Dealing with the Dead

Studies on Burial Practices in the Pre-Pottery Neolithic Levant

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Dana Ackerfeld and Avi Gopher

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List of Contributors

Ayşe Acar
Department of Anthropology, Physical Anthropology,
Mardin Artuklu University

Dana Ackerfeld
The Sonia and Marco Nadler Institute of Archaeology,
Tel Aviv University
ackerfeld@tauex.tau.ac.il

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

Anna Belfer-Cohen
Institute of Archaeology,
The Hebrew University of Jerusalem
anna.belfer-cohen@mail.huji.ac.il

Marion Benz
Free University and ex oriente,
Berlin
marion.benz@fu-berlin.de

Fanny Bocquentin
CNRS UMR 8068
Technologie et Ethnologie des Mondes Préhistoriques - TEMPS
Nanterre, France
fanny.bocquentin@cnrs.fr

Bérénice Chamel
Université de Lyon, Archéorient (UMR 5133 CNRS/Université Lyon 2),
Maison de l'Orient et de la Méditerranée Jean Pouilloux
berenicechamel@gmail.com

Yunus Çiftçi
cftc.yns@gmail.com

Karina Croucher
School of Archaeological and Forensic Sciences,
University of Bradford
k.croucher@bradford.ac.uk

Çağdaş Erdem
Department of Anthropology, Paleoanthropology,
Mardin Artuklu University
cagdaserdem@artuklu.edu.tr

Hans Georg K. Gebel
Free University and ex oriente,
Berlin
hggebel@zedat.fu-berlin.de

Avi Gopher
The Sonia and Marco Nadler Institute of Archaeology,
Tel Aviv University
agopher@tauex.tau.ac.il

Leore Grosman
Institute of Archaeology,
The Hebrew University of Jerusalem
leore.grosman@mail.huji.ac.il

Juan José Ibáñez
Institución Milá y Fontanals,
Spanish National Research Council (IMF-CSIC), Barcelona
ibanezjj@imf.csic.es

Eneko Iriarte
Laboratorio de Evolución Humana,
Dpto. Historia, Geografía y Comunicación,
Universidad de Burgos
eiriarte@ubu.es

Sari Jammo
Faculty of Humanities and Social Sciences,
University of Tsukuba, Japan
sari.jammo.fw@u.tsukuba.ac.jp

Ergül Kodaş
Department of Archaeology, Prehistoric Archaeology,
Mardin Artuklu University
ergulkodas@gmail.com

Charlotte Labedan-Kodaş
Department of Archaeology,
Université de Paul Vallery Montpellier 3
labedancharlotte@gmail.com

Françoise Le Mort
Université de Lyon, Archéorient ((UMR 5133 CNRS/Université Lyon 2),
Maison de l'Orient et de la Méditerranée Jean Pouilloux
francoise.le-mort@mom.fr

Danielle A. Macdonald
Department of Anthropology,
The University of Tulsa
danielle-macdonald@utulsa.edu

Lisa A. Maher
Department of Anthropology,
University of California, Berkeley
maher@berkeley.edu

Juan Muñiz
Pontificia Facultad de San Esteban de Salamanca
juanramunhiz@gmail.com

İsmail Özer
Department of Anthropology, Paleoanthropology,
Ankara University
iozer@ankara.edu.tr

Gary Rollefson
Whitman College
rollefgo@whitman.edu

Jonathan Santana
G.I. Tarha. Departamento de Ciencias Históricas,
Universidad de Las Palmas de Gran Canaria
jonathan.santana@ulpgc.es

İbrahim Sarı
paleoibrahim@gmail.com

Luis C. Teira
Instituto Internacional de Investigaciones Prehistóricas de Cantabria, IIIPC,
Universidad de Cantabria y Santander
luis.teira@unican.es

Akira Tsuneki
Faculty of Humanities and Social Sciences,
University of Tsukuba, Japan
tsuneki.akira.gf@u.tsukuba.ac.jp

Yasemin Yılmaz
Faculty of Art and Sciences, Department of Archaeology,
Düzce University, Turkey
yaseminyilmaz@duzce.edu.tr

Chapter 13

The Thanatological Dimensions of the Ba`ja and Basta Burials (Southern Transjordanian LPPNB, 7,500–7,000 cal BC). A Novel Approach to Sepulchral Environments

Hans Georg K. Gebel, Marion Benz, and Joachim Bauer

Abstract

This contribution advocates for a holistic understanding of prehistoric sepulchral evidence and proposes an epistemically grounded transdisciplinarity for the thanatological approaches proposed here. These approaches have been inferred from the diversified evidence of the intra- and extramural burials and burial contexts of Basta and Ba`ja (Late and Final Pre-Pottery Neolithic B of southern Jordan, second half of the 8th millennium BC), representing the LPPNB Transjordanian Megasite Phenomenon. Based on this empirical evidence and the emic perspectives of the Household and Death in Ba`ja project, five sets of theses are presented for the socio-neurobiological, ethological, and ontological factors ruling the complex system of the LPPNB deathlore, including its rituality and symbolism. Following this, the theoretical and metatheoretical elements and frameworks of a future LPPNB thanatology are explained, through examples from the two sites.

Introduction

Transdisciplinary thanatological research in prehistory is a novel approach, promoted by the Household and Death in Ba`ja project of the German Research Foundation at Berlin Free University (www.bajahouseholdanddeath.de). In this paper, we evaluate and discuss the sepulchral findings of two early Neolithic village communities in the Transjordanian Highlands, at the late 8th millennium cal BC, to illustrate the potential of the approach. The thanatological reconsideration of the burials of Ba`ja and Basta and their ethological and ontological foundations allows a further emic evaluation, and exposes the underlying *transdisciplinary* heuristic and epistemic bases, making the case for a future thanatological "subdiscipline" of Prehistoric Archaeology.[1] Epistemically, this contribution crosses the boundary between archaeothanatology and thanatoarchaeology.[2]

1. There are already other thanatological approaches existing in French, American, and German archaeological research; recently, Carina Croucher (2010, 2012, 2018) contributed some of most insightful thanatological concepts for the understanding of Near Eastern Neolithic death and dead, which we also promote in this contribution. While the established French archéothanatologie has a primarily taphonomic understanding of thanatology (Duday 1978, 2006), a German approach favors a disciplinary thanatoarchaeology that includes semiotics (Hofmann 2013). The richness of socio-economic and cognitive findings related to burials and burial practices has also steadily provoked new conceptual approaches for combined prehistoric sepulchral and socio-economic research (*cf.* most recently the remarkable contribution by I. Milevski (forthcoming), who presented his burial-modes concept from a materialistic dialectical and diachronic perspective). Despite their great seminal potentials, however, these works remain in the realm of the humanities.

2. In all disciplinary discussion (and possibly confusion) we should stress, in brief, the difference between thanatoarchaeology and

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This contribution primarily addresses social anthropologists and archaeologists, and advocates for a different understanding of dealing with sepulchral archaeological findings. At present, this first approach does not claim to integrate all socio-neuroscientific perspectives, but aims to explain their potential. The paper makes use of terms and understandings defined by one of the authors (H.G.K.G.) for the LPPNB research areas, which are explained in Frame 13.1 and appear in italics in the text.

Structurally, this contribution begins with general aspects of research history (LPPNB Deathlore and Sepulchral Research: Critical Reflections), followed by the major cultural and social contexts of LPPNB burials, before presenting the empiric basics (the Ba`ja–Basta evidence and diversity in mortuary practices and symbolism). This is followed by an excursus on LPPNB Sepulchral Research Imponderabilia that updates fundamental and specific questions of LPPNB's sepulchral research history. The excursus is intended to argue for *Prehistoric Thanatology* as a new discipline, and to prepare the central part of the contribution, the LPPNB Thanatological Theses Sets, according to which this contribution's LPPNB thanatological framework was developed. This framework is also graphically illustrated using a stairway and a gear model (Fig. 13.18). The contribution ends with five thematic "applications" of our concept and a research outlook.

Several new components are embedded in the *transdisciplinary* efforts of this emic study of the sites' lifeways during this period of advancing sedentarization and productive behavior: 1. inclusion of social neurosciences, ethology, and ontology (*e.g.*, Schiefenhövel 2007; Sütterlin 2017; Bauer 2021; Benz and Bauer 2021, all with further references); 2. linking *LPPNB*[3] *Thanatology* with the project's overall holistic and transdisciplinary frameworks; and 3. using the concept of *habitus* societies *sensu* Gebel 2017.

With regard to the inclusion of social neurosciences in our holistic concept, it should be emphasized that social neurosciences do *not* advocate a reductionistic view. Quite the contrary, the present abundant empirical evidence suggests that the human brain is a socially and culturally constructed organ (Eisenberg 1995; Bauer 2019).

The empiric base for mortuary practices and symbolism of LPPNB Ba`ja and Basta are *ca.* 15 burials from Ba`ja and 42+ burials or burial contexts from Basta, containing some 57 individuals in Ba`ja and 66+ individuals in Basta.[4] Their rich evidence in terms of physical anthropology, location, construction, burial goods, mortuary practices, and symbolism urged a deeper comprehension of the sites' sepulchral milieus, beyond conventional archaeological mortuary understanding. This is, of course, a consequence of the overall *transdisciplinary* and holistic frameworks and focus of our current Household and Death in Ba`ja project, which seeks to gain an emic, "deep-knowledge" understanding of life and death in Ba`ja. The thanatological and thanato-psychological approaches—based also on social neurosciences, ethology, and ontology—proved to be appropriate means for reconsidering and expanding the epistemic frameworks of previous Basta and Ba`ja sepulchral research.

archaeothanatology. While thanatoarchaeology has to be understood as an archaeology that studies death and the dead in the broadest sense and may include multidisciplinary approaches, archaeothanatology is a *transdisciplinary thanatological* discipline (*cf.* Frame 13.1) in its own right which deals exclusively with archaeological findings. The epistemic meaning of this difference is elaborated further in Gebel *et al.* in prep.

3. LPPNB/ FPPNB: the cultural periods Late Pre-Pottery Neolithic B/ Final Pre-Pottery Neolithic B. If this contribution speaks of LPPNB Ba`ja, it also includes the site's Final PPNB layers.

4. The sepulchral information on Ba`ja used here greatly benefits from Benz *et al.* forthcoming and Table 3 therein. Other general information on Ba`ja and its sepulchral evidence is found in Gebel and Dahl Hermansen 2000, 2001; Gebel *et al.* 2006b, 2017, 2019, 2020; Benz *et al.* 2019, 2020. For Basta, Schultz *et al.* 2007 and Schultz *et al.* in prep. should be consulted; for basic information on Basta *cf.* Gebel and Muheisen 1997; Nissen *et al.* 2004; Gebel *et al.* 2006a.

Fig. 13.1: Views of the L/FPPNB sites of a. Ba`ja (from S) and b. Basta Area B (Photos: H.G.K. Gebel, Y. Zo`bi).

Our holistic work is supported by condensed theses sets for the socio-neurobiological, ethological, and ontological frameworks of *LPPNB Thanatology*,[5] which seek to assist the reader's initial assessment of our approach. We are confident that the efficacy of our approach becomes evident, including for prehistoric sepulchral research beyond the LPPNB contexts.

Although we assume that similar socio-neurobiological, ethological, and ontological frameworks also guided other non-sepulchral burying and terminating practices in LPPNB times, these are beyond the scope of this paper (*e.g.*, the behavior of terminating cycles between the living and the dead by encapsulating and/ or fracturing items, burying (parts of) households or event remains, burying/ hiding items while using other ritual means and symbolism and following other perceptions (Gebel 2002, 2017; Gebel *et al.* 2017, 2019, 2020, 2022).

LPPNB Deathlore and Sepulchral Research: Critical Reflections

In her seminal paper "Tactile Engagements: The World of the Dead in the Lives of the Living... or 'Sharing the Dead'," Karina Croucher (2010; *cf.* also Croucher 2012, 2018) demands a shift in perspective on prehistoric mortuary practices and sepulchral environments. Basically, she suggests an emic, ontological view of prehistoric death and the dead, asking "whether the concept of social change is the most useful framework for investigating the evidence." She favors an "approach which considers tactile and sensory interpretations of the material" and examines "bodily perspectives during this period of perceived social change, and discusses what an examination of mortuary practices might reveal about changing attitudes to the body, people's identities, and their engagements with their worlds around them."

We also understand that an exclusively socio-archaeologically based and informed interpretation of burials and mortuary practices yields an insufficient comprehension of a culture's sepulchral environment. Additionally, social processes could be inadequately explained when their socio-neuroscientific, ethological, and ontological foundations concerning death and the dead are ignored for the Neolithic. This is especially true for cultures in which the living are in social exchange with the dead, and where the latter are of great importance for the value systems and *commodification* behavior of the living.[6] Since the beginning of sedentism, death and the dead have played an increasingly important role in identification processes: burials beneath domestic floors and the appearance of skull burials are materialized expressions of the enforced identification of the living with the dead. This development reaches a climax during the Middle and Late PPNB. Death and the dead remained an essential part of LPPNB life and transgenerational exchange, of cognition and values, and thus are central for understanding the LPPNB social constitutions (Benz 2010, 2012, 2017; Gebel 2010, 2017).[7]

5. The full empiric evidence for each thesis will be explained elsewhere, as this is true for the sepulchral cognitive filters and expression as well as the social levels (Fig. 13.18b; filters: central gear in Fig. 13.18c). They will be one of the results of the project's final publication (Gebel *et al.* in prep.). Thus, it should be kept in mind, when reading this paper, that these elements are the other important steps of the Thanatological Stairway (Fig. 13.18c).

6. In the context of sepulchral *commodification*, we refer to the distinction made between *Arbeit sensu* everyday needed labor and *Herstellen sensu* producing made by Hannah Arendt (2007), later stressed again by Joachim Bauer (2015: 165–166). This distinction, not elaborated here further, emphasizes that (primary) burials of the Early Neolithic also have to be counted as productive and sustainable behavior; here an installment and its message as well as its integration into everyday life is intended to have a transgenerationally lasting effect (a commodity by metamorphosis *sensu* Gebel 2010, here probably venerational in terms of respect/ control, memory/ preservation). However, types of such productive *commodification* can't be excluded for Palaeolithic lifeways, and burials may even be seen as a powerful and permanent "trailblazer" for productive *commodification*.

7. Beginning with the MPPNB and establishing itself in the LPPNB, there seems to be a fundamental shift in *deathlore* and the identities

The critique of archaeological LPPNB sepulchral research thus far derives from the expanded potential we see in an LPPNB research that aims for emic results and uses the *transdisciplinary* approach promoted by this paper. However, we are well aware that important topics such as grief, trauma relief, collective behavior, social cohesion promoted by death rituals, only become accessible through thanatological and etho-ontological approaches; they demonstrate the range of possible emic insights without which the historical essence of the processes can only be partially understood. For this reason, a distinction is also made here between LPPNB *deathlore* (the emic sepulchral capacities) and LPPNB archaeothanatology/ thanatoarchaeology (the research capacities), *cf.* Frame 13.1.

Concerning the hitherto widely neglected integration of social neurosciences in prehistoric/ archaeological research (except when related to primatology and cognitive research for the Lower Palaeolithic). While some approaches and topics of social neurosciences and cognitive archaeology began to establish and influence Neolithic research (*e.g.*, Bauer and Benz 2013; Benz and Bauer 2013; Henley *et al.* 2020), almost no such research can be traced back for prehistoric and historical neuroscientific perspectives on thanatological topics.

A further aspect hasn't received sufficient attention: as indicated before and hereafter in various contexts, the emerging Neolithic productive and social ontologies modified ethological basics/ constants and changed sepulchral behavior. Deceased members of their group became the subject of new territorial and social confinements. The dead group members were kept within the living sphere and social affiliation. These adaptations to confined space in the meaning of restricted group property may have become responsible, among other things, for a greater regional variability in sepulchral practices. These ethologically and ontologically significant aspects have yet to be sufficiently considered in Early Neolithic research, and would have facilitated more "deep-knowledge" insights and "as emic as possible" perspectives.

Moreover, Neolithic sepulchral research was and is confronted with the fallacies emergent from the implicit modern thanatological family and hierarchy understanding, and ideologically guided concepts of the human being. These misunderstandings are promoted by non-"tactile" approaches and missing "bodily perspectives" (Croucher 2018), and may have led to simplified interpretations, especially when they relate to stratified societies or concepts of extramural and dissociated burying.

Another misconception about prehistoric *deathlore* derives from our archaeological "disposition" to systemize sepulchral evidence, which tends to violate the variability and diversity of the burials. This becomes especially obvious when attempting to categorize a small number of burials and sepulchral findings, *e.g.*, from Ba`ja and Basta: in contrast with cultures characterized by highly uniform burial practices, and with the exception of some general traits, LPPNB sepulchral behavior is not really compatible with the archaeological tendency to structure the unstructured. In our view, formal sepulchral systematics even hinder emic interpretation, and veil LPPNB *deathlore*. This problem is exemplified by the taxonomical levels, respectively for Categories I-IV, by which we try to structure the sepulchral evidence of Ba`ja and Basta (*cf.* the footnote to Tab. 13.1 and this paper's section on the Basta–Ba`ja Diversity of Sepulchral Evidence).

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associated with it. This also supports a recent thesis by A. Belfer-Cohen and N. Goring-Morris (Goring-Morris and Belfer-Cohen 2016; Belfer-Cohen and Goring-Morris 2020) that the major, socially relevant changes occur with the MPPNB/ LPPNB transition, rather than with the Natufian and PPNA. Earlier, M. Benz emphasized this by using the term Proto-Neolithic (Benz 2000: 35–37; "Proto-Neolithic" *sensu* Uerpmann 1979) to suggest that social evolution witnessed a longer transitional period from hunter-gatherers to the fully developed farming communities at the M/ LPPNB junction.

commodification, productive

- is the process by which tangible and intangible *commodities* create and maintain sustainable productive (*i.e.*, Neolithic) socio-economic and ideological/ cognitive values and milieus as well as natural environments: people give value to things, and things give value to people and their social relations;
- characterizes the behavioral difference between taking (foraging) and making (producing) things: is the Neolithic ethos in terms of territorial, reciprocal, and commodification behavior using increasingly confined sedentary and pastoral milieus in all environmental, technological, social, cognitive, and ritual spheres;
- things and their biographies/ traditions "contribute" stability to prolific material and immaterial regimes/ systems, while the same can be done through their de-, ex- and recommodification;
- produces the relational identities that regulate relations among humans in their productive natural, built, and ideological/ cognitive environments while at the same triggers or directs more/ other subjects of commodification, allowing growth/ surplus production, rritorial claims, security/ confined reciprocity, *etc*.

commodities (= things)

- are values in the shape of objects, practices, ideas (*e.g.*, products *sensu* items, domestic space, services, innovations, social standards, elements of belief systems, *etc*.); are materially subject to exchange, consumption, and display; are used for prestige, commemoration, and value ascription (even the construction of a value may represent a reciprocal act);
- modities have biographies;
- can themselves create commodities or commodification chains (*e.g*., domestic and ritual architecture can simultaneously be a commodity and commoditize space and things).

deathlore vs. thanatology

- *deathlore* is the culture's own view on death, life, and the dead, as expressed by ritual practices and symbolism; *thanatology* is the study of *deathlore*.

habitus

- is the sum of all—predominantly mental and social—dispositions forcing and sustaining a commonly accepted social, economic, ritual, and cognitive behavior to control all sorts of productivity and corporate decision-making;
- characterized by LPPNB confined relational/ dividual (*cf.* footnote 8) behavior and ultimate group devotion as the main social value;
- is characterized by a higher degree of social control and risk of expulsion for members/ small social units;
- is steered also by the changing basic human ethological dispositions engendering confined territoriality and reciprocity, commodification, and other cognitive environments;
- not necessarily needs enacted and encoded visualized symbols to influence cognition;
- difference between Elias/ Bourdieu's habitus and the LPPNB habitus: the latter's subject are groups and not the individual.

habitus aggregate

- a social system in which *habitus* dominates as the ruling disposition of corporate social and ritual behavior, influencing all cognitive dynamics;
- is an internally active—barely medially supported—and less formal (or informal) doctrinal ritual/ religious or other ideological system that generates the power and legitimation to create and maintain hierarchies, symbols, and (other) value systems and their structural means (works *vice versa*, of course);
- transfer and control of ruling social idioms/ prosocial behavior by internal modes (high degree of social control/ care), often supported by informal esoteric competency; operates more with "merons" and inherited codes;
- to be distinguished from its "opposed pole," *ideocracy aggregates*: Neolithic societies always have different shares of both *ideocratic* and *habitus* principles/ dispositions.

habitus communities/ societies

- social organization based on *habitus*/ promoted by *habitus* aggregates.

ideocracy, ideocratic (Neolithic)

- a ruling principle of corporate social and ritual behavior supported by a canon of enacted and encoded symbols influencing/ dominating cognitive dynamics and referencing/ suggesting/ highlighting more the individual and the imagined community;
- is an externally active—mostly medially supported—and formal doctrinal ritual/ religious or other ideological system that generates the power and legitimation to create and maintain hierarchies, symbols, and (other) value systems and their structural means (works *vice versa*, of course);
- transfer of ruling social idioms/ prosocial behavior by external modes (including esoteric competency);
- to be distinguished from its "opposed pole," the *habitus aggregate*;
- is in Neolithic contexts a neutral term/adjective simply saying that there is a rule of ideas which are supported by visible enacted and encoded means.

meronomical thinking (Neolithic)

- cognition, comprehension, and knowledge influenced/ characterized by "merons" expressing "part–whole relationships" as opposed to taxons in our modern thinking expressing discrete hierarchies/categories ("part-of relationships");
- meronomy/mereology would allow interpretations coming closer to Neolithic conceptualization, construction, composition, and thus ontology;
- simplified example: a celt for us means a wood-working tool, belonging to the class of wood-working tools; a celt for a Neolithic person would have meant in addition relational strength, *e.g.*, to strengthen a weak wall by inserting a celt.

multidisciplinarity vs. transdisciplinarity

- *multidisciplinarity* involves several disciplines in the study of a subject, with evaluations respecting or retaining the disciplines' own methods and standards;
- *transdisciplinarity* coordinates the different methods and standards of the disciplines involved and aligns them with the jointly formulated questions and results on the research subject;
- *transdisciplinarity* is at the dawn of founding a new discipline/ research area.

