providing these materials for publication.
ex oriente respects UN resolutions as well as the project permits of antiquities departments and or the ethics of funding institutions. ex oriente does not publish data obtained in occupied territories or assists the publication of field data not covered by a permit.

Subscription Information
In the upper right part of the address field (envelope) you will find the issue mentioned until which (included) you paid your subscription. If you find an invoice with this issue, a renewal of subscription is necessary for the next three years / 6 issues. If an invoice is not paid after two months it is understood that a prolongation of the subscription is not desired, and no further issues will be send.

Neo-Lithics is published and distributed by ex oriente, Berlin.
Printing House: dbusiness, Berlin - © ex oriente e.V., Berlin - ISSN 1434-6990