

Territoriality in early Near Eastern sedentism

dedicated to Abu Shaher¹

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

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

The evolutionary framework of Near Eastern sedentism

The Neolithic evolution in the Near East between the 11th and the 6th millennium BC was governed by forces and mechanisms of permanent adaptation within all sorts of habitats. They formed diversified sets of regionally distinct natural systems:², each providing different

¹ When I asked Abu Shaher (from the al-Bdul, al-Fakrah Clan, village of Umm Zeihoun, Jordan) to choose a suitable site for our 1983 dig camp near Sabra (4 hours south of Petra) he checked an area for its shadow and wind conditions, stony cover, soil, potential scorpion/snake danger, and rock topography. And he asked the fellow donkey drivers not to unload our materials until he marked the future camp’s area. He started collecting stones, first marking the corner points of the camp and an “entrance” before he continued doing single-row stone alignments between the corners: Being an al-Bdul and entering the neighboring al-Sa‘idiyyin area only with gun and pistol, he separated a Primary Physical Territory (see below) from their tribal area. Only then our materials were unloaded in the stones’ rectangle. Later, I observed our instinctual behavior not to step over the stone alignment and to try to approach the camp by the “entrance”. Visitors from the rival tribe of the al-Sa‘idiyyin, coming for entertainment and food, also respected the “entrance” and avoided to walk across the ca. 10 cm high stone alignment (well, over time shortcuts were made). From that October 1983, I have thought about territoriality and its ethology in the Neolithic. I thank Abu Shaher for teaching me. I dedicate this article to him.

² Just as today; for modern examples see Abdulsalam 1988.

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

Although it was a bumpy ride (Belfer-Cohen/Bar-Yosef 2000) with hypertrophic episodes (Nissen 2004) and failure adjustment (Köhler-Rollefson/Rollefson 1990), and many Near Eastern regions could not participate at the same pace or at all in certain periods (e.g., Fig. 1), the overall trajectory of the Near Eastern neolithization and sedentarization was successful. The general socio-economic stages of Near Eastern neolithization are generally divided into four episodes described here. Reference in this listing is also made to earlier isolated phenomena of extended residency or sedentism, and to a major later sedentarization process (the oasis cultures). The perception of a stage is geared to its most progressive element. Phenomena preceding Neolithic sedentism include extended residency at Upper Palaeolithic cave sites (40th - 19th millennium BC) and sedentary elements or sedentism at Early/Middle Epipalaeolithic open air sites in favored locations with year-round food sources (18th - 13th millennium BC).

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

- 1) Sedentarization progresses by increasing the number of permanent dwellings related to favored settings, supported by simple systems of ephemeral and seasonal stations, practicing foraging economies (Late Epipalaeolithic, 12th - 11th millennium BC) .
- 2) Progressive cereal/pulse cultivation and permanent settlements are present, food production increases while contributions from foraging economic strategies decrease. Settlements can be

³ Compare also other new understandings presented e.g. in Benz 2000, Cappers/Bottema 2002, Verhoeven 2004, Zeder 2009.

⁴ Gebel 2002a, 2002b, 2004, 2007, 2010a; see also the recent works of Trevor Watkins following similar general ideas: 2005, 2006, 2008, 2009a, 2009b.

regional “motors” of development (Proto-Neolithic/Pre-Pottery Neolithic A, late 11th - 10th millennium BC).

3) Progressive ovicaprine/cattle/pig domestication is detectable alongside established cereal/pulse cultivation and permanent settlements with fully established food production and a further reduction of foraging contributions. Simple settlement systems with centers/centrality trends with established regional and supra-regional exchange have developed (Pre-Pottery-Neolithic B, 9th - 8th millennium BC).

4) The last stage is characterized by the development of pastoralism (in semi-arid areas) and hydraulic farming cultures (starting as slope irrigation on foothills in river valleys, expanded as flood irrigation onto alluvial plains), fully established food production at permanent settlements or with migrating life modes. Partly drastic shifts in settlement patterns and locations (e.g., Fig.1) as well as the seizure of semi-arid marginal lands for food production are observable (Pottery Neolithic, 7th - 6th millennium BC).

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

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

The very different Near Eastern regions⁵ allowed only for regionally typical combinations of Neolithic agents, which created regionally characteristic processes of sedentarization. Some of these stages may even have taken place contemporaneously in one region, or dropped out completely, while in a neighboring region the stages could have followed each other. Parts of the Middle East may have remained ecologically excluded from these economic major economic stages (e.g., parts of the interior Arabian Peninsula), while others may have joined the evolution at a later stage (e.g., the Turanian lowlands). This all leads to the understanding that the Neolithic evolution was a polycentric, polycasual, and polygenetic affair. But this understanding cannot be promoted without working out the regional trajectories (compare the statements

⁵ Including the Fertile Crescent the present-day Middle East covers about 25 principal geographical units that consist of ca. 130 major natural regions; the latter can be subdivided further into ca. 500 ecologically different natural sub-regions (Abdulsalam 1988). The early Holocene subdivision, its boundaries and climate, and the preserved natural environments will have looked somewhat different, but the general pattern must be expected to have been structured roughly similar to the present.

published as Supra-Regional Concepts I-II in Neo-Lithics 2/03 and 1/04,⁶ Watkins 2008). Table 1 shows the regionally diverging absolute chronological framework of the cultural and lithic units of the Near Eastern Neolithic:

⁶ i.e. Hermansen 2003, Hole 2003, Watkins 2003; Asouti 2004, Bar-Yosef 2004, Benz 2004, Gebel 2004b, Henry 2004, Hermansen 2004, Nesbitt 2004, Özdoğan 2004, Peltenburg 2004, Peters 2004, Rollefson 2004b, Rollefson/Gebel 2004, Simmons 2004, Stordeur 2004, Willcox 2004.