"primary" burials

- are burials of corpses or corpse parts that were exposed to any sort of storage and treatment before being buried; primary burials (without quotation marks) are inhumations of corpses without a time gap between death and burial;
- in many cases, primary and *"primary"* are difficult to distinguish.

reciprocity, confined

- goods, labor, services, and intangibles like security, conflict management, symbols, beliefs, and cognitive disposition are provided to members of a confined/ circumscribed sedentary or mobile pastoral food-producing group (productive peer groups with a confined corporate milieu) to secure participation in its commodification regime with all its tangibles and intangibles;
- develops and exists through productive milieus and their shared values/ commodities, and *vice versa*;
- concession orders create a potentially never-ending exchange of things (goods, services, and intangibles) within and outside peer groups, resulting in socially forceful obligations for return/ further exchange (non-terminal exchange);
- confined reciprocity's purpose is to balance rivalries, level inequalities within the group, and create social closeness; it concentrates on material and immaterial investment, ideological safety through the commodification of joint values, and protection.

reciprocity, generalized

- the reciprocity of mobile foraging communities sharing a rather open access to resources and things, including intangibles;
- goods, labor, and services are provided with more limited obligation for return to members of the larger kin group or to members of temporary alliances/ interest groups;
- general rules support a potentially less forceful/binding exchange regime of things, aimed at sustaining comparatively open (as opposed to confined) solidarity networks against natural impacts and rival bands;
- Neolithic societies are always blends of generalized and confined reciprocity at different shares and scales.

segmentary societies
- consist of equal and congeneric segments or aggregates (bands/ clans/ groups) sharing a common culture, economy, belief system (*sensu* Durkheim 2004);
- are acephalous and ruled by consensus in decision making, especially with regard to the distribution of prestige and resources;
- often also called segmentary lineage societies;
- Neolithic societies have many features in common with segmentary societies; however, toward the end of the Neolithic "cephalic" political structures (flat-topped to conical chiefdoms) developed.

Self*, *Self Network*, *Relational Self*, *Extended Self*, *Group Self
- for the definitions by social neurosciences (Bauer 2019) *cf.* Frame 13.2;
- for the definitions by LPPNB social anthropological research (Gebel 2010, 2014, 2017) *cf*. footnote 8;
- Note: If not referred to otherwise, in this contribution the Self definitions of social neurosciences are considered.

social self-organization
- social dynamics during which a social order based on social and other values' balance arises and changes without in- or external influence;
- results in rather stable and self-adjusting social systems as long as changes can cope in- and externally with influences and allow constant rebalancing;
- promotes *habitus communities* through its egalitarian principles; is hindered in *ideocratically* driven orders.

territoriality, generalized
- is the general human disposition (*sensu* human ethology) to create and claim in physical and non-physical spaces/ territories;
- characterized by universal codes of human spatial behavior such as marking/ separating/ defending spaces, the magic use of spaces, explaining and negotiating spaces and nature, making spaces comfortable and safe, *etc.*;
- hunter-gatherer societies are characterized by higher shares of general territorialities while developing aspects of confined territorialities;
- hunter-gatherer physical territoriality tends to be temporary/ transitional/ casual, escapable, "porous," and "unstable";
- general difference between confined physical Neolithic territoriality and foraging physical territoriality is that Neolithic societies produce and consume their tangibles and intangibles in territories to which they are fixed.

territoriality, confined
- is the emerging (Neolithic) human behavior creating and using contained/ separated and permanent or para-permanent physical (resident) or intangible spaces/ territories, including cognitive spaces (*e.g.*, built land and homes; sedentary/ pastoral/ venatoral social, and cognitive territories);
- are spaces/ territories that cannot easily be given up since physical residencies and metaphysical/ ideological occupancies and related dispositions have no immediate spatial/ territorial alternative and/ or are inescapable;
- needs and results from confined productivity (*i.e.*, a socio-economy bound/ related to the *habitus* value systems and their confined relational conditions), interacting with its exclusive reciprocal, *commodification*, and cognitive milieus.

Thanatology*, *Prehistoric
- a projected subject area of its own disciplinary right and curriculum, uniting the approaches of several disciplines (*cf.* the Prehistoric Thanatological Transdisciplinarity v1 of Fig. 13.18a);
- *Prehistoric Thanatology* is the study of prehistoric *deathlore*;
- for archaeothanatology *vs.* thanatoarchaeology *cf.* footnote 2.

transdisciplinarity vs. multidisciplinarity
- *cf. multidisciplinarity vs. transdisciplinarity*.

Frame 13.1: LPPNB-related short definitions of socio-economic and other terms used in this contribution (by H.G.K. Gebel, partly updated from Gebel 2010, 2014, 2017; terms appear italicized in the text).[8]

8. In order to avoid confusion due to the different use of *self* and related terms in the social neurosciences and in LPPNB social anthropological research (Gebel 2017), only the generally applicable definitions of social neurosciences (*cf.* Frame 13.2) are used in this paper. If the anthropological LPPNB Confined Relational Self/ LPPNB Dividual had to be referred to, reference is made to this footnote: The Relational Self in LPPNB social anthropological research is designated as the LPPNB Confined Relational Self (or: the LPPNB Dividual), representing a social phenotype which is controlled by and from the peer group (the LPPNB Confined Group Self), in and by which it exists on account of personal/ individual desires and needs, and to which all its well-being is passively and actively related: all "individual" impulses are perceived, coordinated, and developed with the relational regime of the Self's own group and its relational commitments and needs with other peers. The LPPNB Confined Relational Self is understood as the ultimate identification of the personal/ personhood with the peer, a highly limited negotiation of personal identity through social taboos, and a high risk of social exclusion and sanctioning

Cultural and Social Background of the Burials[9]

Both sites, Basta and Ba`ja, are part of the LPPNB Transjordanian Megasite Phenomenon[10] (7,500–6,900 cal BC), which represents a sudden rise in large sites (beyond 10 hectares) at rich spring locations in the Transjordanian Highlands (Gebel 2004; Rollefson 2020). These sites are characterized by complex agglutinates of terraced, two-story multi-roomed houses with in-house burials, and a tremendous diversification of technologies and *commodities*, with cognitive frameworks endeavoring to cope with accelerated population dynamics.

In terms of social change, many of these megasites may have developed incipient inequality between social bodies, settlements, lifeways, and possibly also an incipient formation of the autonomous Self (individuation) on account of the prevailing LPPNB Confined Relational Self (*cf.* footnote 8 and Gebel 2017).

To understand the LPPNB sepulchral trajectory, it is essential to consider its entanglement with the LPPNB megasites' development in the Transjordanian Highlands. The reason for the hypertrophic growth of these settlements may have been an influx of social paradigms—if not populations—and their cognitive package from the crowded Rift Valley and its western highlands. Here, earlier expanding megasites may have pressured the colonization of the Transjordanian Highlands and exploitation of its vast eastern steppes populated by migrating ungulates and most suitable for pastoralism (Gebel 2004). Large sites like Jericho and Motza (Khalaily *et al.* 2020) may well have been bridgeheads for this development in the Rift's eastern highlands, which absorbed its small MPPNB village occupations (settlements of around 2 ha). The development of the Transjordanian megasites must have been supported by the extensive pastoral-venatorial capacities of the eastern steppes as well. The rather quick (possibly within six to ten generations) collapse and transformation of the LPPNB megasite system in the Transjordanian Highlands appears to be related to varying combinations of several causes and impacts: social implosions due to not being able to find the social answers to counter rapid growth quickly enough; overexploitation and degradation of near-site catchments; initial collapses of parts of the megasite exchange networks; outflow of inhabitants attracted by mobile pastoralism (and industrial hunting?) into the eastern steppes; reflux of inhabitants into the settled areas of the Rift Valley and its western highlands (Rollefson 2020); most likely (an) earthquake(s) at the L–FPPNB junction; and all perhaps promoted by a climate deterioration (Gebel 2004, 2017).

The PPN research questions from 2004, posed under the umbrella "Where Are the Dead?" and discussed by five scholars (Bienert *et al.* 2004), remain relevant. Although today's expanded burial evidence, together with our "deep-knowledge" approach, provides a better basis for insights into LPPNB sepulchral matters for which intramural burials must only be a partial testimony, one question has yet to be solved: Did household activities really take place "on top" (meaning spatially above) of the burials/ burial clusters, or were burials placed in nearby deserted houses, often clustering as in a cemetery (*cf.* below more on this question).

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for deviant or dissident behavior or acts. An "aggressively" (following the wording by Ian Hodder) forced acceptance of the group's ethos, including an ancestral/ parentage ethos, was likely prevailing. Accordingly, LPPNB Confined Group Selves "own" their members, *i.e.*, the Confined Relational Selves or the LPPNB Dividuals. Group Selves are expected to have "sustained" on *habitus*/ *ideocracy* regimes helping to reproduce group identities (Gebel 2017: Table 1; *cf.* also Rollefson 2017).

9. This section needs to elaborate the cultural contexts of the LPPNB burials discussed here, representing also concise and updated working theses of Gebel 2004, 2010, and 2017.

10. For topographic and location (*sensu* participation in the traffic of the large network) reasons, intramountainous Ba`ja (1.2–1.5 ha) could not develop "physically" into a megasite, but it culturally belongs to the LPPNB megasites and their regional exchange systems. Basta is a true megasite, occupying some 10–12 ha; both sites were deserted during their FPPNB/PPNC aftermath, with Ba`ja possibly flourishing longer in terms of architectural occupation.

The sepulchral evidence from Ba`ja, starting with the collective Burial DG1 in Area D encountered during the 2000 season (Fig. 13.10), underscores the social and cognitive importance of burial goods: artifacts assigned to and held by the dead, as well as the practices related to their inhumation, became a major source of information on controlling the social function of the dead, and on incipient social differentiation in basically egalitarian environments. “Similar but different” (Benz *et al.* 2020) appears an appropriate short formula for the beginning of hierarchization in these "ultra-*habitus*" societies.

In the Transjordanian LPPNB Megasite Phenomenon, a regional run-up to increasing social differentiation appears to have taken place, which was halted by the megasites’ collapse in the highlands. At least the large settlements, with one thousand or more inhabitants, may have participated in this run-up, which would have led to the formation or establishment of cone-shaped chiefdoms. In smaller localities with only some few hundred inhabitants and related outside group members, such as Ba`ja, no need for such an intense social stratification may have occurred; here preservation of rather egalitarian *segmentary communities*, or of, at the utmost, flat-topped chiefdoms, has to be assumed.

To explain the development toward an advancing social stratification, it is important to examine the relation between social differentiation and social hierarchization, and how this relates to the *segmentary society* concept. Sepulchral and technological systems are ideally suited for this purpose. One may ask if societal hierarchization might have sprung from urgent needs for sepulchral differentiation, or if the differentiation of the dead is just a reflection of the simultaneous need to establish social difference among the living, because communities reached sizes that were difficult to manage without hierarchical structures and the control of violence. Or are both questions obsolete, since differentiations among the living and the dead are just interacting features, reflecting an advancing differentiation in still rather egalitarian social environments?

The Basta–Ba`ja Diversity of Sepulchral Evidence. Preliminary Accounts

Tab. 13.1 summarizes the different types of burial evidence for Ba`ja and Basta. The sepulchral findings of neighboring LPPNB Basta and Ba`ja differ from each other (Gebel and Dahl Hermansen 2000, 2001; Gebel *et al.* 2004, 2006b, 2017, 2019, 2020; Schultz *et al.* 2007; Benz *et al.* 2019, 2020, forthcoming); significant sepulchral diversity is also attested for other LPPNB sites (*e.g.*, for es-Sifiya, `Ain Ghazal, Jericho, or Abu Suwwan). The reasons for this are probably the still missing conformities in regional LPPNB burial practices, caused by strong sepulchral traditions meeting upcoming social differentiation in the period’s accelerating regimes at the major sites. Other factors might relate to chronological issues, as well as to the selective nature of archaeological evidence (*e.g.*, the choice of excavation areas).

In the LPPNB, uniform sepulchral phenomena seem to be restricted to the general treatment of the dead (*e.g.*, flexed positions, skull removals, use of red and yellow pigment), whereas the diversity of burial styles and furnishings is the result of local sepulchral and ritual behavior and their specifics related to the dead and death, respective to the locally ruling *deathlore*. More “diversity” is testified by post-interment behavior with burials, as attested by the secondary and tertiary burial findings in Basta. While we can speak for Ba`ja’s Area C of a formal intramural burial ground occupying several basement rooms, the picture for Basta reflects a general intramural burying, which does not necessarily represent a continuous intramural

burying during a domestic occupation of the area. While in Basta, intramural single primary/ *"primary"* burials and secondary multiple burials accompanied by much tertiary burial evidence and extramural trash burials are dominant (all attesting a "balanced" age distribution), Ba`ja so far has yielded almost exclusively intramural primary single, double, and collective burials, with a special focus on subadults.

Ba`ja's four collective burials (Burials DG1, CG1, CG11, CG12; Figs. 13.10, 13.16, 13.17) are of special importance. They were apparently continuously sustained by certain social groups related to the burials' location (households most probably). Such burials were not found in Basta, nor do they seem to be reported from other LPPNB sites in the Transjordanian Highlands. This social-group burying must reflect certain socio-sepulchral contexts and status, and thus contributes to the evidence for high variability of LPPNB sepulchral environments (*cf.* below).

Fundamental differences between Ba`ja and Basta are also attested by the types of subfloor burying. While in Ba`ja we clearly have burials under floors/ temporary floors, the locations and positions of the Basta burials are quite different. Here, primary burials were either placed inside the substructures of rooms/ room groups,[11] or they represent, in various ways, disposals placed on temporary floors covered by (room) fills, usually protected by surrounding room walls, wall corners, or special stone settings.[12] These disposals often demonstrate the characteristics of secondary burials (disposal of corpse parts, disarticulated skeletons). While Ba`ja's burials are consistently formal burials with a clear expression of post-death empathy and respect by those who buried, most burials at Basta have the character of a protecting and less caring "cache burying" in house ruins, which resembles, in that respect, the extramural trash burying in Area A's northwest corner at Basta. Grave constructions such as those found in Ba`ja have not been uncovered in Basta thus far; burials there demonstrate an opportunistic choice of existing and suitable locations, which is true for even the few burials that indicate post-death empathy and respect (*e.g.*, Burials 18 and 42, *cf.* below).

Regarding the frequent subadult burials in Ba`ja and Basta, it is questionable as to what extent a high number of subadult burials in these settlements means a high infant or child mortality rate in the communities. Since we assume that adults were not necessarily buried in the villages due to death during off-village activities, and that children in early sedentary environments died—in contrast to adults or to the preceding hunter-gatherer societies—predominantly in settlements, the apparent "high" subadult mortality could be assessed as being less significant. Furthermore, a deliberate choice to "keep" the children inside the house/ community may be a possible reason for the enhanced number of intramural subadult burials (*cf.* below on the Ba`ja evidence).

In general terms of mortuary practices and symbolism, Ba`ja is richer due to its better preservation of primary burials (whereas bone preservation is very poor in Ba`ja compared to Basta). The main reason for the disturbed primary/ *"primary"* and secondary intramural burials in Basta—and thus the limited preservation of evidence for mortuary practices and symbolism—appears to be rather intense rebuilding activities, if no other cultural or socio-economic reasons are relevant, too (*e.g.*, intensified steppe relations

11. These burials are seen as a special case of subfloor burials. The substructures of Basta are a characteristic feature of LPPNB slope architecture on limestone bedrock, representing empty "channel"-like spaces underneath housing flooring that created horizontal spaces/ building lots (Gebel *et al.* 2006a).

12. The hitherto missing intramural disposals of human remains in Ba`ja may relate to the matter that disturbed or removed burials may have been disposed in the Ba`ja's northern and southern *siq*s, as this is attested by a cleft in the southern wall of the northern *siq*. The role of LPPNB grave abandonment/ looting has been discussed in our projects, without identifying general behavior patterns (*cf.* below the summaries on the burials in Ba`ja and Basta).

and activities). However, we may be dealing in Basta, for reasons yet unknown, with a more limited importance in providing burial goods.

Despite all the sepulchral differences between Ba`ja and Basta, the commonalities of LPPNB sepulchral culture are also apparent: intramural burying, subfloor locations, high variability in opportunistic and formal burying, no common orientations, contracted/ flexed positions, arrangement of corpses/ human remains demonstrating empathy and investment by those who bury.

Type of Burial	LPPNB Ba`ja	LPPNB Basta
Primary intramural burials (including *"primary"* burying of temporarily stored individuals or disarticulated parts)	Mainly subadult (Infans I-II) single, double, and multiple burials 4 collective burials with subadults and adults ("social group burials")	Mainly primary single adult burials as well as multiple adult/ subadult burials: *"primary"* in Basta often means the disposal of corpses with evidence of disarticulation/missing parts Area A, northeastern corner: dump area with single burials and dispersed human remains, representing an extramural trash burial ground?–
Primary extramural burials	Just one: "trash" burial context? from the FPPNB/ Post-FPPNB?	Several "trash" burials in dumps of the LPPNB settlement's dump areas
Secondary intramural burials *sensu* reburying disturbed burials	Hardly any evidence: with some doubt, a partly dislocated collective burial (Burial CG11 in CR17, Fig. 13.16) can be considered here	Many secondary burials as a result of burial disturbances by intense construction activities: likely they often represent "merged" single primary burials collected in a protected location (*e.g.*, wall corners, by stones): this considers especially the crania (skull deposits in pits/protected by stones) and less often post-cranial remains in protected places
Secondary extramural burials	None (uncovered so far)	Deposited disturbed burial remains in dumps of the settlement's open spaces/ rooms of the ruin, *e.g.*, skulls assembled in deposits and protected by stones/ in wall corners
Tertiary burial findings	Hardly any human bones scattered in debris layers/ room fills; disposal of burials in the *siqs*?	Numerous scattered/ trashed/ discarded human remains in room fills and dumps of the settlement's open spaces
Burying positions	Numerous orientations and contracted/ flexed positions in single burials; various predominantly flexed/ semi-flexed in multiple/ collective burials; squeezed/ squatted positions with subadult burials	Numerous orientations and contracted/ flexed/ tied-up/ semi-flexed/ stretched positions in single/ multiple/ collective burials; assembled skulls in deposits; quite often: positions of disarticulated parts of corpses interfere spatially
Burial locations	Formal burial clusters extending over neighboring rooms, forming an intramural cemetery inside basement rooms (Area C); one (FPPNB) extramural burial; no gender-age-related specific burial locations	Intramural burying in rooms without special grave construction, *e.g.*, the deposition of single, double, or multiple individuals/ parts of individuals on temporary floors or in the "channel-like" substructures; one case of an in-wall baby burial (with necklace); no gender-related specific burial locations
Built burial environments	Careful grave construction or at least concerned choice of intramural burial spaces; sub-floor burying; intramural pits in the natural soil for single/ double/ multiple subadult and two collective burials, most of them covered by stone slabs; intramural stone cists for two outstanding single burials deepened into the natural soil and one collective burial; one collective "room burial"	Opportunistic choice of suitable protected intramural spots (wall corners, substructures, rooms) for the disposal and covering of the dead; "cache burying" use of building plots' substructures as burial places (equipped with corpses from outside?); set stones/ stone alignments in rooms may protect primary burials and secondary depositions (*e.g.*, skulls); no stone cists attested
Burial goods	Generally: well-attested use of burial goods for specific individuals, including all age and sex classes, signals for both personal as well as status *commodities*	General: probably a restricted use of burial goods (except for the necklaces with ring-shaped mother-of-pearl objects of Infans I of Burial 18 [Fig. 13.3], of the adult Female B and of Neonatus D of Burial 42 [Fig. 13.4])? unclear signals for burial goods: ornaments were mostly found dispersed in room fills, including fills with human remains
Burial pigments	Rather extensive use during burying rituals/ for staining burial items but apparently not a general/ mandatory use	Occasionally used, no clear patterns, possibly also with secondary burying

Tab. 13.1: Generalized summary information on burial findings from LPPNB Ba`ja and Basta.[13]

13. As stated above, the archaeological disposition to classify sepulchral findings and use biographic designations like primary, secondary, and tertiary violates the complexity of sepulchral practice and evidence. This is especially true for Ba`ja and Basta, where evidence proves

Basta's Sepulchral Evidence

For the palaeoanthropological and sepulchral data and findings from Basta (Schultz *et al.*, in prep.), only basic information is provided in Schultz *et al.* 2004 and 2007 (*cf.* also in Gebel *et al.* 2004 on Basta Burial 42, and in Gebel *et al.* 2006a for stratigraphical information).

The statistically most reliable and best data come from Basta Area A, which has a slightly older occupation than Area B. Here, 39 complete/ nearly complete skeletons (3 fetuses, 17 subadults, 19 adults) were found from nine complete primary/ *"primary"* burials, ten disturbed burials, four secondary burials, and five skull deposits. Including the scattered human remains, the approximate minimum number of individuals is around 56 in Area A. In many cases it is difficult to distinguish the "categories" (*cf.* Tab. 13.1 and related footnote) of disturbed primary/ *"primary"* burials, secondary burials, and post-cranial bone and skull (5) deposits. Most of the primary/ *"primary"*, secondary, and tertiary remains were found under floors, in pits, room fills, or on the floors of deserted rooms used as burial locations. The infant burial inside a wall (Fig. 13.3) is of unclear nature: it can be a true in-wall burial, but it is also possible that the top of an eroded demolished wall was chosen as a burial place and then covered by stones. Beside Area A's intramural burial ground, several extramural primary trash burials (*e.g.*, Fig. 13.8) were found in near-bedrock cultural debris, which were superimposed with up to 2-meter thick layers of flint debris from Basta's specialized LPPNB flint workshops. Human bone preservation at Basta is generally very good. Primary/ *"primary"* burials show flexed (tied-up corpses, use of wrapping tissues and strings? *e.g.*, Fig. 13.8) and stretched positions; all were found with skulls except for Burial 1.

Adult mortality testifies a comparatively "normal" age distribution when compared with *e.g.*, `Ain Ghazal or Jericho: 40% died between 20–40 years, 50% between 40–60 years, and 10% in their senile phase. The high mortality rate of women (70%, as opposed to 30% for men) is expected to relate to females staying more in the village, and to childbirth risks. Subadult mortality appears quite high for the Basta Area A community (57%); the lack of young male adults among the dead may be related to death during off-village activities, *e.g.*, in the eastern steppes. In terms of diseases and injuries, no difference between men and women can be seen, except for a high anaemia rate for the women; in general, Basta shows little evidence of deficiency diseases. In all, the evidence of a rather healthy population of Basta Area A may reflect stable nutrition as well as favorable housing, working, and sanitary conditions; there is no evidence for a pandemic (Schultz *et al.* 2007).

The high number of healed skull fractures (17%, n=5) is striking; can it relate to raised aggression/ punishment levels in the megasite's community? A forensically confirmed homicide is attested for Basta (Röhrer-Ertl *et al.* 1988); its odd interpretation was published in Röhrer-Ertl *et al.* 1987. Cut marks on human bones are very rare (two cases), and are attested with the left mandibular *rami*, and may be evidence for

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that burying can have taken place only after a certain period. Histotaphonomic studies of skeletons from Ba`ja suggest that most of the corpses were not buried immediately after death but dried or treated before interment (Haddow forthcoming). In such cases it is suggested here that future publications should use the term primary with quotation marks (*"primary"*) cf. Frame 13.1. Though the "opportunistic" use of taxonomical levels works quite well for Categories I and II (I: distinguishing intramural or extramural contexts; II: distinguishing collective, double/ multiple, and single burials), things become more complex or even misleading when applying Categories III and IV (III: distinguishing primary/ "primary," secondary, secondary disturbed, and tertiary contexts and their biographical aspects; IV: distinguishing burials by their combination of features such as burial construction, burial goods, rituality/ symbolism). Interacting categories demand "shifting" classifications, respecting the biographic development in a sepulchral context. Tab. 13.1 is a first attempt to structure the information for Ba`ja and Basta burials; this may need extended revisions when sepulchral evidence from other LPPNB sites is entered.

a mortuary practice. An *antemortem* trepanation-type of skull opening may be the oldest—or one of the oldest known—skull surgeries of that kind (Schultz *et al.* 2004, 2007).

Three burials were selected for a more detailed presentation of the burial diversity at LPPNB Basta:

> *Burial 7/12* (A18:37; Fig. 13.2) is the disposal of skeletons and skeletal parts of at least four individuals spread across Room A32; some bones are not in their anatomical association. The red-stained bones of an articulated hand are placed between the individuals of Burials 7 and 12. Parts of skeletons show red pigmentation, and one skeleton has fractured bones. The corpses/ corpses' parts rest in no apparent order, and in diverse orientations, *e.g.*, Individual 1 lies on his/ her back with a foot of Individual 3 underneath his/ her chest; slightly contracted Individual 3's other foot rests beside Individual 2, pointing upward. The dead are embedded in a layer of cultural debris containing grinding-stone fragments and flint artifacts, and are partly covered by yellowish soil. One marine mollusc, one stone ball, and two grinders might be intrusive. The findings can't be described as a formal primary collective burial,[14] but rather as a *"primary"* intramural trash burial of disarticulated human remains.

Fig. 13.2: Basta, LPPNB occupation. Probably a "primary" multiple Burial 7/12 in Room 32 (near-final excavation stage of context A18:37); type of intramural trash burial of disarticulating and mixing human remains/ parts: at least 3 adult individuals and 1 isolated hand (red-stained); no burial goods (Photo: G. Sperling).

14. Burials are considered *"primary"* (*cf.* above) if they contain articulated body parts (*e.g.*, Fig. 13.2); such cases, in the case of Basta, may reflect a storage/ transport of the corpse/ s before final inhumation. The burial of non-articulated human bones is generally classified as secondary.

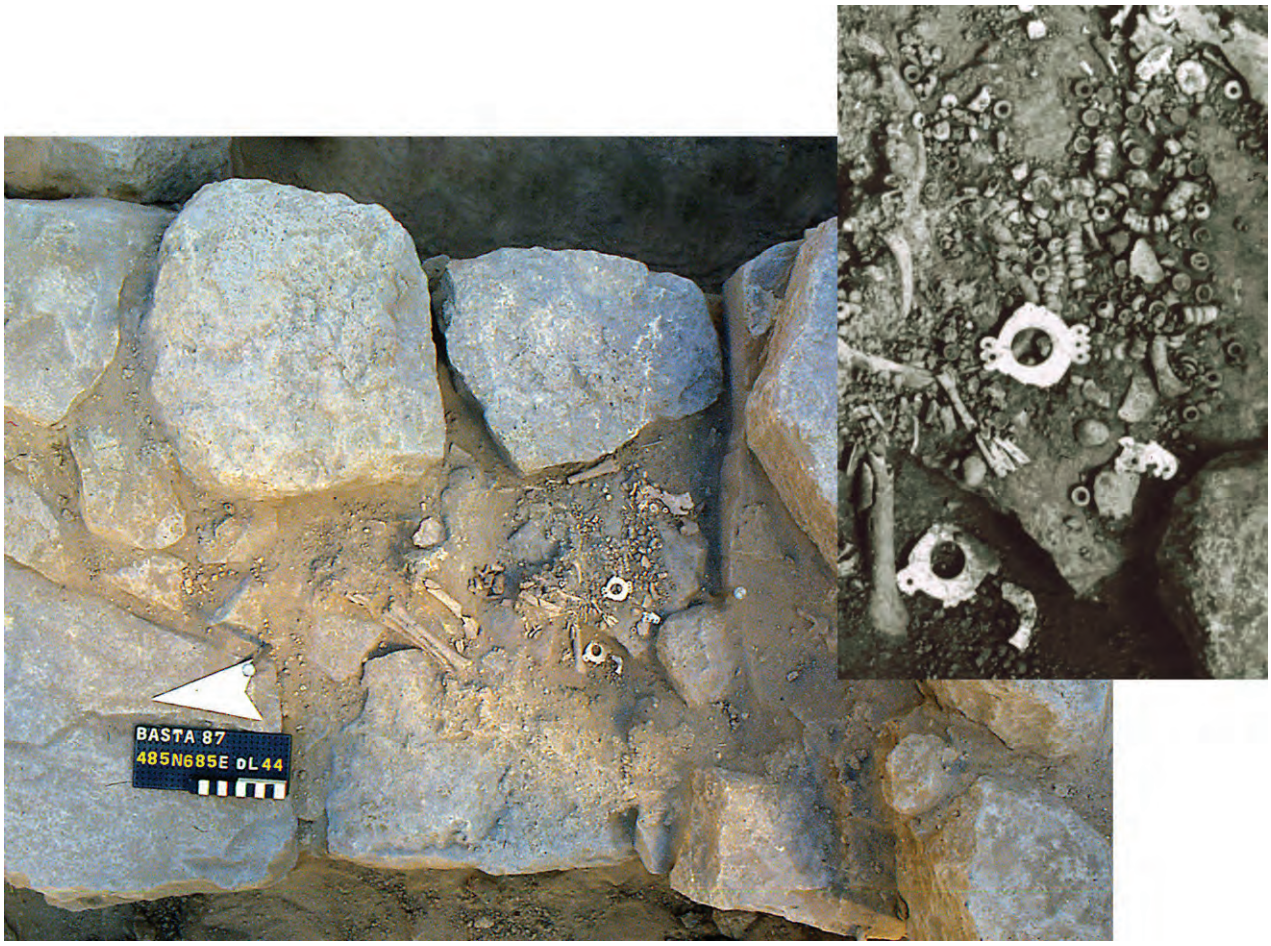


Fig. 13.3: Basta, LPPNB occupation. Primary single Burial 18 in the wall separating Rooms A28 and A30 (final excavation stage of context A18:44); Infans I buried inside a wall with complex necklace connected by serrated mother-of-pearl ring (Photos: G. Sperling).

Burial 18 (A18:44; Fig. 13.3) is an articulated primary in-wall burial of a contracted Infans I, "nested" in a depression (?) of the gravel fill between an LPPNB wall's two faces (A18:35, Phase Basta AII), separating Rooms A28 and A30. The skeleton was badly preserved: while parts of the skull and several post-cranial bones were missing, the lower jaw indicated that the skull must have faced northeast, and the feet were probably pointing north. The burial was discovered after the removal of some bigger loose stones from the wall top; this means that it is also likely that the burial was once disposed in an eroded wall top and not originally inserted in the wall when built and accidently exposed by erosion. In-wall and underneath-doorway child burials are reported from `Ain Ghazal (Gebel 2002) too. In the neck area a necklace of *ca.* 351 gastropod apex beads and a ring-shaped mother-of-pearl paillette with four serrated and perforated extensions (from *Pinctada* sp., split in three pieces; the same type as found below a baby skull in Burial DG1 of Ba`ja (Gebel and Dahl Hermansen 2001: Fig. 13.7a) was found associated with three other scattered marine shell beads. A similar paillette was integrated as the central piece in the necklace of "Jamila" CG7 (Benz *et al.* 2020).

(left) **Fig. 13.4: Basta, latest LPPNB/ FPPNB? occupation. Primary multiple Burial 42 in Room B7 (excavation stage of context B34:46); burial in a "channel-like" structure; superimposed are 2 adults (male? and female with *ca.* 425 coral and Tridacna sp. beads), 1 Infans I and 1 newborn with *ca.* 400 mother-of-pearl beads (Photo: G. Sperling).**

(right) **Fig. 13.5: Basta, LPPNB occupation. Secondary multiple Burial 39 in Room A21 (excavation stage of context A14:18); assembled remains of 2 subadults, 2–3 adult males, and possibly 1 female (Photo: G. Sperling).**

Burial 42 (B34:46, Room 7; Fig. 13.4) represents a later LPPNB grave of four superimposed individuals placed above a white and red-stained plaster floor. The burial's space is framed by walls (Phase Basta BII) considered to be "channel-like," a feature known from the site's substructures for building lots; it measures about 37 x 176 cm. Apart from the burial goods, the positions and spatial arrangement of the four individuals display the empathy felt for the buried by those who buried them. Between the stretched to semi-flexed adult Individual A (male?) resting on his left side at the bottom of the burial and partly superimposed by adult Individual B (female) resting on her abdomen with slightly flexed legs, Neonatus D was placed in front of Individual B (with its lower limbs resting over the lower limbs of Individual B). Infans I (Individual C, *ca.* 14 months) was disposed as the last one and slightly apart from parallel-lying Individuals A and B, with his/ her skull resting on top of Individual B's pelvis area. Both legs of Individual B were found underneath the lower limbs of Individual A. Twisted and shifted extremities and missing skeletal parts (*e.g.*, feet) and articulations suggest that the human remains, while most likely having been buried during one event, were not anymore in full anatomical

association at the moment of burying.[15] Several artifacts could be attributed to Individual B and Neonatus D. Two kinds of beads were found around the neck of the adult female (*ca.* 187 *Tridacna* sp. and other shell beads and *ca*. 238 coral beads). A third kind of beads (400+ from mother-of-pearl) was found near Neonatus D (Gebel *et al.* 2004). A complete ring-shaped mother-of-pearl paillette with two perforations at its protruding "nose" was observed in Adult B's neck area, while three broken halves of the same type were found between Individual B and Infans I C. Three marine molluscs were found scattered in the burial. Flint artifacts including broken blades, arrowheads, and borers were also found in the burial; they may be intrusive from the upper fill. Red pigment had stained the post-cranial bones of Infans I C; it was also identified underneath Individual B's skull, of which the left part was also stained red. All findings are interpreted as attesting the contemporaneous collective burying of socially and event-related group members, buried at the time the corpses started to disarticulat e. Two individuals (the female and the neonate) received burial goods; red pigment was applied when disposing the female and Infans I C.

(left) **Fig. 13.6: Basta, LPPNB occupation. Primary single burial below Room A20? (final excavation stage of context A13-14:18); adult buried inside subfloor "channel," with large stone on top of pelvis area (Photo: G. Sperling).**

(right) **Fig. 13.7: Basta, LPPNB occupation. Primary single burial Test Trench C217 (final excavation stage of context C217:19); adult in flexed position, lined by stones (Photo: M. Nissen).**

15. We acknowledge the information used from the field diary of Rula Shafiq, which served also for the short note on the burial by M. Schultz and R.M. Shafiq in Gebel *et al.* 2004.

Fig. 13.8: Basta, earlier? LPPNB occupation. Primary single trash Burial 3 in the northwestern corner of Area A (final excavation stage of context); buried in cultural debris (chipping debris, ashes, and charcoal) with other primary burials and scattered human remains (upper right): dump in Squares A1-2 and 5-6 was used as burial ground (Photos: G. Sperling).

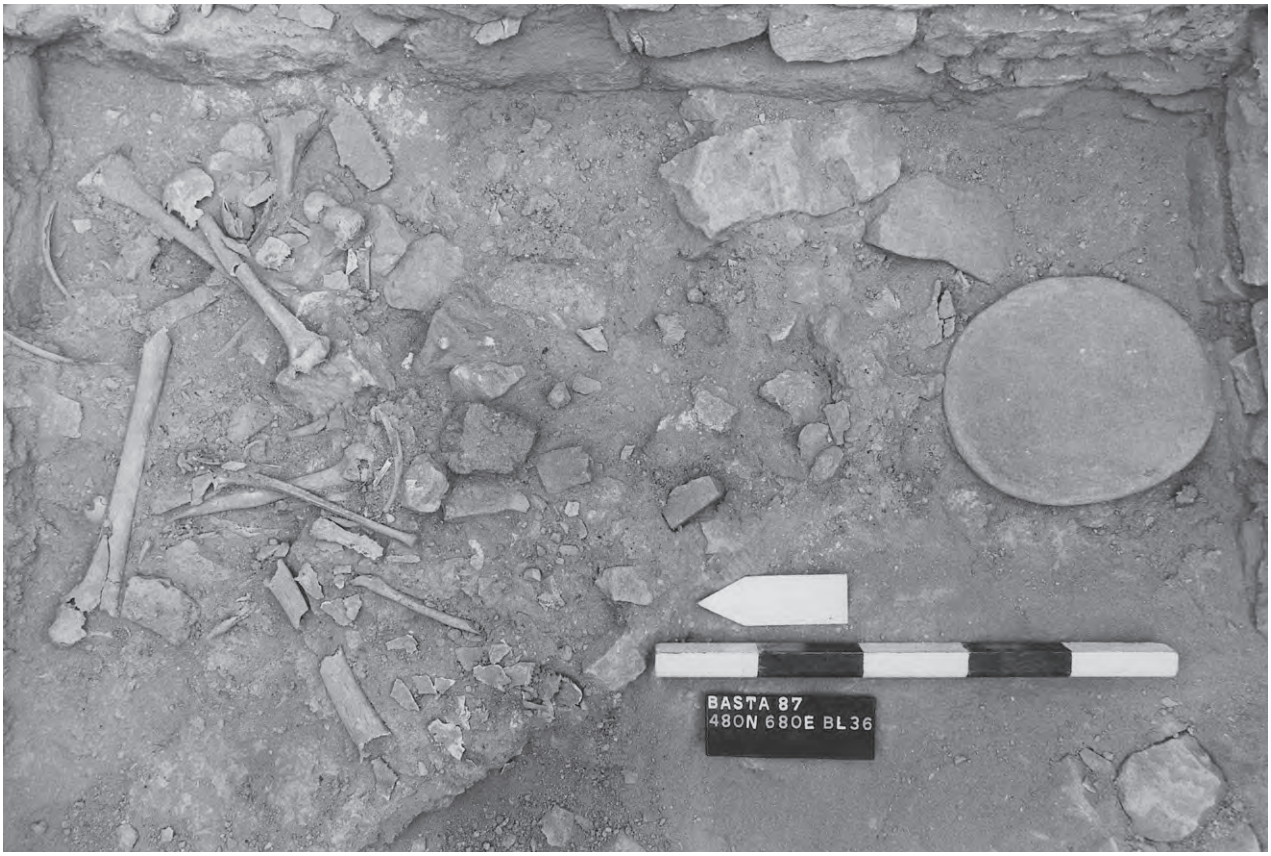


Fig. 13.9: Basta, LPPNB occupation. Incomplete (disturbed) primary Burial 16 of Room A35 (excavation stage of context A22:36, under Locus 30). Contained probably two individuals, of which one was an infant, in context with two pieces of a horn core; stone plate probably not part of burial (Photo: G. Sperling).

Figs. 13.5–9 illustrate more of Basta's sepulchral diversity. Fig. 13.5 is an example of disturbed burials in which human remains were assembled in a secondary disposal. The primary burial in Fig. 13.6 represents an adult buried inside a subfloor "channel" below a room, probably "pushed" into the narrow structure from an opened side. Fig. 13.7's primary flexed burial appears to rest in a site's open marginal area, protected by a stone alignment. The primary interment of the severely "packed" corpse in Fig. 13.8 took place in huge cultural debris layers (chipping debris, ashes, and charcoal) above bedrock, associated with other primary burials and scattered human remains: here a dump area was used as a burial ground. Fig. 13.9 is an example of a disturbed and incomplete primary room burial of probably two individuals, of which one was an infant, and two pieces of horn core.

In discussing possible extramural burial grounds in the LPPNB, it is important to note that the northeastern corner of Area A at Basta, an intensively used dump area above the bedrock, has at least three single burials and many dispersed human remains. Could this be, at the very least, an indication for intrasite and extramural trash burial areas in the LPPNB?

Ba`ja's Sepulchral Evidence

The sepulchral findings of Ba`ja are outstanding for several of their characteristics: for being a cemetery in basement rooms, for the frequency of formal intramural primary subadult burials as well as collective adult/ subadult burials, and for the preservation of their ritual choreography and related cognitive milieus (for the latter *cf.* especially Benz *et al.* forthcoming). Basic and more detailed information on Ba`ja's LPPNB burials is provided in Benz *et al.* 2019, 2020, forthcoming, as well as in the preliminary reports by Gebel and Dahl Hermansen 2000, 2001; Gebel *et al.* 2006b, 2017, 2019, 2020; these results are not presented here. In the following, we summarize our current understanding of Ba`ja's intramural burials, based on Benz *et al.* forthcoming (and to be fully published by Benz in prep. and Benz *et al.* in prep.).

As evidence attests, subadults were interred in all kinds of burials (single, double/multiple, and collective), while most adults were found in collective burials. Double burials may have been restricted to 3 to 4-year-old children together with infants below two years. Only some burials received elaborate grave constructions with stone slabs, segregation walls, and large covering slabs. Burial CG6 is remarkable for an infant associated with some isolated adult and infant bones (Gebel *et al.* 2020). No special positions of corpses are observed; seemingly preferred north-south and east-west orientations may relate to the general orientation of rooms in the site's architectural layout. Most burials were cut through the floors of the basement rooms.

Burial artifacts made from hundreds/ thousands of shell and mineral beads were attributed to subadult burials; adults were hardly decorated with bead products, except for limited numbers (bone beads where they were found in burials and could be assigned to a special individual were associated exclusively with adult remains [CG1 and CG6]). Mother-of-pearl ring pendants and paillettes have been found exclusively in burials of subadults or attributed to infants. Adults have other burial goods; in one case another cover contained additional burial goods (CG10; *cf.* below). Two daggers and two mace heads lost their association with the dead in the collective burials while representing a burial artifact for an adult, as CG10 shows (Gebel *et al.* 2022).

Twelve burials demonstrate the use of red (or yellow) pigment; often lumps—in one case especially fabricated pellets—of red or yellow pigment were left in burials, too. In the collective Burial CG1 and the single subadult Burial CG7 the palettes (here a stone vessel and a stone slab fragment) with remaining mixed red pigment were left on top of the last burial, respectively on top of the burial construction (CG7). Use evidence suggests that the red pigment was prepared as a liquid at the spot and spread across the corpse entitled to receive it; it may also be possible that, alternatively, the cloths or skin of the dead were stained red, as is assumed for "Jamila." For more details on the burial goods of Ba`ja, especially on the burial of "Jamila" (CG7) and related rituality and symbolism, *cf.* Benz *et al.* 2020, forthcoming.

For the exact locations of the burials' rooms, consult the top plans in Gebel *et al.* 2020; Area C's intramural cemetery map will be published as Fig. 1 in Benz *et al.* forthcoming (for information on the rooms of the Basta burials *cf.* Gebel *et al.* 2006a).

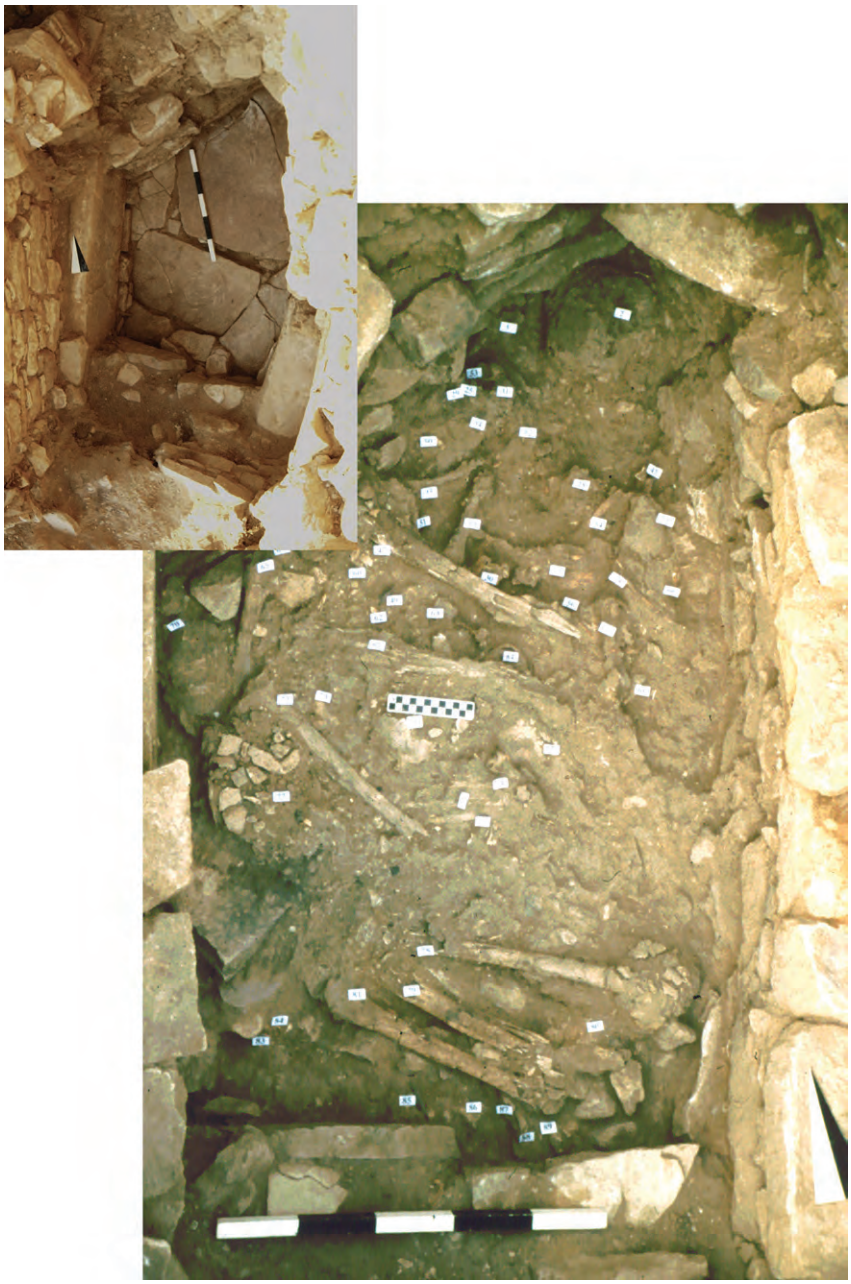
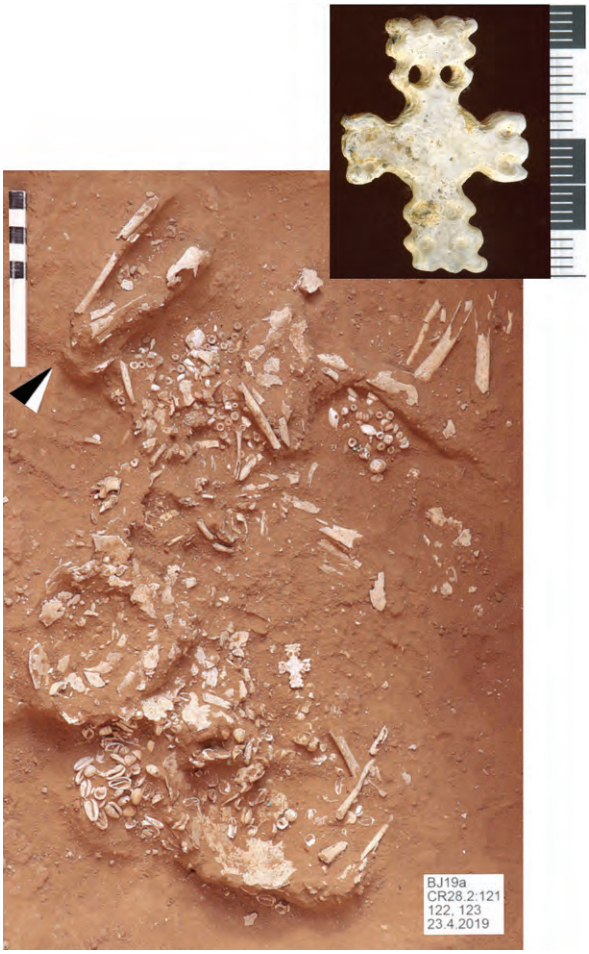


Fig. 13.10: Ba`ja, later LPPNB occupation. Primary collective chamber Burial DG1 in small Room DR26.2 (excavation stage of context D11/12/21/22:25-29); contained 12 superimposed individuals (3 late juvenile–middle adults and 9 subadults/ infants); burial goods: 1 Ba`ja dagger, 9 arrowheads, 1 mace head, as well as ca. 90 beads and pendants; red-pigmented human remains and objects; upper left: floor of excavated chamber (Photos: H.G.K. Gebel).

In the following, three burials were selected from Ba`ja to describe the site's sepulchral diversity in greater detail:

Burial DG1 (D11/12/21/22:26; Fig. 13.10) is a collective chamber burial in small Room DR26.2, hosting (MNI) 12 individuals (3 late juvenile – middle adults, 9 subadults/ infants [in-field observations]) and belonging to the later LPPNB occupation of Ba`ja. The chamber was inserted into Room DR26.2 by a stone pavement and a long stone slab as well as side walls along the room's walls (Fig. 13.10), ending at similar heights, as though the grave once had a stone cover. However, it was not clear if the chamber's stone pavement had already existed before as the floor in the former room. There might be a connection between the burial chamber's location and the figurative mural that characterizes the room's previous function (Gebel and Dahl Hermansen 2000, 2001; Gebel 2002). The superimposed layers of skeletons indicate burying not as a single or episodic event(s); rather the skeletons were moved and pushed aside once another corpse was disposed of. The burials, as is true for the other collective burials at Ba`ja, appear primary, but may include also *"primary"* depositions (*cf.* Frame 13.1). Red pigment was spread across some corpses, staining large parts of the burial, including the burial goods. Artifacts are not attributable to individuals and are comprised of: proximal, medial, and distal fragments of a deliberately broken Ba`ja dagger during the burial ritual (Gebel *et al.* 2022); nine arrowheads (only one type, similar to that in Burial CG1); one mace head (basalt); two types of mother-of-pearl ring-shaped paillettes (one of these is the ring-shaped type with four serrated protrusions made from *Pinctada* sp. and typical for subadult burials (Gebel and Dahl Hermansen 2001: Fig. 7a); 80+ beads (mostly *Tridacna* sp., a few limestone, *ca.* 15 greenstone beads), and two sandstone ring fragments.

Burial CG8 (CR35:405, Fig. 13.11) is a simple pit primary double child burial in the room's southeastern corner (Gebel *et al.* 2017, Benz *et al.* forthcoming). Like CG10, it was also dug through the plaster floor and covered by a sandstone slab. The pit's dimensions are *ca.* 40 × 35cm (diameter × depth). The upper child (Ind. 1; 6 to 9 months according to dentition) was slightly turned on its right side, the legs drawn up with the knees under the chin. An older child (Ind. 2; 3 to 4 years according to dentition) was placed partially below but facing the upper child. Its knees were up against the skull, the right arm under the mandible, the pelvis scattered, and the vertebrae bent and twisted, as if the child's corpse had been squeezed into the pit. Both children appear to have been buried together, being placed in a facing position expressing empathy; there was no indication of a reopening of the burial. The burial had no associated artifacts. The charcoal must have been washed into the burial from a nearby fireplace; its association with the burial rite remains a speculation. The burial is a good example of a simple pit interment without an investment in construction or furnishing; but it expresses a dual empathy, by those who did the burying and by that established between both children through their placement in facing positions. In contrast is the rough way the children's corpses were squeezed into the pit. It has to be asked whether squeezing children into very narrow burial pits reflects a protection-giving (with elders) and -seeking (with subadults) disposition of beings.



(left) **Fig. 13.11: Ba`ja, later LPPNB occupation. Primary double pit Burial CG8 in Room CR35 (excavation stage of context: CR35:405). Contained a baby and a child (6–9 months and 3–4 years, respectively) squeezed in and facing each other; without burial goods (Photo: M. Benz).**

(right) **Fig. 13.12: Ba`ja, later LPPNB occupation. Primary and secondary multiple pit Burial CG9 in Room/Space 28.2 (excavation stage of contexts CR28.2:121-123); 4 subadults; the two older children (3–4 years) had garment-type objects decorated with cowries and other beads in the skull (bottom in the photo) and the pelvis (upper part in the photo) areas, with altogether 1,150+ beads found in the burial; two secondarily buried assemblages of baby bones accompany the primarily buried 3–4 years old babies; note the serrated cross-shaped paillette (F.no. 110414) in the lower part (Photos: M. Benz).**

Burial CG10 (C10:408; Fig. 13.15) is a single cist-type burial with an upper and lower part in the northwestern corner of Room CR35, hosting a young male ("Usaid"); the burial belongs—like all other burials of the intramural cemetery—to the later LPPNB occupation in Ba`ja. The burial is outstanding (Benz *et al.* 2019) for having an upper layer in the shape of a sealed cache containing artifacts thought to refer to status, resting above the corpse's cist with more burial goods considered to be of a personal nature. The grave construction employs two sides of the northwestern wall corner of Room CR35; its pit and upper layer/ cache were segregated from the room by a curvilinear small wall/ stone alignment to the east and south; the burial pit itself was covered by three large stone slabs (Fig. 13.15). The upper layer of burial goods consists of a Ba`ja dagger (Gebel *et al.* 2022), an unbroken pestle of basalt, a sandstone vessel fragment, two short arrowheads, one bone spatula, and two grinding tools (sandstone *mano* fragment, small grinding slab), all fixed and sealed in a

hard gravel/ mortar bed that rests above the actual burial's stone slab cover. The burial pit itself was deepened through a plaster floor (Loc. C10:146A) into the site's paleosol containing the corpse with more burial artifacts: an *in situ* smashed basalt mace head, an upper-left-arm ring made of one mother-of-pearl and four marly rings, an upper-right-arm ring made of several pieces of mother-of-pearl, *ca.* nine beads (7 greenstone, 1 carnelian, 1 *Tridacna* sp.), two leached Conidae fragments, one sandstone *mano* fragment, and one red pigment stone resting between the fingers of the right hand. Does the sealing of the supposed status objects in the upper layer's hard bed from mortar and gravel mean that its contents needed to be protected from being manipulated or removed/ looted? Could it even mean that the objects' disposal was a debated act, responsible also for the "outsourcing" of the dead into a single burial? At any rate, the various testimonies from the burial provide strong arguments for an ascription/ confirmation of status and burying terminated power, most probably related to a *primus inter pares* (Benz *et al.* 2019). Similar hints come from other funeral inventory and findings at Ba`ja, *e.g.*, arrowheads with snapped-off tips, inclusion of fragmented items such as stone-vessel sherds or grinding tools, or deliberately fractured burial-cover slabs, as observed with many child burials. The crushing of cover slabs, however, could also be, or in addition, an expression of pain and anger, a non-acceptance of death. Figs. 13.12–14 and 13.16–17 illustrate more of Ba`ja's burial diversity, with the particulars described in the captions.

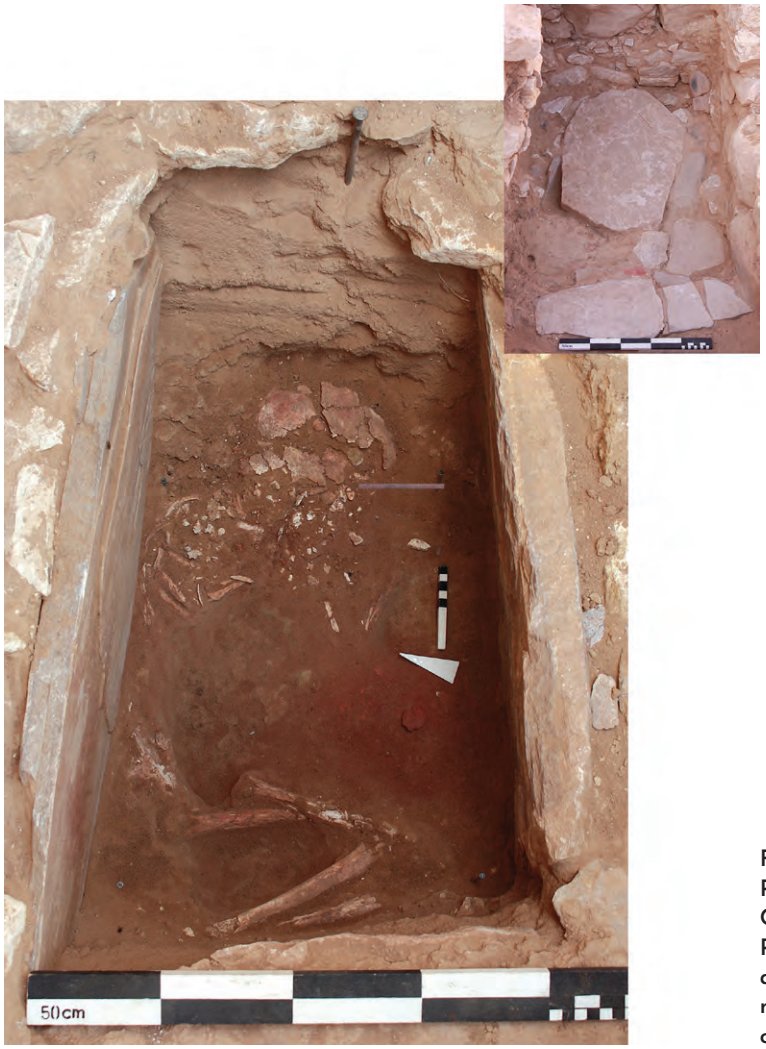


Fig. 13.13: Ba`ja, later LPPNB occupation. Primary single cist Burial CG7 "Jamila" in Room CR36.1 (final excavation stage of context: C1:46). Probably a girl aged 8 ± 2 years, furnished with a complex necklace made from *ca.* 2,600 beads; most remains stained red; upper right: stone cover of burial (Photos: M. Benz).

This survey of the Ba`ja burials demonstrates that distinguished conventions ruled sepulchral rituality and its choreographies, as well as the provision of burial goods and related cognitive frameworks. “In-house” burying of subadults (infants and children) and adults employed all kinds of ascriptions and attributions; their standards, regarding age and sex, appear to follow social values and cognitive norms other than those our research attitudes imagine (*cf.* Gebel *et al.* 2020 and Benz *et al.* forthcoming). Accordingly, sepulchral features range from elaborate grave constructions protecting special dead and substantial burial goods (*e.g.*, CG7, CG10) to simple burial pits with/ without cover and with/ without artifacts. No significant correlations or clear patterns could be observed thus far, except for some very general standards. The four collective burials also provide the insight that the association between burial good(s) and the individual became unimportant after burial (regardless of how the integrity of a burial was disturbed by a succeeding interment).

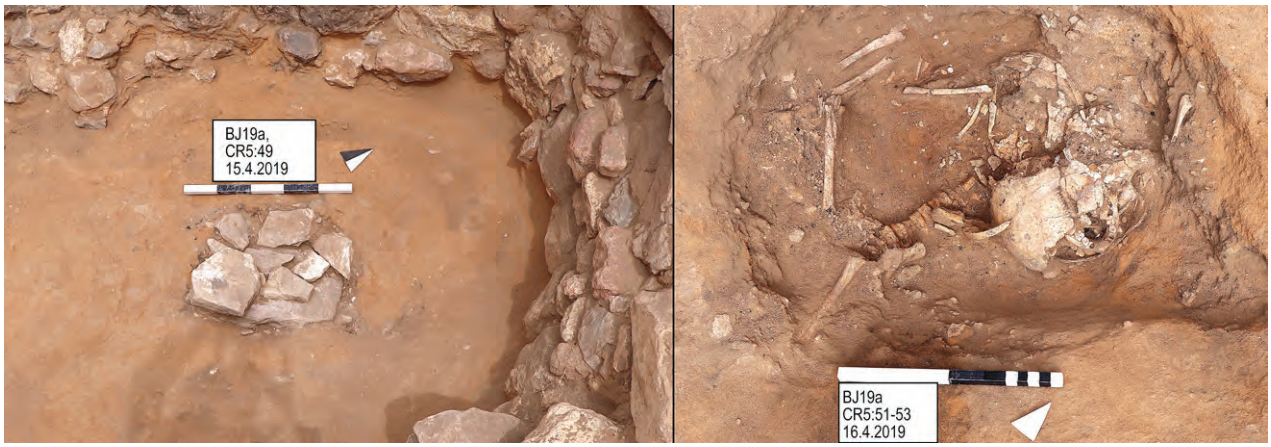


Fig. 13.14: Ba`ja, later LPPNB occupation. Primary double pit Burial CG2 in Room CR5 (excavation stages of contexts CR5:49,51-53); left: fragmented stone slab cover of pit; right: two children (3 to 4 yrs and 1 to 2 yrs) (Photos: M. Benz).

Fig. 13.15: Ba`ja, later LPPNB occupation. Primary single cist-type Burial CG10 “Usaid” in Room CR35 (excavation stages of contexts: C10:408); a. upper cover layer sealing in burial goods, including a Ba`ja dagger; b. stone slab cover of burial underneath upper cover layer; c. skeleton with its grave goods (Photos: H.G.K. Gebel, M. Benz).

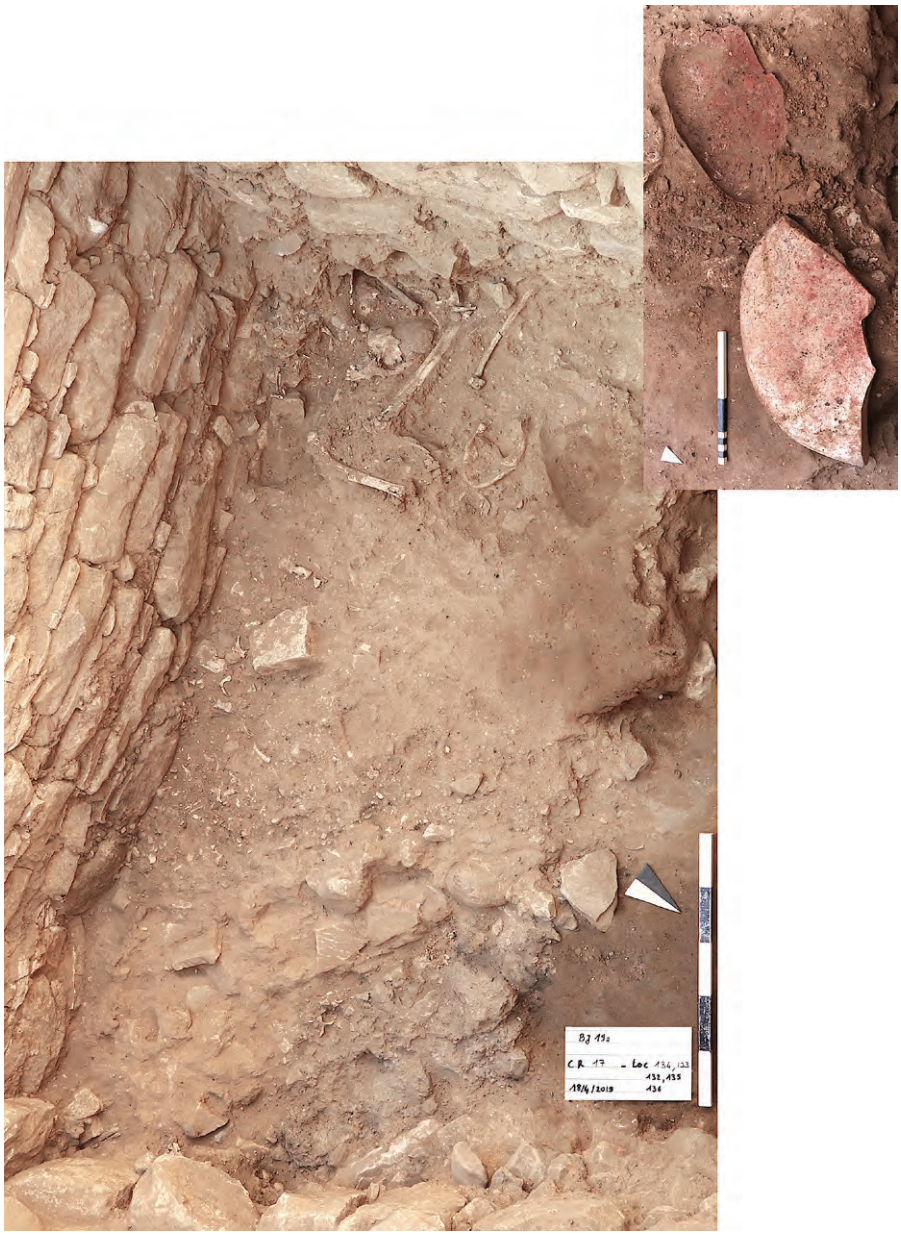


Fig. 13.16: Ba`ja, later? LPPNB occupation. Partly dislocated human remains of the collective Burial CG11 in Room CR17 (excavation stage of contexts CR17:132-136); remains of 2 adults, 1 juvenile, 11 subadults; upper right: red-stained fragment of stone plate (Photos: M. Benz).

Excursus: LPPNB Sepulchral Research Imponderabilia

This section intends to elaborate on existing imponderables, by referring to two major "syndromes" of the current state of research.[16] This aims to prepare the ground for the following presentation of the thanatological dimensions and significance of the Ba`ja and Basta burials and the rationales for a novel *transdisciplinary* and holistic approach to LPPNB *deathlore*. LPPNB sepulchral research history's two "syndromes" (the insufficient disciplinarity of research approaches and the inadequate perspective on the social role of the dead) still constitute the limiting frameworks described by the *Record, Snapshot, Variability*, and *Incubation Arguments* (Gebel in Bienert *et al.* 2004, updated below).

16. In order to be brief, we concentrated on the southern Transjordanian Highlands hoping that it will help sufficiently to exemplify our subject on a wider scale.

Fig. 13.17: Ba`ja, later LPPNB occupation. Primary collective pit Burial CG1 in small Room CR35 (excavation stage of context: C10:152B). Contained superimposed 2 young adults, 1 juvenile, 2 Infans I, and 1 newborn. Note the *in situ* complete Ba`ja dagger (F.no 52024) resting on its edge in the northern corner of the burial pit and the red-pigmented burial sediments (Photo: C. Purschwitz).

In 2004, H.D. Bienert's question "Where are the dead?" (Bienert 2000, 2004) opened the door for reconsidering approaches to LPPNB mortuary practices and their social and cognitive milieus, and shifting research inquiry toward a holistic and more emic understanding of LPPNB *deathlore*. Dissatisfaction with the attitude "we prehistorians do not explain prehistory, but make (!) prehistory for our generation of research through the lenses our time has provided to us" (Gebel in Bienert 2004) was especially salient for LPPNB's sepulchral research. Since the 2004 answers provided by H.D. Bienert, M. Bonogofsky, H.G.K. Gebel, I. Kuijt, and G. Rollefson to the question "Where are the dead?" much meta-theoretical investment and progress has taken place to reconsider Early Neolithic archaeological sepulchral research (among many others: Kuijt 2000, 2008; Goring-Morris and Kolska Horwitz 2007; Croucher 2010, 2012, 2018; Hodder and Pels 2010; Byrd and Rosenthal 2016; Gopher *et al.* 2019; Henley *et al.* 2020), while clear thanatological approaches, which include social neurosciences, remain lacking until today, making the "syndromes" persistent.

In 2004, one of the research demands was to no longer see the LPPNB dead as separate from the living, but to understand them emically "as participants of a great cycle, in which death is just a transition in a powerful succession that starts with birth and ends with becoming an ancestor. At the moment a death

separated the individual from the house and the community, the material exchange cycle ended and another reciprocal relation started between the living and the dead, until that individual disappeared from the memory of the surviving generations" (Gebel in Bienert 2004).[17]

The "Where are the dead?" question originated from seeing the densely populated LPPNB two-story megasites (Gebel 2004; Rollefson 2020), and comprehending that the remains of these people were seemingly absent in the archaeological record. When trying to answer the question, the complexity of its problems needed to be outlined by four major fields—or arguments—of imponderables (Gebel in Bienert 2004), summarized and updated below. They are seen addressing the research "syndromes" still hampering an extended disciplinarity and adequate/ emic perspectives on the social role of the dead.

1. The *Record Argument:*
    - Explains the difficulties in assessing and calculating vanished primary, secondary, or tertiary sepulchral evidence, both for the living LPPNB occupations as well as for their post-occupational/ archaeological fate;
    - says that only a few causes and conditions of archaeologically traceable sepulchral findings are known and understood (human remains disappear from the various depositional environments by anthropogenic, natural, or both influences, as is the case for some preservation conditions;[18]
    - stresses the important influence of arguments explaining negative evidence (*e.g.*, why a burial may not have become part of a site's deposits);
    - suggests that if burials survived at all and reached an archaeological "destiny" (excavation and removal from their last depositional context, cleaning and sorting "fates," analyses shared by the various specialists, recording systems of data, becoming subject of concepts), their biographies may have ended at any of the many stages of tangible alteration[19] or the impact of research politics;
    - is fed by many other known and unknown conditions and features as well as speculations, especially by open questions like existing extramural cemeteries, intense disturbance or extraction of intramural burials by intense construction and rebuilding in the domestic areas.[20]
2. The *Snapshot Argument:*
    - Proposes that all primary burials of contemporary stratigraphical units reflect just a discrete "time slot" of dying events, provided that burials did not become the subject of later disturbances. Such findings might be suitable for reconstructing numbers of village populations, especially if, as in Ba`ja, information can be based on continuously occupied collective burials, supported by the information from "contemporaneous" single, double, and other multiple burials;

17. Meanwhile, the ancestor notions received modifications as models of interpretation, *e.g.*, by concepts like Çatalhöyük's History Houses (Hodder and Pels 2010; Düring 2013 and earlier publications).

18. A most important aspect of preservation and burials' biographies rests in archaeological intervention and should not be ignored. Major infield impacts result from exposure to dry air and sun (rapidly increasing brittleness by exposition time), disturbing the original moisture balance between bones and soil. Simple issues like unsuitable excavation logistics might be enough to reduce the number of countable individuals.

19. *E.g.*, Cornelia Becker, our archaeozoologist in Basta, helped to identify more individuals and potential burials through her work procedure: efficient infield sorting of the animal bone samples from Area A allowed for the immediate transfer of unrecognized human remains to the physical anthropologist (Michael Schultz).

20. An intense presence of dispersed typical burial artifacts in room fills and dumps always indicates a disturbance and *ex-commodified* material from primary/ *"primary"*, and eventually secondary burials; the same is true for dispersed post-cranial remains over larger distances, as demonstrated by Michael Schultz for an individual at Basta (M. Schultz, personal communication). This argument implies the provoking and far-reaching question whether the ornaments we find in LPPNB sites were primarily objects of sepulchral purposes, or to what degree they testify *commodities* of daily use. The respective literature appears to avoid this question.

- can be doubted, however, when asking "Who are the dead?" If we deal with only those who were present in the village at the moment of occurring death, or those entitled to be buried inside the village, what would inhabitant calculations mean?[21]

3. The *Variability Argument:*
   - Stresses that sepulchral variability at local levels characterizes the southern Levantine's mortuary practices and locations;
   - should not exclude burial grounds existing outside the settlements;
   - needs to cautiously distinguish between types of intra-settlement burial grounds.[22]
4. The *Incubation Argument (formerly the Insignificance Argument):*
   - Now disproves the 2004 *Insignificance Argument* (saying that PPNB burials "do not allow conclusions on ranking or other social aspects, since no such clear patterns can be traced in the MPPNB and LPPNB");
   - implies that, while evidence for ranking or other social aspects is rather insignificant, new "heterarchical" findings like the *primus inter pares* (Benz *et al.* 2019) indicate hitherto ill-recognized types of social-status differentiation, possibly leveling the way for a "true" social stratification in the megasites (incipient or "incubation" milieus for social hierarchies);[23]
   - explains that various kinds of social differentiation in the *segmentary communities* of the LPPNB and in the post-PPNB have started social patterning that prepared the way for social hierarchization;
   - suggests the notion that sepulchral environments and their *confined reciprocities* may have been one of the incubators, if not the essential one, through which new types of status negotiations radiated into social structures, and *vice versa.*

The variability of LPPNB sepulchral evidence makes other forms of placements or disposals even more likely, such as temporal or "permanent" open-air funeral sites or ritually accepted disposals in gorges, wadis, *etc.* The attested sepulchral variability in the LPPNB makes almost every burial unique, especially when sex and age, absent body parts, position/ placement of corpse, secondary treatments, burial goods, rituality, and symbolism are put into account and relation. These variabilities break up lines of arguments for an explanation to the question "Where and who are the dead?" and relate more to the question: "What did the dead mean for the living?" (Gebel in Bienert *et al.* 2004).

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21. Why should we, at all, expect LPPNB burial records to be a reliable source of demographic information? Nevertheless, juggling figures from the armchair might provide at least a testable figure about inhabitant numbers. For Basta (10–12 ha LPPNB surface evidence), a conservative calculation resulted in a minimum number of present residents (all ages) of about 1,000+ (Gebel in Bienert 2004); this estimation is based on the following assumptions, parameters, and information: extension of all excavation areas; minimum number of dead in main occupational phase; site area only half occupied; number of active house units; site occupation was 200 years; one generation lasted 25 years; considering anthropological information: higher mortality rate of subadults, higher number of females passing away in the settlement, under-representation of young males, generally good health of the population. For Ba`ja it had been argued (Gebel in Bienert 2004) that collective burials must have been emptied from time to time to accommodate new burials. This assumption is based on the evidence from a rock cleft down the northern *siq* next to Burial DG1 where burial remains including objects were found. Our recent evidence argues against this understanding; at least we have almost no evidence for the basement burials being touched after burying (except for CG6).

22. For example: While Ba`ja is an intramural cemetery in a seemingly occupied site area, the burial ground of Basta's Area A might have been a deserted site area before its rehabilitation. A mixed disposal of human and cattle/ aurochs remains in Basta's LPPNB Area C enriches variability evidence, showing that dump areas were not only used for rather formal trash burying (*e.g.*, Fig. 13.8) but also for trashing human corpses with animal remains. Or: Kfar Hahoresh or Nahal Hemar may indicate that cemetery sites could have existed, but can this, given the regional and chronological variability, be assumed for all regions of the southern Levant?

23. In the early 2000s, social studies focused so much on hierarchies and ancestor veneration that we forgot to think about other trajectories of incipient social differentiation in early productive communities.

Incipient social differentiation (the *Incubation Argument*) and an expanding spectrum of *commodities* suitable to express and assign social difference was, in our view, the crucial interactive process influencing LPPNB developments. We do not claim that sepulchral identity provision by tangible and intangible (*i.e*. ritual) *commodities* was the main means of incipient social differentiation in early productive *communities*. But we do claim that status manifestations through burials might have become formative for the generation of status in the communities. In this context, we would like to stress that this is meant in its very general sense, *i.e*. not that status alone, in terms of social stratification, was the subject of (new) status generation. A diversity of status, including status beyond social or gender orders, may have developed; not all of this was necessarily relevant in terms of the various kinds of leadership.

Prehistoric Thanatology as a New Discipline

As previously mentioned, an integrative-holistic approach and an emic comprehension of prehistoric dying, death, and burial, with all its social and cognitive implications and consequences, is an indispensable prerequisite for a cultural- and evolutionary-historically valid research on death. In our view, this can only be achieved through a *transdisciplinary* cooperation of the disciplines shown in Fig. 13.18a, which toward this purpose must, as far as necessary, extend their competence in cultural and evolutionary history, and need to engage in the "painful" discussion of jointly phrased results; the latter is essential for the success of *transdisciplinary* work. The long road to a new discipline, *Prehistoric Thanatology*, can only be successfully followed if a *transdisciplinary* collaboration in many case studies helps to work through and establish the theoretical (*sensu* the theory of science), epistemic, and methodological foundations of the new subject, thus securing its very own holistic approach. Problems will inevitably arise when participating natural, life, and cultural sciences insist on their own interdisciplinary concepts and categories; vested disciplinary interests are the main obstacle to the new discipline.

Prehistoric Thanatology as a new discipline is exemplified below in the section The LPPNB Thanatological Theses Sets, which is then described by the theoretical and epistemic superstructure, or model, as a proposal for the new discipline (graphically summarized in Fig. 13.18). The following section, Selected Milieus and Domains of the LPPNB deathlore, represents examples of thematic applications.

Self is the sum or a collection of a person's convictions and beliefs, with respect to the question who she/ he is.
Self Networks are a neuronal system whose center is a brain region (ventromedial Prefrontal Cortex, vmPFC) located behind the red *bindi* dot that some Indian women wear between their eyebrows.
Relational Self points to the fact that the human Self and its neuronal correlates in the vmPFC overlap with the mental (and neuronal) representation of close others (and of spiritual figures to which a person feels connected).
Extended Self means things or other persons which or who are unconsciously regarded or felt as an (external) part of the Self.
Group Self reflects the shared Self feelings within a group of persons who feel a shared social identity.

Frame 13.2: General definitions of the Self and related terms according to social neurosciences (Bauer 2019). Terms are in italics when occurring in the text.

The LPPNB Thanatological Theses Sets

The *LPPNB Thanatology* Theses Sets represent an initial and exemplary application of the thanatological approach for the LPPNB. They focus on the socio-neuroscientific, ethological, and ontological domains and do not consider the purely cultural, *i.e.* the ritual and symbolic, domains. This is in order not to go beyond the scope of this paper. Instead, the ritual and symbolic milieus and their cognitive backgrounds are treated by some topics in the Selected Milieus and Domain section.

The theses were structured according to the following perspectives. They are a preliminary and shortened version of our LPPNB Thanatological Theses Sets 1–5 (to appear in full length and discussion in Gebel *et al.* in prep.), presented in order to open them for wider discussion:[24]

Set 1: General Theses on the Epistemics of the Thanatological Gear (4 theses)

Set 2: Theses Related to Social Neurosciences and Thanatopsychology (10 theses)

Set 3: Theses Related to the Human Ethology of Death (7 theses)

Set 4: Theses Related to the Human Etho-Ontological Intersection (5 theses)

Set 5: Theses Related to the Human Ontology of Death (6 theses)

We stress that working by theses is the only epistemological way in humanities to make statements and results transparent, traceable, and testable. Theses sets assist in formulating results within the holistic and *transdisciplinary frame*works, and securing a comprehensive testability and controlled updating of the thanatological results and interpretation within the holistic and systemic framework.

The most recent Ba`ja findings and the makeup of our *transdisciplinary* working group allowed for theses sets that contain "translations" of all known LPPNB sepulchral findings from Ba`ja into the discrete fields of social neuroscience, ethology, and ontology.[25] The evidence from Basta was only considered when a reliable reference to a particular thesis content was possible. In addition to likely attested evidence, the theses contain plausible assumptions for findings to be expected, but that are not yet evident.[26]

A general remark must be made on the spectacular sepulchral evidence of the children of Ba`ja. We assume that the death of children, despite the presumed high child mortality, released extreme emotions in the LPPNB, and may have led to the need for special care and cognitive coping with grief disorders. Looking at the empathy testimonies in some child burials of Ba`ja, and at the fact that children received their own

24. Since such theses sets are "scholarly living" and momentum of permanent alteration and improvement by repeated tuning through new data and insights, we expect that our emic studies at Ba`ja will have reached—at their final publication stage—more detailed results (including a better separation of theses, metatheses, comments, and arguments) than reflected by the summaries here. In the strict sense of science theory, our theses still represent statements on theses. For the purpose of this contribution, the initial discussion of the LPPNB thanatological concept is needed to better explain the theses' contexts and basics. However, we expect that their summary is sufficient for the intended collegial discussion of our novel thanatological approach to the prehistoric/ LPPNB sepulchral milieus.

25. Of course, theses that are further developed in the contexts of the following stages of the Thanatological Stairway (Fig. 13.18c: Cognitive Filters, Sepulchral Rituals and Symbols, Social Environments) underlie the same testability and transparency requirements. The chapter/ section Selected Discussion Stimuli elaborates some of the important aspects of related ritual, symbolic, and social life.

26. Of course—and not only in the sense of systemic-biographical necessities—the post-depositional interactions with the dead from the Neolithic to our archaeological intervention would need to be accommodated in the theses sets. We avoided these dimensions of a complete biographical-systemic thanatological study (even largely for the LPPNB post-depositional evidences of Basta) in order not to further increase the complexity of the matter; these dimensions will become the subject of the complete presentation in Gebel *et al.* in prep.

burials and burial ritual, shouldn't we consider that the death of a child in a *habitus* society perhaps created a stronger emotional upheaval (rather than just a personal "blow of fate" or the death of an adult), since such deaths were strongly perceived as a threat to the survival of the peer group and the community? Was the loss of any child understood as a reduction in potential for social group survival (at the etho-ontological junction) otherwise secured by a ruling *confined reciprocity*? From the new Ba`ja evidence, child archaeology and *thanatology* has become again a matter of great importance that imperatively demands better initiative for child-related research fields.

Another important general understanding must precede the theses' presentation: 1. human cohabitation/ social life takes place within the tension fields between biological dispositions and socio-cultural conditions/ expositions, and 2. socio-cultural frameworks and practices are not only determined (neuro-) biologically but also modify (neuro-) biological dispositions.[27] The powerful interaction between human biology and culture often makes it difficult to distinguish between/ identify the ethological and ontological elements in human behavior; thus, for the sake of heuristic and epistemic transparency, a separate theses set was prepared for "overlapping" ethological dispositions and ontologically grounded behavior (Theses Set 4).

General Theses on the Epistemics of the Thanatological Gear (Theses Set 1)

Thesis 1.1 (*Etho- and Ontological Interactivity Argument*) expresses that thanatological dispositions and behavior consist of reciprocally interacting ethological (=bio-anthropologically induced, *sensu* social neurosciences) dispositions and ontological (=culturally induced) behavior.

Thesis 1.2 (*Etho-Ontological Intersection Argument*) says that for epistemic reasons the ethological and ontological perspectives have to be evaluated separately, while for the analysis of sepulchral/ thanatological findings the dispositions and behavior from both domains have to be considered together.

Thesis 1.3 (*Ethological Evolution Argument*) explains that productive lifeways fundamentally changed the overall human ethological development, and that the ethology and ontology of death was essentially affected by these changes.

Thesis 1.4 (*Epistemic Dilemma Argument*) refers to the matter that we identify the characteristics of Neolithic ontological dispositions only by our modern evolutionary and epistemic contexts and perspectives, while we have to identify the alterity of Neolithic thanatological (and other) dispositions and behavior by emic means, and the cautious and transparent use of cross-cultural comparison.

Theses Related to Social Neurosciences and Thanatopsychology (Theses Set 2)

Thesis 2.1 (*Bio-Anthropological Constants/ Basics*): Dying and death activate important neurobiological functional units of the brain (Pain System, Anxiety/ Stress System, Mirror Neuron System, Self Networks, Reward System), to the extent and intensity that it relates to the death of

27. Due to space constraints, the questions regarding socio-cultural frameworks and practices had to be largely left out of this paper; however, their epigenetic contexts are referred to, *cf.* below.

the other and this person's social status/ role or one's own death.[28]

Thesis 2.2 (*General on the Role of Epigenetics*): Functions of the neurobiological systems in Early Neolithic societies are subject to the specific ontological conditions and developments of early sedentary and productive social environments, including the units' epigenetic "modulation" and "memory" of the preceding (Epi-) Palaeolithic hunter-gatherer substrata. Developments in productive life conditions and related cohabitation influence genetic development, and alter brains' finer structures via epigenetic mechanisms, too.

Thesis 2.3 (*Death Traumata*): The intensity of activated neuronal networks relates also to the specific cultural, social, and cognitive LPPNB ethos contexts of death.

Thesis 2.4 (*One's Own Death*): Intense fear and uncertainty occur in the moment one realizes that death is imminent, understanding that impending death can't be controlled (helplessness).

Thesis 2.5 (*Death of a Peer*): Intense fear, uncertainty, and social stress occur in the moment the peer group realizes that a member is dying, especially when we deal with strictly relational *habitus* societies and their special types of *Relational Selves* and *Extended Selves* (*cf.* Frame 13.2, footnote 8).

Thesis 2.6 (*Kinds of Deaths/Dying*): The various kinds of death activate the interplay of the neuronal networks: Pain System, Anxiety/ Stress System, Mirror Neuron System, and the Self Networks, to the degree and type of social and spatial distance and relatedness the death of the other possesses.[29] Sudden deaths, slowly approaching deaths, occurred deaths, a child's death, commemorated deaths, death of a non-peer, out-group/ stranger's deaths are the main kinds of death an LPPNB community had to deal with.

Thesis 2.7 (*Extended Self and Charging Things*[30]): *Extended Selves* (*cf.* Frame 13.2) constituted the Ba`ja community, including capacities of resonance between the Self and other persons and things (*cf.* Thesis 2.8). Mental self-representation and representations of others, including interaction with/ projections onto things (*cf.* Thesis 2.8: *Self-Other Resonance*) overlap partly, depending on social closeness and situations. The more representations of others—and agencies of things given or received—are integrated in the self-representation and its neuronal correlate, the stronger feelings of deprivation after death of another person will be. The destruction of these relations can cause pain (mental and physical)[31] and can thus result in an enhanced potential for depression or (auto-) aggression, in addition to features of a stress response,[32] grief, and adjustment disorders. The dead as *Extended Self* (*cf.* Frame 13.2): The death of a very closely related person can cause (temporary

28. Losses activate the Pain System and attenuate the activity of the Reward System. The latter is activated by social support. The Anxiety System and the Stress System are activated by loss of control, loneliness, and/ or social rejection. The Self Networks respond to all kinds of interpersonal exchange. In particular, they enable a person to consciously imagine another person's perspective (in psychology, this is designated as the ability to construct a theory of the other person's mind). The Mirror Neuron System (MNS) is a neuronal resonance system that lets people intuitively feel what other persons (who have to be on this side of the perception horizon) feel. The MNS can become activated by body language and/ or verbal language and mediates what is designated as emotional contagion. The ability to consciously imagine another person's perspectives in combination with the ability to intuitively feel what others feel is designated as empathy (Bauer 2019, 2020, 2021).

29. The death of a child is a unique and most intense empathy trigger, *cf.* footnote 28.

30. Christov-Moore and Iacoboni 2016; Bauer 2019, 2020.

31. *I.e.*, the activation of the Pain System and attenuation of the Reward System.

32. A trauma due to death occurs when a person dies prematurely (*e.g.*, a child) as a result of a sudden event (*e.g.*, an accident), thereby releasing feelings of extreme helplessness.

or permanent) harm to self-representation and severe confusion. This may be followed by a search for new identifications and identities. This is especially true for the death of close others such as mates, parental persons, and, above all, children, since they are part of oneself and with whom one shares much or everything. Strong social support is supposed to alleviate distress caused by death.

Thesis 2.8 (*Self-Other Resonance*): Prosocial behavior and decision making is also steered by the cognitive capacity of humans to resonate with the observed or ascribed behavior and emotions of other humans, other beings, and things (self-other resonance), *i.e.* humans mirror other beings and things. This particularly applies to interaction with others. By such interactions, neuronal activities are induced, transformed, and responded to in a personal way. Things with which humans may resonate include *e.g.,* visible or invisible elements of animate and inanimate nature, basic commodities of metamorphosis/ destination (*sensu* Gebel 2010), or memorized household items.

Thesis 2.9 (*Need of Order and Understanding*):[33] Neuronal correlates of consciousness (NCC) that relate to the human need to explain and to make sense of the material and immaterial world are especially challenged in situations created by death. The inexplicable and insurmountable—death—may favor the search for explanations and meaningfulness in the metaphysical/ spiritual realm, aiming to reduce perceived threat.[34]

Theses Related to the Human Ethology of Death (Theses Set 3)

Thesis 3.1 (*Uncertainty Dispositions*): The disruptive nature of death[35] creates intense fear and uncertainty (*cf.* Thesis 2.4–5). In strictly relational habitus societies, this anthropological constant exposes members of peer groups to much higher levels of fear and uncertainty than in non-habitus societies.

Thesis 3.2 (*Physical Segregation Disposition*): The segregation from/ of corpses is characteristic for many species, as well as the isolation of dying group members.[36] This is primarily related to the avoidance of mental and decomposition impacts. Similar ethological dispositions are also applicable for humans and must have become stronger with intensified and permanent cohabitation behavior.

Thesis 3.3 (*Entrapment Disposition*): A burial's location can provide a basic territorial and cognitive orientation for a peer group; it can trigger repetitious and recurrent funerary behavior if life modes allow; it must be clarified whether this behavior is independent from cultural influence (similarities with toileting, garbage, caching, and marking behavior).

Thesis 3.4 (*Aggregation Disposition*): The death of a peer immediately triggers a strong mitigative

33. Represents two different things: Neuronal correlates of consciousness and the basic human tendency to put events into context, *i.e.*, to make them associatively or causally connected and therefore understandable/ controllable/ predictable: Death is *per se* something incomprehensible.

34. If the previous socio-neuroscientific theses and arguments are transferred thanatopsychologically, the following major thanatopsychological fields are to be postulated for the LPPNB and have to be considered in Theses 2.10*ff:* Thanatopsychological Patterns: (collective) trauma and social pain relief/ transformation (*e.g.*, loss of control countered by collective arousal management: staging steers the personal and collective trauma: stress response syndromes, trauma, grief, and adjustment disorders, *etc.*); social crises/ coping management (psychosocial/ trauma treatment of death by identity restoration by *e.g.*, the transformation of the deceased's social embedment, the use of death's social construct); care/ empathy for the dying/ dead.

35. Appears in two phases: 1. disruptive trauma, 2. coping: attempts and efforts to heal the disruptive respectively to make it bearable together and to conceptualize it.

36. In the animal as well as in the human spheres, however, self-segregation also occurs.

and alliance behavior, including joint trauma management and applying ontological measures to fill and structure social, economic, and cognitive gaps related to a death. This can imply a closing up of an in-group toward the rest of community.

Thesis 3.5 (*Familiarity Disposition*): Despite the *Physical Segregation Disposition* argument (Thesis 3.2), there appears to be a missing abhorrence/ aversion in Palaeolithic and Neolithic people when dealing physically with their dead (as *e.g.*, attested with corpse fragmentation and manipulation, display); this represents a basic ethological disposition with dead group members, and reflects a continuing modified care and empathy.[37]

Thesis 3.6 (*Local Fixation Dispositions*): Burial sites and other places of remembrance are indispensable, and are necessary mental territories for coping with grief, control of the dead, self-determination, and legitimation; Local Fixation interacts closely with the Physical Segregation (Thesis 3.2) and Familiarity (Thesis 3.5) Dispositions. The absence of a spatial disassociation from death/ the dead and the absence of societal and mental separation from death/ the dead are characteristics of many prehistoric societies.

Thesis 3.7 (*Otherworldly Dispositions*): Otherworldly dispositions and related commemorative as well as symbolic capacities are considered inherent ethological elements of human behavior. In early productive lifeways these include the animistic understanding that abiotic and biotic things and thing associations also die.

Theses Related to the Human Etho-Ontological Intersection (Theses Set 4)[38]

Thesis 4.1 (*Behavior Enabling a Social and Cognitive "Bidirectionality" of Death*): It is (often) impossible to discriminate etho-thanatological dispositions and onto-thanatological behavior in foraging and incipiently productive societies: features often become visible only at their etho-/ ontological intersection. This relates mainly to the social and cognitive "bidirectionality" of death in these societies: reciprocal systems gave tangible and intangible agency to the dead, and the dead participated in the *commodification regimes* (the finality of death is partially suspended).

Thesis 4.2 (*Behavior Enabling Collective Arousal and Relief*): We deal with strictly relational peer groups of the *habitus* type (the Group Selves of Frame 13.2, or the LPPNB Confined Group Selves of footnote 8) that condition reactions of high arousal to a group member facing death, dying, and being buried. Death immediately activates collective needs for cognitive stress and trauma relief, by maintaining and applying powerful symbolic and ritual regimes using the rule and performance of specific and fixed symbolism, repetition, banning actions, otherworldly concepts, *etc.*

Thesis 4.3 (*Behavior Enabling Collectively Steered Cognition*): The relational group member experiences its own pending death and the other's pending death through a collectively steered cognition and perception regime that includes the otherworldly.

37. Probably a "balance" between horror and suppression on the one hand and attention/ empathy on the other. In the case of particularly "good"/ special individuals or children, empathy is likely to predominate. Thesis 3.5 nicely illustrates the etho-ontological distance we modern have to the LPPNB death familiarity.

38. Theses 4.3. and 4.4 have to take up contents of other theses sets, because these contents might belong to the etho-ontological intersection too.

Thesis 4.4 (*Behavior Establishing Social Cohesion and Routine*): Death and before-death situations are experienced as an ultimate threat to social cohesion and security. They evoke specific, and in part highly symbolic, routine behavioral blends of uncertainty control, conservation, belonging, caring, and segregation for each of the various choreographic stages performed when a death approaches, occurs, and passes. The deeply emotional behavior at the etho-ontological intersection may chiefly be related to emotive power play and struggle over ranking, as well as to death-related negotiations of the dying/dead members role(s) (as *e.g.*, reflected by "burying power" status transformation). The latter is crucial for the type of social integration of the dead by the living, for the applied funeral rites and symbolism, and for the imperative, bestowed, or personal burial goods. Various stages are to be expected for post-death social integration, starting with real social presences before these fade into various ancestral commemoration and treatment stages. In all this, the role of extramural and trash burying as well as the behavior at disturbed burials has to be kept in consideration.

Thesis 4.5 (*Behavior Establishing Inheritance Standards*): LPPNB deaths are characterized by the descendants' ambivalence between terminating and respecting behavior with inherited tangibles and intangibles (*e.g.*, with household/ household items and other property of ancestral or previous generations, messages of both fear and appeasement appear in the findings). This behavior is ethologically rooted and intensifies ontologically in incipient *commodity-rich* productive milieus with their *confined reciprocities*. It also relates to the need for the living to end the worldly power of the dead and to assist in transforming it to an otherworldly power.[39]

Theses Related to the Human Ontology of Death (Theses Set 5)

Thesis 5.1 (*Behavioral Sepulchral Diversity*): The Transjordanian LPPNB is characterized by commonly shared and explicit traits and identities related to death and the dead, expressed in mortuary/ funerary behavior. Differences between sites testify a considerable variability in mortuary/ funerary behavior below this general level of shared thanatological identity, possibly related to different developments of social differentiation at sites and group origins. Fully preserved primary intramural single and collective burials and cemeteries are "snapshots" of households' mortality at a certain time; secondary sepulchral evidence, resulting from disturbances, and tertiary evidence was mostly influenced by socially disconnected behavior of people not knowing or remembering the dead, or by acts of deliberate forgetting.[40]

Thesis 5.2 (*Behavioral Inclusion of/ Confined Reciprocity with the Dead*): The dead continue to be transformed parts of their *confined reciprocal* systems, and thus are intramurally controlled and respected in their original/ related household contexts; dead outside confined and relational reciprocal systems—including dead who lost their reciprocal system, *e.g.*, intra- and extramurally unrelated or disturbed burials—were subjected to potentially neglectful (re-) burial behavior. Behaviorally, intramural burying and ongoing *confined reciprocity* are conformable behaviors sustaining each other.

39. Further theses must be developed considering the etho-/ ontological foundations of *meronomically* influenced perceptions (*sensu* Thornton 2020) in LPPNB ritual and symbolism, peri- and post-mortal social restoring (especially ranking and kinship negotiations), and the legitimation/ identity-forming functions of burials. The questions as to whether the LPPNB experienced an influence of the dead on the living from the otherworldly, or what relation the disabling/ destruction of objects had to the otherworldly, aren't empirically approachable for now.

40. The evaluation of household/ group relations of extramural burials remain unsolved questions in these respects.

Thesis 5.3 (*Behavioral Consequences of Death*): The death of a social group's member immediately triggers: (formal) termination and/ or alteration of his/ her tangible and intangible territories (from material spaces once occupied to transforming/ eliminating former cognitive responsibilities and capacities); *re-* and *ex-commodification* of his/ her tangible and intangible things (from personal goods to social functions, "ancestorhood" potentials; includes the destruction or disabling of items related to the dead); and acts of reconfirmation for the *habitus* regime and its implicit but powerful traits (expressed by significant elements at the symbolic and ritual levels also covering pre- and post-death times, *cf.* Fig. 13.18b; includes confined empathy in reciprocity behavior, testimonials *etc.*).[41]

Thesis 5.4 (*Behavioral Perception of Death*): Death in the Early Neolithic is subject to noematic systems (*noema*: what is thought about) which were ruled not only by taxonomical relational thinking but also by comparatively higher shares of non-taxonomical relational thinking (*i.e.*, Neolithic *meronomic* thinking: a thinking that facilitated connecting social life and agencies of all tangible and intangible things beyond (our) taxonomical logic, making them integrative parts of the social and natural world, *cf.* Thornton 2020).[42]

Thesis 5.5 (*Behavioral Collective Confinement of the Dead/ Death*): High arousal and a collective synchronization of emotions when confronted with a peer group member's death is an ontological requirement, especially for keeping the *habitus* rule and its culture strong and confined. Death rituals support and promote social cohesion and safety through the repeated performance of symbolic, ritual, and other cognitive values and related commemoration. This not only means serving a funerary ideology and conventions (*e.g.*, use of colors, disabling items, sealing off corpses in cists), it also means a dying embedded in collective frameworks aiming to *commodify* death and the dead. This includes rule-based management and control of grief, heritage, memory, *etc.*, representing (not only in the literal sense), the attempt to domesticate death, respectively a "confined death."

Thesis 5.6 (*Behavioral Interventions Commodifying Death/ the Dead*): Major *commodifying* interventions related to death/ the dead in the Early Neolithic are: status negotiation/ assessment of deceased (post-mortem statuses?); advanced care about burial practices and location; spiritual, magic, ritual, and symbolic facilitation of dying, and the passage to the otherworldly, including death-avoiding/ healing practices?; accepting efficacies/ agencies of non-visible burial goods; formal/ primary burials/ possible loss of original status/ integrity for the dead through spatial reorganization. No direct archaeological evidence exists for the reasons of choosing of collective or single burials; gender- or age-related sepulchral standards; maintaining social group cohesion after death through burial neighborhoods; spatial/ territorial claims through burials; post-death activities related to primary burials; grief management. Death is primarily a matter of spiritual and ritual as well as ideological/ cognitive *commodification*, and not expressly a religious matter.

The preceding theses intend to provide a convincing testimony and example of the potential that thanatological approaches of the kind propagated here can open up for prehistoric sepulchral research. Together with the model of its theoretical (*sensu* theory of science) and epistemic superstructure (*cf.*

41. Is the specific child thanatology at Ba`ja representative for the LPPNB and just the result of excellent preservation (*cf.* the *Record Argument*), or do the Ba`ja findings represent a specific and differentiated social and cognitive understanding and agency of children and childhood?

42. In such a system of thought and concepts, as well as in terms of religious history (the animistic and shamanic perspectives), was death understood as a dependently acting force, or a power in its own right?

following section), these can serve as constantly improvable foundations of emic and testable insights into the common world of the prehistoric dead and living. Evolutionarily and in terms of the history of religion, our contemporary understandings of death and the dead are certainly co-determined by the cognitive heritage of these early productive lifeways.

Prehistoric Thanatological Transdisciplinarity, the Thanatological Stairway, and the LPPNB Thanatological Gear[43]

Prehistoric Thanatological Transdisciplinarity and the Thanatological Stairway (Fig. 13.18) are introduced here as a research concept and part of the holistic approach guiding the Household and Death in Ba`ja project; both concepts are exemplified by the LPPNB Thanatological Gear (Fig. 13.18b), or Aggregate, representing the dynamics in the LPPNB Sepulchral Module (Gebel *et al.* in prep.). They represent the first versions for a broader discussion, expected to be modified slightly in contents and graphically when connecting with the project's overall holistic framework (Gebel *et al.* in prep.). They also represent a visualization of the preliminary summary of the LPPNB Thanatological Theses Sets from the previous section, also disclosed here for broader discussion.

Fig. 13.18a explains which disciplines should cooperate for a comprehensive analysis and thorough description of prehistoric sepulchral environments. It is simplified in order to focus on its main elements, and to avoid confusion. The subdisciplines of the participating disciplines and their multidimensional interactions are not visualized, and the graph is still lacking the three-dimensional complexity of shared and interfering/interactive levels, which would become more clearly visible with a flow chart; Fig. 13.18a also generalizes disciplinary competences by ignoring their subdisciplines' different potentials. Only for thanatopsychology and psychothanatology was this generalization avoided, in order to prevent a misunderstanding from the outset.[44]

In our project's holistic research framework (*cf.* the Introduction), the Prehistoric Thanatological Transdisciplinarity networks (Fig. 13.18a) is responsible for just one part of this overall framework. Accordingly, the LPPNB Thanatological Gear operates only for sepulchral environments. It is connected to other such modules[45] referring to the *territorial*, *commodification*, and *habitus* areas (for terminology *cf.* Frame 13.1) of the holistic research framework via their cognitive filters' interfaces, or nexuses (*cf.* below). This paper also avoids a further disciplinary classification of *Prehistoric Thanatology* (*e.g.* archaeothanatology vs. thanatoarchaeology), which will be a subject of the project's final publication. For the time being, and as long as no thanatologists are available in our research group, our approaches must be classified as thanatoarchaeological.

43. For reasons of brevity, this section addresses only the most necessary issues related to Fig. 13.18, including meta-information, hoping that the author's (H.G.K.G.) first (v1) graphs are self-explanatory. These graphic representations may receive minor changes when they consider extended complexities by considering the modules of the living spheres. For the same reason, the details of the sepulchral cognitive filters and expression as well as the related social levels aren't discussed here; they will also be evaluated in great detail in the project's final publications (Benz *et al.* in prep., Benz in prep., Gebel *et al.* in prep.). It also should be kept in mind that the Thanatological Stairway (Fig. 13.18c) has relevant steps for the other cultural domains, omitted here for the sake of brevity.

44. In short: The essential disciplinary difference between thanatopsychology and psychothanatology is that psychothanatology is a thanatology that includes psychological approaches, while thanatopsychology is a psychology carrying out death-related research. This distinctive understanding is crucial for the assessment of the various competences, methods, and potentials of the two disciplines to analyse sepulchral findings and their tangible and intangible manifestations and contexts.

45. In the Southern LPPNB Transdisciplinary Holistic Epistemic Research Framework of the Ba`ja Project (Gebel *et al.* in prep.), the sepulchral cognitive filters (Fig. 13.18b) are connected to other such interfaces, *i.e.*, to the cognitive filters of the rituality, production, subsistence, habitation, and exchange modules of this research framework.

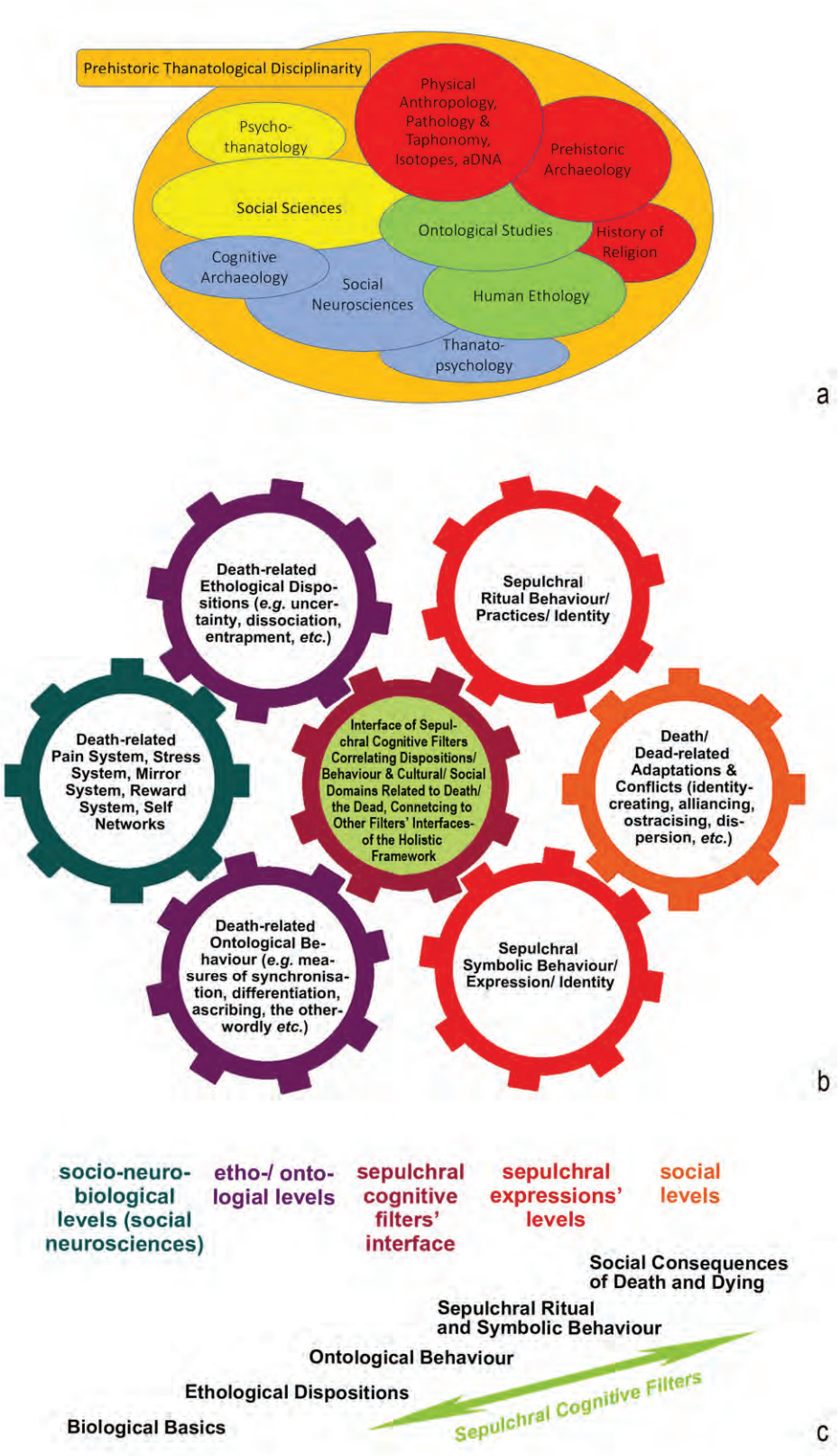

Fig. 13.18: Proposed epistemic and functional basics of *Prehistoric Thanatology*. a. Prehistoric Thanatological Transdisciplinarity v1; b. the LPPNB Thanatological Gear of the LPPNB Sepulchral Module v1; c. the Thanatological Stairway v1 (v1: first version; dimensions in Fig. 13.18a have no meaning; Fig. 13.18b: covers epigenetic modification, too) (Graphs: H.G.K. Gebel).

The "linearity" of the Thanatological Stairway (Fig. 13.18c) is also the result of simplification. It represents the two directions by which other levels of thanatological analysis and interpretation can be reached. It may help to understand on which step a thanatological argument rests, or where it can develop. As is the case with stairways, arguments may skip steps, and they can be used up- or downward. The two arrows indicate that cognitive sepulchral filters (*cf.* paragraph after next) are active on all steps.

The dynamics of the LPPNB Thanatological Gear or Aggregate are explained by Fig. 13.18b, showing that the movement of any cogwheel, in whatever direction, triggers the movement of the other wheels. As mentioned before, even the so-called biological, respectively socio-neurobiological basics are viewed as subject to alteration: the gear model considers the dialectical relationships of socio-cultural frameworks and practices and (neuro-) biological dispositions. Socio-cultural frameworks are not only influenced (neuro-) biologically but also modify (neuro-) biological dispositions (*cf.* next section); in addition, the model respects, or anticipates, the role of epigenetic modifications. Like all simplified mechanical models in life sciences aiming to illustrate the basic principles of interrelated functions, this gear or aggregate cannot display functionally unclear or highly "mixed" evidence, *e.g.*, that discussed in Theses Set 4 related to the etho-ontological intersection.

Of special importance is the wheel of the sepulchral cognitive filters interface (the central one in Fig. 13.18b). It is not a subject wheel like the others but an operative, or transmission, wheel. It functions for the 1) cognitive filters between the death-related ethological dispositions and the ontological behaviors on the one hand, and the areas of sepulchral rituals and sepulchral symbolism and their social and cultural expression on the other, and it 2) connects to the non-sepulchral cognitive filters and modules of the project's general holistic research framework (*cf.* footnote 43). Since death ontologies always merge with life ontologies,[46] this interface is indispensable; it coordinates all cognitive death/ the dead–related dispositions with the living spheres' dispositions, and also coordinates the cognitive dispositions of the various elements, or wheels, of the LPPNB Thanatological Gear. In addition, the filters' cogwheel represents a good example for a combined epistemic and systemic necessity in the Southern LPPNB Transdisciplinary Holistic Epistemic Research Framework.[47]

The necessity of this cognitive filters' interface is illustrated by all cases when *e.g.*, *de-* or *recommodifications* of objects occur, or where functional determinations are transformed into possibly *meronomically* conceived (*sensu* Thornton 2020) ritual/ symbolic determinations in the sepulchral spheres. To give an example: when beads are transferred from the cognitive contexts of "living" ornaments into the sepulchral sphere, their function and symbolism undergo a cognitive transformation, transmitted by this filters' interface. The interface also works in the other direction, *e.g.*, when sepulchral values (intangible *commodities sensu* Gebel 2010) steer *commodification* on the various social levels (Benz 2010; Benz *et al.* 2019, 2020, forthcoming).

In summary,[48] the gear model explains how thanatological dynamics work: It illustrates that the gear can rattle and smooth transmission is hindered if the function of only one cogwheel is impaired, *e.g.*, if only

46. The LPPNB *territoriality-*, *commodification-*, and *habitus*-related modules of the living spheres and the thanatological aggregate are considered to cover all emic and etic aspects related to LPPNB life and death, including their exposure to the various environmental conditions and contexts.

47. Another and self-evident aspect of this meta-level is, of course, that the understanding of rituals and symbolic systems accompanying dying and burial of a human being presupposes expert views of the different disciplines involved (Fig. 13.18a).

48. Our LPPNB Thanatological Gear needs to be tested further by findings from other LPPNB sites. However, we hope that its structure will eventually be suitable for modified versions managing thanatological research in other periods of early sedentism.

one cogwheel's tooth is knocked out. It explains that developments in the thanatological aggregate can only be as fast as the slowest cogwheel moves; or, if the slowest is pushed too hard by others, tensions will occur, and it will rattle and crack in the worst case. Adaptations may be possible to a certain degree, but if oppositions become too strong, the whole system may be blocked. This image must be all the more true if synchronization difficulties or interruptions enter the thanatological gear via transmissions from cognitive-filter cogwheels of other domains in the aforementioned Southern LPPNB Transdisciplinary Holistic Epistemic Research Framework (the rituality, production, subsistence, habitation, and exchange modules). While the gear model is ideal for demonstrating principle dynamics of thanatological research, it is disadvantageous for illustrating the different dynamics of the cogwheels' contents, respectively their levels. For example, sepulchral traditions often behave rather conservatively and are resilient to social change, as long as life modes do not change dramatically, and are supporting social stability.

Selected Milieus and Domains of the LPPNB Deathlore

In the following section we address five major topics that may illustrate the thanatological implications of social life and cognitive environments in LPPNB Ba`ja and Basta. They are meant to demonstrate and examplify how these dimensions can have radiated and connected into the spheres of the living and the dead. Each topic's contents is kept short, sufficient just to demonstrate its thanatological dimension.[49]

Territorialities, Supply Dispositions, and the LPPNP Dead

Productive lifeways fundamentally changed all sorts of human territories, making them much stricter and more confined. These encompassed all areas of human aspirational and claiming behavior, from the productive manipulation of nature, via the creation and defense of one's own and rather alternativeless place, to the cognitive territories required to support and sustain productive lifeways. This complex web of tangible and intangible territories was highly dynamic through the LPPNB acceleration and aggregation processes that were especially promoted by progressive population developments. People had to understand that territories had boundaries within which they were required to live; they had to understand that there were limits to foraging in any form, and that they could only ensure lifeways through a controlled and planned management of resources that became more and more confined. Recent research (Baird *et al.* 2017; Nieuwenhuijse 2020) epitomizes these thinking milieus through the notion of the Neolithic "containerization," which helped communities to conceptualize houses and people, land and ideas ("domestication of man and ideas" *sensu* Cauvin 1978, 2000; Hodder 1990). Supply thinking became anchored in mindsets and cognition, and affected not only the immediate food supply. Survival-by-supply thinking must also have fostered the perception that peers are a social "capital" and economic security ending up in social strategies of *confined reciprocities* and *habitus* control. The flip side of this development of productive structures is the increasing rivalry for resources.

49. For several of the topics treated below, the question of dualistic thinking in the Early Neolithic should have been raised, as C. Bodet recently did for the Göbekli Culture (Bodet 2022). This important subject had to be left out here, mainly for its lacking "visibility" in the southern archaeological record: the LPPNB *habitus* communities of the Jordanian Highlands hardly used imagery that would be the most reliable source for evidence of dualism. As of yet, dualism appears not to be a mind-controlling issue in the southern LPPNB *habitus* communities.

Translated thanatologically, this meant that the dead not only became a self-evident part of one's own territory, but that their permanent, in-house location made them part of the "cognitive stocks." This also means that the dead could have become an emphatic element of a generally prevailing supply behavior: the, figuratively speaking, "dead in storage" could have been the proof of legitimacy by which descendants could demonstrate the territorial claims of their household.[50] This aspect of the *commodification* of the dead may have been fully established in the LPPNB *deathlore*, and did not necessarily require that only important deceased could establish this claim. Accordingly, it would be conceivable that with the formal termination ("burying") of households and household items (Gebel *et al.* 2017, 2019), related burials were also removed, if such removals or disturbance did not violate other taboos or did not cause pragmatic alternatives (*e.g.*, secondary burying). In all this discussion, it should not be forgotten that an unambiguous relationship between a living household and related coexisting burials has not been proven beyond doubt for the LPPNB. Ba`ja hints that at least certain parts of the house—here the basements—were used for dead group members; in Basta it could possibly have been neighboring, deserted houses/ ruins used for burying.

LPPNB Habitus Self-Organization and Sepulchral Behavior

Human cohabitation requires repeated key social events that are suitable for confirming and maintaining social cohesion. Irrespective of the basic human need for social involvement, this is all the more necessary the greater the need for regulation becomes, for example in deficit situations or in situations of great territorial density, *e.g.*, through developments in sedentism. Key events that can be used cyclically and are generally accepted are birth and death, initiations, and marriage. When there is a greater need for social reinforcement, communities will also add other events, such as seasonally controlled occasions in the shape of feasts. Death, however, is perhaps the most powerful of these occasions, as it immediately releases fears and stimuli and has the most important social consequences, requiring immediate negotiation and reaffirmation. So how are death and *social self-organization* related in LPPNB?

We have emphasized at various points that southern Levantine societies were almost certainly strict *habitus* societies, without need of a broad ideological superstructure for *self-organization*; rather than an *ideocratically* determined system (Gebel 2017), *habitus* communities were maintained and governed by strongly obliging conventions. Sepulchral behaviors offer the possibility of mobilizing all basic dispositions and values for social cohesion. The death of peers provides a constantly recurring opportunity to "train" substantial parts of the socially relevant neuronal systems, ethological dispositions, and ontologically shaped behavior for the constant exhortation and reaffirmation of shared social and other values. In practice, this happens through the repetition of commonly accepted and thus effective rituals and symbols, and by the *de-*, *ex-*, and *recommodifications* that take place in these processes. The maximum unification of stimuli and bundling of agencies in the sepulchral process, respective to their emotional stimulation, is perhaps the most powerful support of *social self-organization*: it is *habitus per se* because it obliges everyone equally. If specific sepulchral actors were involved, which is most likely, then they must have been aiding *pares inter pares*.

50. Inherited village space implies safer social security for peer groups and thus may contribute to sustainability and productivity, triggering productive traditions. Individuals may have become outstanding carriers of the associated prestige, *habitus*, and productivity.

Any limited human cognitive capacity to maintain stable relationships with only a restricted number of people must not affect sepulchral and *habitus* functionalities and events. Burial group sizes are expected to temporarily activate larger numbers of people who are not necessarily peers. The emotional-contagion potential of funerals must be considered extremely high for the LPPNB *habitus* communities; the reactive and strengthening capacities for community emotions and conventions, identity, and empathy through sepulchral events must have been intense but rather temporary. Since the *Relational*, *Extended*, and *Group Selves* (*cf.* Frame 13.2) of the *habitus* type involved in funerals "contribute" their share of "cognitive limits" to the sepulchral event, the social and cognitive effectiveness is virtually unlimited and beyond all "numbers." This plays an even more important role when the number of socially affected (by a death) peers, which can easily number in the hundreds in *habitus* societies, exceeds the number of people actually present at the funeral.

Confined Reciprocity and the LPPNB Bidirectionality[51] of Death

The in-house burials from Ba`ja and Basta provide a number of findings that could be interpreted as being reflections of the communities' prevailing *confined reciprocity*, granted by different means also to the dead, who remained part of the social community by receiving different empathy, meaning, and functions. In other words, the attested symbolic and ritual behavior related to the dead testifies to a continuing, though transformed, social relationship with the dead. As a result, the living documented and received status (legitimation/ prestige/ identity) from the presence of the dead while, at the same time retaining ultimate control of their dead (physical-spatially, securing respect, constructing memory/ status) *sensu* an inalienable *commodity*, or even possibly property.[52] By giving meaning to the dead/ the dying, the living gained, confirmed, and/ or changed social roles, identity, and order through their peri-mortem measures and behavior ("individuals as subject of identification"). Two issues have been most important for our understanding of this direction in LPPNB death "bidirectionality" (the living granting things to their dead): the interacting needs to serve both the increasing constraints for social differentiation and the rules of an increasingly *confined reciprocity* in the megasites' *habitus* societies, influenced also the communities' peer groups to diversify the symbolic and ritual input of the dead's treatment and memory construction (*e.g.*, grave building, burial goods, diversified sepulchral behavioral patterns). Thus, the observed intensification of personalized *commodification* acts and of sepulchral practices during the LPPNB must be considered as also serving regimes of differentation, within the limits of the commonly practiced peer groups' *confined reciprocities*. The bidirectionality in LPPNB sepulchral behavior may also reflect a basic but gradual shift in understanding death in the belief spheres. Generally[53], the preceding furnished Epipalaeolithic–

51. The use of the phrase *bidirectionality of death* refers to the fundamental capacity to provide meaning and agency from the living to the dead and from the dead to the living. It does not exclude its other, no less fundamental, dimensions; the multidimensionality of death is implied in Fig. 13.18b-c.

52. We might speak of a kind of peer property if the dead were also seen as belonging to the peer group, *i.e.*, as items by which a territorial claim was made (right to occupy a space in the community).

53. In more detail, the domestication of death is also an evolutionary process, beginning with the first (Late) Epipalaeolithic houses and other places in more permanent use, where richly furnished burials already appear (*e.g.*, Hilazon Tachtit and Hayonim Cave). The differentiation begins in the burials with ornaments and animal burial goods and continues with the later increasingly frequent practice of skull removals (no correlation between both). In the MPPNB there are increased diacritical practices (skull plastering), and in the course of the LPPNB jewellery is again increasingly used as a diacritical means, while skull burials cease in the PPNC. This development thus raises the question not so much of whether grave furnishings are used to make social differentiations, but who was socially differentiated (and how)

PPNA burials appear to include more links to nature and possibly the otherworldly, while the furnished MPPNB and especially the furnished LPPNB burials document more social manifestation by, and messages from, the living. LPPNB examples of "individualization" through burial goods are very specific and most often suggest personal or personalized adornment. This does not preclude that traits of foraging societies' general reciprocities vanished from provisions of burial goods. In all, the LPPNB understanding of death appears to be that of a "domesticated death," controlled by the groups' cognitive investments and expressed by the findings' signals of commitment, empathy, assistance, and explanation. Thus all current evidence suggests that death in the LPPNB was subject and part of the social construction of community and its social monitoring. In terms of the evolution of Early Neolithic belief systems, LPPNB death must have become a means for the creation and restructuring of the comprehension of the otherworldly in order to promote social cohesion.

The Otherworldly and LPPNB Death

The role of the otherworldly in the thanatological dimensions is a vague and critical issue. It becomes especially so when non-emic connotations of research become implicitly involved, and suspend the neutrality of the term *otherworldly* by today's established religious concepts. Otherworldly in LPPNB contexts means, in brief, the awareness of an existing parallel world into which things can move and/ or relate, and with which one can be in exchange. One should also, in terms of the history of religion, distinguish 'otherworldly' from 'transcendental' in that the otherworldly can be accessed through subjective experience and manipulated through behavior. The otherworldly must not be a matter of cognition or belief; it simply may have existed for the LPPNB people. In our discussion of the ethological and ontological theses on the LPPNB, the question arose as to whether there could be ethologically ascertainable otherworldly dispositions, or whether—because it is so difficult to ascertain the otherworldly as a disposition—it is a matter of behavior in the etho-ontological realms or even one resting exclusively in the ontological realms. With some remaining doubts, we finally could not preclude that the otherworldly was or is ethologically inherent, but largely eludes today's cognitive capacities.

We expect that otherworldly dispositions and related commemorative as well as symbolic capacities are expressed in all LPPNB spheres of ritual and daily behavior, including the magic practices (Gebel 2002). Moreover, we think that these early productive perceptions still included significant shares of the preceding late hunter-gatherer perceptions of animated worlds, or even were still directed by them. In this sense, abiotic and biotic things and thing associations had (negotiated) agencies and the capacity to live and die (*cf. e.g.*, the terminated households or terminated items in LPPNB Ba`ja). Accordingly, we assume that the rapidly changing social and cognitive needs of productive lifeways compelled a permanent adaptation of symbolic and ritual meaning and investment in dealing with these other worlds. Special persons, considered able to be in exchange with the otherworldly, most probably had sorts of shamanistic and healing competencies and thus were accepted as mediators between the relational this-worldly and the relational otherworldly (thesis). Of course, animated nature and natural things were likely incorporated in the relational systems

in the LPPNB. In this period, it becomes significant that the relations between the living and the dead are created and manifested through the addition of objects that can give a certain meaning, respectively carry a commonly understood message, and connect the dead with their community.

of the period's regions, but may have witnessed a fundamental perceptional change through partly being subjected to intensified human productive exploitation (contrary to the animistic communities as described by Benz and Bauer for the PPNA North Mesopotamian Cultures, *cf.* Benz and Bauer 2013, 2015).[54]

The Ba`ja and Basta evidence for keeping the dead in the domestic environment may indicate that the domestic spheres could host the otherworldly, steadily present through burials, permanently documenting the dead's altered state of existence (Croucher 2018). Was there any distinction at all between the domestic and the ritual/ symbolic spheres in LPPNB daily life, separated by the perception of a "profane" and a "sacred"? Was there a "domestication of the otherworldly" (in the sense of religions' history) going on in the southern LPPNB, fostering an additional but temporary cognitive instability that contributed to the overall implosion of the prosperous systems shortly after 7,000 BCE (when the FPPNB/ PPNC systems began to partially reset societal development in other areas)?

Regarding any potential *ideocratic* perspectives (Gebel 2017; Gebel *et al.* in prep.) on the otherworldly and death: all emic and etic views on the Ba`ja/ Basta evidence offer no clue that we deal with any sort of an *ideocratic* system*, e.g.*, supported by a displayed imagery and its ideology or formal sepulchral ritual instances. The cognitive frameworks of the otherworldly and death must have been embedded in the internalized and strict values of perceptions of the confined *habitus* frameworks.

LPPNB Sepulchral Symbolism

With the acceleration and aggregation processes observed in LPPNB habitation, identification *sensu* identity formation may have become increasingly difficult due to augmented population densities and increasing connectivity in supra-regional networks. The display of identities by symbolically laden objects therefore gained in importance. The enhanced differentiation in burial rituals, above all in burial goods and adornment of the corpses that can be observed at Basta and Ba`ja, was possibly stimulated by these diacritical needs, while at the same time stimulating increasing differentiation and fostering production of costly objects. The sepulchral symbolic evidence unveils not only traits of the buried but also, and even more so, cultural norms of the burying community and how they wanted to see and display relations to the dead.

We deliberately concentrate here on the thanatologically relevant mediality of symbols and their possible impact on emotions, whereas we refrain from any interpretation of the symbolic content. Anthropological research has decisively shown that audiovisual effects and bodily participation in rituals influence the creation of empathy, memories, and behavior. It seems that the use of symbols in burial rituals served three main needs that were endangered by the death of a member of the community: 1. recreating spatial and temporal order that had been disrupted by death: by defining and segregating a special place for 0the dead, yet inside the community, and by the deliberate destruction of things (termination either through physical power or fire); 2. confirmation of communality through concerted efforts for burial construction;

54. A detailed discussion of Early Neolithic shamanism and ritual leadership can only be urged here. One of the authors (H.G.K.G.) sees for the Northern Mesopotamian PPNA an already *ideocratically* supported "shamanism"—supported by enacted and encoded codes and other conventions—while assuming for the PPNB of the southern Levant a "classical" shamanism anchored in a *habitus* society (Gebel 2017). The problem is that shamanism *per se* should be understood as ideologically not controlled/ as uncontrollable. In this respect, the enacted and encoded symbols that exist in the PPNA/ EPPNB North Mesopotamian Cultures raise the question of whether shamans in the true sense were still active here (*cf.* also Benz and Bauer 2021), all in all meaning that we carefully should distinguish between shamanism and shamanic practices in ritual/ religious contexts.

and 3. display of belonging and identification through synchronization of practices and patterning during burial rituals, including the choice of specific colors and materials for burial construction and ornament types.

The large but fragile sandstone slabs used as grave covers at Ba`ja may have symbolized the collaborative efforts needed for construction and may have evoked feelings of power, strength, pride, and belonging. The destruction (and sealing) of valued, symbolically laden, and visually attractive artifacts such as the dagger, mace head, stone vessels, or the white glittering sandstone slabs terminated relations with and the previous agencies of things. At the same time, it underscored the power of those who were entitled to destroy. Moreover, as John Chapman (2000) convincingly argued, these practices enhanced relations to the dead and to those who participated in the ritual. Whereas these destructive practices may have represented equalization and termination of social differences, at the same time, they enhanced the latter by creating impressive memories and probably by prestige-gaining effects as well as the high arousal and admiration caused among the participants.[55]

The deliberate destruction of things was perhaps even surpassed by depositing objects in graves that were extraordinary. The act of giving away a valued *commodity* enchained people through memory to the whole biography of the object, which was often an exotic, indexing, far-reaching network. Some of these symbolic objects, such as daggers or arm rings, may have been *commodities* of destination that were especially made for adornment or use during the burial ritual (Gebel *et al.* 2022). The patterns and the selection of bead types for each ornament was unique, suggesting a display of personal identities or of specific relationships (in the sense of an extended mind) to the dead (Benz *et al.* 2020). In burial construction, a specific choice of stone material and color patterning can also be observed. Patterning and glittering effects, such as in the mother-of-pearl objects and the white sandstones slabs, have been highlighted as visually attractive (Jones and MacGregor 2002:14). The choice of these symbolically laden materials for burying and adorning some selected individuals implicitly indicates the wish to increase memories of/ around their burial. Moreover, through certain tropes/ choices/ ornamentation, such as the mother-of-pearl pendants and paillettes, possibly representing age-specific roles, social and regional identities were symbolized as well.

Choreographed burial rituals (see for example the strong similarities between “Jamila” and “Usaid’s” burials) furthermore appeased existential fears and disorder as well as the alleviation of pain caused by the death of the group member. The corporate identities of the burying community could have been collectively reconfirmed by using standardized practices, non-verbal assimilation, and bodily synchronized experiences.

Research Outlook

Interwoven ethological and ontological dispositions and behavior, and their sepulchral and social manifestations and expressions, are the argument by which emic thanatological approaches of the kind proposed here are suggested to govern future research agendas on life and death in prehistory. Future thanatological research tools, at best utilized by an archaeothanatological discipline in its own right, would assist in addressing the key historical question concerning the nature of human social and cognitive

55. The discussion of deliberately destroyed items must always consider the potential extent to which they also functioned as *Extended Selves* , marking their belonging to the terminated life of the deceased. The destruction of an item belonging to the deceased and never to be used by others can at the same time be an expression of utmost respect for its owner.

development in the crucial period between foraging and productive lifeways. This paper advocates for such a discipline, while stressing that it can also serve to restructure sepulchral research for a higher *transdisciplinary* and holistic input into research agendas (Fig. 13.18a). As demonstrated for the LPPNB (Fig. 13.18b), it can become a model approach leading up a stairway (Fig. 13.18c) by which the basic questions on (and lessons from?) our social roots and cognitive development as the current version of the productive *Homo neolithicus* can be answered. The mind and social types of the Early Holocene *Homo neolithicus* are far from modern comprehension because of our different socio-neurological, ethological, and ontological frameworks; especially our historical tool sets are steered by individualism values and different taxonomic standards. In emic research, it should be remembered that we constantly are tempted to understand human beings only from/ through these modern perspectives. However, we think that thanatologically obtained results are the most promising way to reach emic views on LPPNB ontologies.

Among the other fundamentals in this field, three stand out:

1. In the area of tension between human beings' two ethological poles (proximity/ "being with"/ belonging and segregation/ autonomy) fundamentally new concepts of living together developed by the beginning of food production and sedentarization, which permitted the emergence of the

2. LPPNB social types to be understood as Confined Relational Selves (*cf*. footnote 8). To understand these from an emic perspective, we have to overcome our taxonomically controlled and hierarchical thinking, and to apply solely

3. the concept of social differentiation. In this way, the beginnings of the various types of social differentiation would become comprehensible without getting taxonomically alienated (*e.g.*, by inequality notions). At this level, the topics of incipient social stratification and hierarchies might be approached for Early Neolithic societies with a better and more appropriate historical proximity.

In this contribution we have spoken of an incubation time for social hierarchizations, stressing that we might have in the LPPNB only signals of social differentiations that may have anticipated flat-topped structures in Ba`ja. Social differentiation must not mean social hierarchization, but hierarchization was enabled by differentiation; this difference is relevant for understanding LPPNB *segmentary communities*. However, we should exercise caution, since we are currently caught in a Ba`ja perspective.

A few kilometers away, in Basta, "predictable" large-scale production potentials (*i.e.*, blade-blank production beyond the settlement's needs) and other evidence of prosperity apparently became part of regional and supra-regional exchange networks. While we believe that such structures can be run by flat-topped chiefdoms, isn't fast-growing prosperity *per se* a dramatic stimulus for social differentiation hierarchisation that urged regulation by at least anticipating cone-shaped social structures? We should keep in mind also that settlements differentiated in these times according to their potentials, some becoming central even in their own right (Gebel 2004).

Returning to the outlook of thanatological research, we may remember that burials are one, if not the prime source of information for the social and cognitive spheres. Thorough concepts and approaches would work out, provided that enough comparative data is assembled and usable, the various types of differentiation in the LPPNB, allowing more complex insights. Sites with rich sepulchral evidence (*e.g.*, Kfar HaHoresh: Goring-Morris 2005; Nahal Yarmuth 38: Gopher *et al.* 2019; Motza: Anton 2020) would help to refresh research,

and would make the trajectory and radiation of social differentiation better traceable.

In more detail and in terms of strategies, LPPNB thanatological research should continue by focusing on the following major issues: 1. The *transdisciplinary* expertise has to be extended by getting the relevant disciplines (Fig. 13.18a) involved. 2. The thanatological approaches proposed here are to be extended, tested, and improved by using more data and contexts, especially by establishing cooperation on sepulchral research with other LPPNB sites' projects. 3. Contents and "connectivity" of the LPPNB thanatological theses have to be constantly tested, updated, and linked further in the holistic system. 4. The supra-regional state of art has to be constantly updated, too, by overviews to be elaborated upon for the major fields of imponderables (records' situation and qualities; the snapshot, variability, and significance questions; a survey of data for testing the incubator arguments). This all may serve as a case study preparing the establishment of the transdisciplinary frameworks and curriculum of a new subject, that of a *prehistoric thanatology* in the shape of a Prehistoric Archaeothanatology.[56]

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56. *Cf.* footnote 2.

References

Anton, M. 2020. Death at Motza: Variability in the Treatment of Human Remains. In Khalaily, H. Re'em, A., Vardi, J. and Milevski, I. (eds.), *The Mega Project at Motza (Moza): The Neolithic and Later Occupations up to the 20th Century.* Jerusalem: Israel Antiquities Authority: 201–222.

Arendt, H. 2007. *Vita activa oder Vom tätigen Leben.* München: Piper.

Baird, D., Fairbairn, A. and Martin, L. 2017. The Animate House, the Institutionalization of the Household in Neolithic Central Anatolia. *World Archaeology 49*: 753–776.

Bauer, J. 2015. *Arbeit. Warum sie uns glücklich oder krank macht*. München: Heyne.

Bauer, J. 2019. *Wie wir werden, wer wir sind: Die Entstehung des menschlichen Selbst durch Resonanz*. München: Blessing.

Bauer, J. 2020. *Fühlen, was die Welt fühlt: Die Bedeutung der Empathie für das Überleben von Menschheit und Natur*. München: Blessing.

Bauer, J. 2021. *Das empathische Gen. Humanität, das Gute und die Bestimmung des Menschen.* Freiburg: Herder.

Bauer, J. and Benz, M. 2013. Neurobiology Meets Archaeology. The Social Challenges of the Neolithic Processes. In Benz, M. and Bauer, J. (eds.), *The Symbolic Construction of Community*. Neo-Lithics Special Issue 13(2): 65–69.

Belfer-Cohen, A. and Goring-Morris, A. N. 2020. From the Epipalaeolithic into the Earliest Neolithic (PPNA) in the South Levant. *Documenta Praehistorica 47*: 36–52.

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.

Benz, M. 2010. Beyond Death - the Construction of Social Identities at the Transition from Foraging to Farming. In Benz, M. (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, ex oriente: 1-17.

Benz, M. 2012. 'Little Poor Babies' – Creation of History Through Death at the Transition from Foraging to Farming. In Kienlin, T. L. and Zimmermann, A. (eds.), *Beyond Elites. Alternatives to Hierarchical Systems in Modelling Social Formations.*Universitätsforschungen zur Prähistorischen Archäologie 215. Bonn: Habelt: 169–182.

Benz, M. 2017. Changing Medialities. Symbols of Neolithic Corporate Identities. In Benz, M., Watkins, T. and Gebel, H.G.K. (eds.), *The Construction of Neolithic Corporate Identities*. Studies in Early Near Eastern Production, Subsistence, and Environment 20. Berlin: ex oriente: 135–156.

Benz, M. *in prep*. LPPNB Ba`ja's Sepulchral Environments. Approaches and Syntheses. In Benz, M., Gresky, J., Purschwitz, C. and Gebel, H.G.K. (eds.), *Death in Ba`ja. Sepulchral Identity and Symbolism in an Early Neolithic Community of the Transjordanian Highlands. Household and Death in Ba`ja 2. Part 1: Synthetic Contributions, Approaches.*

Benz, M. and Bauer, J. 2013. Symbols of Power – Symbols of Crisis? A Psycho-Social Approach to Early Neolithic Symbol Systems. *Neo-Lithics 13*(2): 11–24.

Benz, M. and Bauer, J. 2015. On Scorpions, Birds and Snakes. Evidence for Shamanism in Northern Mesopotamia During the Early Holocene. *Journal of Ritual Studies 29*(2): 1–23.

Benz, M. and Bauer, J. 2021. Aligning People – The Social Impact of Early Neolithic Medialities. *Neo-Lithics 21*: 7–26.

Benz, M., Gresky, J. and Alarashi, H. 2020. Similar but Different: Displaying Social Roles of Subadults in Burials from the Late Pre-Pottery Neolithic Site of Ba`ja, Southern Jordan. In Alarashi, H. and Dessì, M. (eds.), *L'art du paraître: apparences de l'humain, de la Préhistoire à nos jours. The Art of Human Appearance: From Prehistory to the Present Day*. Nice: ÉAPDCA: 93–107.

Benz, M., Gresky, J., Stefanisko, D., Alarashi, H., Knipper, C., Purschwitz, C., Bauer, J. and Gebel, H.G.K. 2019. Burying Power: New Insights into Incipient Leadership in the Late Pre-Pottery Neolithic from an Outstanding Burial at Ba'ja, Southern Jordan. *PLOS one 14*(8): e0221171.

Benz, M., Alarashi, H., Gresky, J., Purschwitz, C. and Gebel, H.G.K. *forthcoming*. Moments of Memory and Belonging. A Special Child Burial from Neolithic Ba`ja, Southern Jordan. In LeRoy, M., Murphy, E. and Gonzalez, I. (eds.), *Normative, Atypical or Seviant? Interpreting Prehistoric and Protohistoric Child Burial Practices*. Oxford: Archaeopress.

Benz, M., Gresky, J. and Purschwitz, C. *in prep*. The Intramural Cemetery. Findings (working title), In Benz, M., Gresky, J., Purschwitz, C. and Gebel, H.G.K. (eds.), *Death in Ba`ja. Sepulchral Identity and Symbolism in an Early Neolithic Community of the Transjordanian Highlands*. *Household and Death in Ba`ja 2. Part 2: Empiric studies.*

Bienert, H.-D. 2000 [1995]. Kult und Religion in prähistorischer Zeit. Eine Studie anhand von Fundmaterial epipaläolithischer und frühneolithischer Gesellschaften/Kulturen Südwestasiens (12.-6. Jt. v. u. Z.). PhD Thesis. Tübingen: Universität Tübingen.

Bienert, H.-D., Bonogofsky, M., Gebel, H.G.K., Kuijt, I. and Rollefson, G. 2004. Where are the Dead? In Bienert, H.-D., Gebel, H.G.K. and Neef, R. (eds.), *Central Settlements in Neolithic Jordan*. Studies in Early Near Eastern Production, Subsistence, and Environment 5. Berlin: ex oriente: 157–175.

Bodet, C. 2022. The Neolithic Dualist Scheme. *Documenta Praehistorica 49*: 2–22.

Byrd, B. F. and Rosenthal, J. 2016. Celebrating the Dead and Recrafting Social Identity. Placing Prehistoric Mortuary Practices in Broader Social Context. In Sullivan, A. P. I. and Olszewski, D. I. (eds.), *Archaeological Variability and Interpretation in Global Perspective*. Boulder, Colorado: University Press of Colorado: 233–265.

Cauvin, J. 1978. *Les premiers villages de Syrie-Palestine du IX^{ème} au VII^{ème} millénaire av. J.-C*. Collection de la Maison de l'Orient Mediteranéen 4, Série Archéologigue 3.

Cauvin, J. 2000. *The Birth of the Gods and the Origins of Agriculture*. Cambridge: Cambridge University Press.

Chapman, J. 2000. *Fragmentation in Archaeology. People, Places and Broken Objects in the Prehistory of South Eastern Europe*. London: Routledge.

Christov-Moore, L. and Iacoboni, M. 2016. Self-Other Resonance, Its Control and Prosocial Inclinations: Brain–Behavior Relationships. *Human Brain Mapping 37*(4): 1544-1558.

Croucher, K. 2010. Tactile Engagements: The World of the Dead in the Lives of the Living... or "Sharing the Dead". In Benz, M. (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, ex oriente: 277–300.

Croucher, K. 2012. *Death and Dying in the Neolithic Near East*. Oxford: Oxford University Press.

Croucher, K. 2018. Keeping the Dead Close: Grief and Bereavement in the Treatment of Skulls from the Neolithic Middle East. *Mortality 23*(2): 103–120.

Duday, H. 1978. Archéologie funéraire et anthropologie. Application des relevés et de l'étude ostéolgiques à l'interprétation de quelques sépultures pré- at protohistoriques du midi de la France. *Cahiers d'Anthropologie 1*: 55–101.

Duday, H. 2006. L'archéothanatologie ou l'archéologie de la mort (Archaeothanatology or the Archaeology of Death). In Gowland, R. L. and Knüsel, C. J. (eds.), *Social Archaeology of Funerary Remains.* Studies in Funerary Archaeology. Oxford: Oxbow Books: 30–56.

Düring, B. S. 2013. The Anatomy of a Prehistoric Community: Reconsidering Çatalhöyük. In Birch, J. (ed.), *From Prehistoric Villages to Cities. Settlement Aggregation and Community Transformation*. New York and London: Routledge: 23–43.

Durkheim, É. 2004. *Über soziale Arbeitsteilung* (original title: De la division du travail social, 1893). Frankfurt: Suhrkamp.

Eisenberg, L. 1995. The Social Construction of the Human Brain. *American Journal of Psychiatry 152*: 1563–1575.

Gebel, H.G.K. 2002. Walls. Loci of Forces. In Gebel, H.G.K, Dahl Hermansen, B. and Hoffmann Pedersen, C. (eds.), *Magic Practices and Ritual in the Near East*. Studies in Early Near Eastern Production, Subsistence, and Environment 8. Berlin: ex oriente: 119–132.

Gebel, H.G.K. 2004. Central to What? Remarks on the Settlement Patterns of the LPPNB Mega-Sites in Jordan. In Bienert, H.-D., Gebel, H.G.K. and Neef, R. (eds.), *Central Settlements in Neolithic Jordan*. Studies in Early Near Eastern Production, Subsistence, and Environment 5. Berlin: ex oriente: 1–20.

Gebel, H.G.K. 2010. Commodification and the Formation of Early Neolithic Social Identity. The Issues Seen from the Southern Jordanian Highlands. In Benz, M. (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, ex oriente: 31–80.

Gebel, H.G.K. 2014. Territoriality in Early Near Eastern Sedentism. *Neo-Lithics 14*(2): 14–44.

Gebel, H.G.K. 2017. Neolithic Corporate Identities in the Near East. In Benz, M., Watkins, T. and Gebel, H.G.K. (eds.), T*he Construction of Neolithic Corporate Identities*. Studies in Early Near Eastern Production, Subsistence, and Environment 20. Berlin: ex oriente: 57–80.

Gebel, H.G.K. and Dahl Hermansen, B. 2000. The 2000 Season at Late PPNB Ba`ja. *Neo-Lithics 2–3*: 20–22.

Gebel, H.G.K. and Dahl Hermansen, B. 2001. LPPNB Ba`ja 2001. A Short Note. *Neo-Lithics 2*: 15–20.

Gebel, H.G.K. and Muheisen, M. 1997. Basta. In Meyers, E. M. (ed.), *The Oxford Encyclopedia of Archaeology in the Near East 1*. Oxford: Oxford University Press: 279–280.

Gebel, H.G.K., Muheisen, M., Nissen, H. J. and Qadi, N., with contributions by Becker, C., Dahl Hermansen, B., Neef, R., Shafiq, R. M. and Schultz, M. 2004. Late PPNB Basta: Results of 1992. In Bienert, H.-D., Gebel, H.G.K. and Neef, R. (eds.), *Central Settlements in Neolithic Jordan*. Studies in Early Near Eastern Production, Subsistence, and Environment 5. Berlin: ex oriente: 71–104.

Gebel, H.G.K., Nissen, H.J. and Zaid, Z. (eds.). 2006a. *Basta II. The Stratigraphy and Architecture.* bibliotheca neolithica Asiae meridionalis et occidentalis. Berlin: ex oriente.

Gebel, H.G.K., Dahl Hermansen, B. and Kinzel, M. 2006b. Ba`ja 2005: A Two-Storied Building and Collective Burials. Results of the 6th Season of Excavation. *Neo-Lithics 6*(1): 12–19.

Gebel, H.G.K., Benz, M., Purschwitz, C., Kubíková, B., Štefanisko, D., al-Souliman, A. S. A., Tucker, K., Gresky, J. and Abuhelaleh, B. 2017. Household and Death: Preliminary Results of the 11th Season (2016) at Late PPNB Ba`ja, Southern Jordan. *Neo-Lithics 17*(1): 18–36.

Gebel, H.G.K., Benz, M., Purschwitz, C., Alarashi, H., Bauer, P., Gresky, J., Heitkamp, B., Abuhelaleh, B., Miškolciová, L., Keßeler, A., Kubíková, B., Štefanisko, D., Strauss, M. and Wellbrock, K. 2019. Household and Death, 2: Preliminary Results of the 12th Season (2018) at Late PPNB Ba`ja, Southern Levant. *Neo-Lithics 19*: 20–45.

Gebel, H.G.K., Benz, M., Purschwitz, C., Bader, M., Dermech, S., Graf, J., Gresky, J., Hájek, F., Miškolciová, L., al-Khasawneh, S., Khrisat, B., Kubíková, B., Renger, M., al-Sababha, H. M. and al-Shoubaki, S. 2020. Household and Death, 3: Preliminary Results of the 13th Season (Spring 2019) at Late PPNB Ba`ja, Southern Jordan (Interim Report). In Gebel, H.G.K. (ed.), *Ba`ja 2019 Season*. Neo-Lithics Special Issue 20: 3–41.

Gebel, H.G.K., Purschwitz, C., Štefanisko, D. and Benz, M. 2022. The Ba`ja Daggers. Type, Technology and Commodification of a LPPNB Burial Object. In Nishiaki, Y., Osamu, O. and Arimura, M., *Tracking the Neolithic in the Near East. Lithic Perspectives on Its Origins, Development and Dispersals*. *Proceedings of the 9th International Conference on the PPN Chipped and Ground Stone Industries of the Near East, PPN9-Tokyo, 2019.* Leiden: Sidestonepress: 87–106.

Gebel, H.G.K., Benz, M., and Purschwitz, C., with a contribution by Bauer, J. *in prep*. LPPNB Ba`ja's Households and Deathlore Research. Transdisciplinary Holistic Frameworks and Biographic-Systemic Approach. In Purschwitz, C., Gebel, H.G.K and Benz, M. (eds.), *Household in Ba`ja. Living and Producing in an Early Neolithic Community of the Transjordanian Highlands. Household and Death in Ba`ja 1. Part 1: Synthetic Contributions, Approaches.*

Gopher, A., Eirikh-Rose, A., Ashkenazi, H., Marco, E., May, H., Makoviychuk, J., Sapir-Hen, L., Galmor, S., Schechter, H., Ackerfeld, D., Haklay, G. and Zutovski, K. 2019. Nahal Yarmuth 38: A New and Unique PPNB Site in Central Israel. *Antiquity 93*(371): E29.

Goring-Morris, A. N. 2005. Life, Death and the Emergence of Differential Status in the Near Eastern Neolithic: Evidence from Kfar HaHoresh, Lower Galilee, Israel. In Clark, J. (ed.), *Archaeological Perspectives on the Transmission and Transformation of Culture in the Eastern Mediterranean*. Levant Supplementary Series. Oxford: Council for British Research in the Levant and Oxbow Books: 89–105.

Goring-Morris, A. N. and Belfer-Cohen, A. 2016. The Appearance of the Neolithic in the Levant: Sudden? Gradual? And Where From? In Yalçın, U. (ed.), *Anatolia and Neighbours 10,000 Years Ago.* Anatolian Metal 7. Bochum: 185–198.

Goring-Morris, A. N. and Kolska Horwitz, L. 2007. Funerals and Feasts in the Near Eastern Pre-Pottery Neolithic B. *Antiquity 81*: 902–919.

Haddow, S. D. *forthcoming*. Histotaphonomy Report. In Benz, M., Gresky, J., Purschwitz, C. and Gebel, H.G.K. (eds.), *Death in Ba`ja. Sepulchral Identity and Symbolism in an Early Neolithic Community of the Transjordanian Highlands*. *Household and Death in Ba`ja 2.*

Henley, T. B., Rossano, M. J. and Kardas, E. P. (eds.). 2020. *Handbook of Cognitive Archaeology. Psychology in Prehistory.* London: Routledge.

Hodder, I. 1990. *The Domestication of Europe. Structure and Contingency in Neolithic Societies*. Oxford: Blackwell.

Hodder, I. and Pels, P. 2010. History Houses: A New Interpretation of Architectural Elaboration at Çatalhöyük. In Hodder, I. (ed.), *Religion in the Emergence of Civilization. Çatalhöyük as a Case Study*. Cambridge, UK: Cambridge University Press: 163–186.

Hofmann, K. P. 2013. *Gräber und Totenrituale: Zu aktuellen Theorien und Forschungsansätzen*. In Eggert, M. K. H. and Veit, U. (eds.), *Theorie in der Archäologie: Zur jüngeren Diskussion in Deutschlasnd*. Münster: Waxmann: 269–298.

Jones, A. and MacGregor, G. 2002. Introduction: Wonderful Things – Colour Studies in Archaeology from Munsell to Materiality. In Jones, A. and MacGregor, G. (eds.), *Colouring the Past. The Significance of Colour in Archaeological Research*. Oxford and New York: Berg: 1–22.

Khalaily, H. Re'em, A., Vardi, J. and Milevski, I. (eds.). 2020. *The Mega Project at Motza (Moza): The Neolithic and Later Occupations up to the 20th Century.* Jerusalem: Israel Antiquities Authority: 201–222.

Kuijt, I. 2000. Keeping the Peace: Ritual, Skull Caching, and Community Integration in the Levantine Neolithic. In Kuijt, I. (ed.), *Life in Neolithic Farming Communities. Social Organization, Identity, and Differentiation*. New York: Kluwer Academic/Plenum: 137–162.

Kuijt, I. 2008. The Regeneration of Life: Neolithic Structures of Symbolic Remembering and Forgetting. *Current Anthropology 49*(2): 171–197.

Milevski I. *forthcoming*. The Concept of Burial Modes as a Research Tool in the Late Prehistory of the Southern Levant. In Ben-Yosef, E. and Jones, I. W. N. (eds), *"And in Length of Days Understanding" (Job 12:12). Essays on Archaeology in the 21st Century in Honor of Thomas E. Levy*. New York: Springer.

Nieuwenhuijse, O. 2020. Containers and Creativity in the Late Neolithic Upper Mesopotamian. In Hodder, I. (ed.), *Consciousness, Creativity, and Self at the Dawn of Settled Life*. Cambridge: Cambridge University Press: 168–189.

Nissen, H. J., Muheisen, M. and Gebel, H.G.K. (eds.). 2004. *Basta I. The Human Ecology.* Bibliotheca neolithica Asiae meridionalis et occidentalis. Berlin: ex oriente.

Röhrer-Ertl, O. and Frey, K. W. 1987. Two Cases of Homocide from the Pre-Pottery Neolithic of Arabia Petraea (German with English Summary). *Gegenbaurs Morphologisches Jahrbuch 133*: 507–537.

Röhrer-Ertl, O., Frey, K. W. and Newesely, H. 1988. Preliminary Note on the Early Neolithic Human Remains from Basta and Sabra 1. In Garrard, A. N. and Gebel, H.G.K. (eds.), *The Prehistory of Jordan. The State of Research in 1986*. BAR International Series 396. Oxford: British Archaeological Reports: 135–136.

Rollefson, G. O. 2017. "I am We": The Display of Socioeconomic Politics of Neolithic Commodification. In Benz, M., Watkins, T. and Gebel, H.G.K. (eds.), T*he Construction of Neolithic Corporate Identities*. Studies in Early Near Eastern Production, Subsistence, and Environment 20. Berlin: ex oriente: 1–9.

Rollefson, G. O. 2020. The PPNC: Like a Bridge over Troubled Waters. In Khalaily, H. Re'em, A., Vardi, J. and Milevski, I. (eds.), *The Mega Project at Motza (Moza): The Neolithic and Later Occupations up to the 20th Century.* Jerusalem: Israel Antiquities Authority: 131–162.

Schiefenhövel, W. 2007. Geburt und Tod – religiöse Sinnstrukturen und Übergangsriten in melanesischen Kulturen. Humanethologische Perspektiven. In Nieder, L. and Schneider, W (eds.), *Die Grenzen des menschlichen Lebens*. *Lebensbeginn und Lebensende aus sozial- und kulturwissenschaftlicher Sicht.* Studien zur interdisciplinaren Thanatologie., Band 10. Hamburg: LIT: 59–84.

Schultz, M., Berner, M., Schmidt-Schultz, T. and Gebel, H.G.K. *in prep*. *The Human Remains and Funeral Practices. Basta III.* bibliotheca neolithica Asiae meridionalis et occidentalis. Berlin: ex oriente.

Schultz, M., Schmidt-Schultz, T. H., Gresky, J., Kreutz, K. and Berner, M. 2004. Die Menschen von Basta und Ba`ja im akeramischen Neolithikum. In Salje, B., Riedl, N., Schauerte, G. and Wartke, R. B. (eds.), *Gesichter des Orients. 10000 Jahre Kunst und Kultur aus Jordanien*. Mainz: von Zabern: 57–60.

Schultz, M., Schmidt-Schultz, T., Gresky, J., Kreutz, K. and Berner, M. 2007. Morbidity and Mortality in the Late PPNB Populations from Basta and Ba`ja (Jordan). In Faerman, M., Kolska Horwitz, L., Kahana, T. and Zilberman, U. (eds.),

Faces from the Past: Diachronic Patterns in the Biology of Human Populations from the Eastern Mediterranean. BAR International Series 1603. Oxford: Archaeopress: 82–99.

Sütterlin, C. 2017. Cultural Memory: Symbols, Monuments and Rituals Sustaining Group Identity. In Benz, M., Watkins, T. and Gebel, H.G.K. (eds.), T*he Construction of Neolithic Corporate Identities*. Studies in Early Near Eastern Production, Subsistence, and Environment 20. Berlin: ex oriente: 35–72.

Thornton, C. 2020. The Meronomic Model of Cognitive Change and Its Application to Neolithic Çatalhöyük. In Hodder, I. (ed.), *Consciousness, Creativity, and Self at the Dawn of Settled Life*. Cambridge: Cambridge University Press: 153–167.

Uerpmann, H. P. 1979. *Probleme der Neolithisierung des Mittelmeerraumes*. Beihefte zum Tübinger Atlas des Vorderen Orients, Reihe B 28.