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

Table 1. Absolute chronology of cultural units and lithic facies of the Near Eastern Neolithic (entries in italics after Kozłowski/Gebel 1994, Gebel/Kozłowski 1996).⁷

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

The intricacy of the term *sedentism* in the Near Eastern Neolithic, definition of a term

The very general understanding of sedentism in Near Eastern neolithization models has not been very helpful so far. Recent dissatisfaction over the term *sedentism* results from new insights into the diversity of territories and territorial behavior in the Near Eastern Neolithic, including the recognition of how to such an immense extent sedentary life was influenced by social and cognitive territories. Examples not only show that Near Eastern sedentism research has suffered from its own paradigmatic misunderstanding, it also became obvious how it influenced or even obstructed such research for other sedentism types or centers around the globe. It became necessary to broaden our narrow Near Eastern Neolithic perception by studying sedentism trajectories in other parts of the world (Gebel 2008).

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

⁷ All dates used in this contribution are calibrated BC; dates follow the ASPRO periodization (Hours et al. 1994).

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

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

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

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

The ethology of the Near Eastern sedentism framework

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

During some three decades of Near Eastern Neolithic research, I have come across many features of a characteristically Neolithic ethos and mind (compare also Lewis-Williams/Pearce 2005) which shares many very basic and common behavioral parameters with modern humans (compare the Abu Shaher story in footnote 1). But also remains of a foraging ethos had survived in several Near Eastern areas until sub-recent times;⁸ a hypothetical forager's atlas of the Near East would show astonishing islands of hunter/gatherer/fishermen communities for the Arabian Peninsula in Neolithic, proto-historic and historic periods, contrary to the cliché image of a sedentary Near East since the Neolithic of the Fertile Crescent.

The attempt to summarize these observed features of a Neolithic ethos and mind is manifested by the following theses.⁹ In order to explain my research position, I must add that I understand Neolithic behavior as directly and indirectly ecologically determined, and I believe ritual practices and perceptions of the otherworld to have been part of the environmental reality and environment-based belief systems of the *Homo neolithicus*. Accordingly, I expect that the Near East's natural regional diversity caused a diversified ritual/religious map sharing only some general perceptions.

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

1) Conservation Thesis: Neolithic progress and growth were not the result of conscious acts or sought-for innovations but rather the result of measures to sustain a current life mode. The immediate satisfaction of life needs took priority over any effort toward social, economic/technological, or ideological alteration.

2) Efficiency Thesis: Changes were only tolerated and permitted when all other possibilities for attaining a goal by easier and inexpensive means had failed.

3) Repetition Thesis: Unsuccessful and disadvantageous behavior was repeated in modified forms by following generations because sedentary learning remained more restricted to individual expertise rather than being transferable/negotiable group-knowledge.

⁸ For example, although in contact with sub-modern communities, hunting shell fishers continued to occupy spots of the littoral Oman Peninsula, Dhofar, and Yemen in the last century, practicing Epipalaeolithic lifestyles.

⁹ Admittedly, they sound quite valid for the sedentary ethos of other historic periods and even for our modern societies. The explanation might rest in the fact that historic sedentism and our modern sedentary ethology are rooted in Neolithic foundations.

4) Innovation Thesis: Progress and innovation were the result of exploration impulses generated by attitudes during periods of surplus supplies. The surpluses caused growth, which led to more complex social structures, which in turn caused more stressors and further exploration impulses. Stressors from cataclysms also triggered innovations.

5) Exclusion Thesis: Growth resulted in tangible/intangible diversity, which led to more exclusive/segregative behavior and a further decline in generalized reciprocity. The more productive a social unit, the less ready it is to share with outsiders, which tends to increase supplies.

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

The character of Near Eastern Neolithic territoriality, definition of a term

The transition from foraging to food production triggered an overall confinement and aggregation of human space; while this was in some core areas a gradual transition other areas adopted the sedentism paradigm rather rapidly (e.g., many remote and/or semi-arid parts of the southern Levant). Resident territoriality created philopatric competition and mentalities that caused groups and group members to define/personalize territorial property and to defend/control it. This resulted in more conflict potential, causing the need for new measures in territorial conflict management, including mitigative structures (Gebel 2010b). The principles of resident (or confined) territoriality dominated all spheres of life, including metaphysical territories. Apart from the physical spaces (including natural resources like springs, routes, arable land, water/soil dams, minerals, hunting grounds, as well as built spaces like settlements, houses, rooms, graves, wells), intangible territories developed, mostly to support the structures of physical territories. Intangible/metaphysic territories helped create, or forced the recognition of, physical territories. However, the distinction between physical and non-physical Neolithic territory is perhaps inappropriate since we have to assume that at least in the Early Neolithic there was not much perceived distinction between physical and metaphysical space, and

Neolithic ideas, beliefs, the meaning of objects, etc., developed functions similar to those of physical territories. Characteristic Early Neolithic intangible/metaphysic territories were expressed by such phenomena as feasts, commemorations, magic (e.g., hiding: Gebel 2002c), ancestral locations, etc., but also included more ethological and habitational spheres like spaces associated with comfort and safety.

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

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

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

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

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

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

1. Primary Physical Territories (intra-site and external): permanently, or nearly permanently, occupied; recognized by neighbors as a relatively permanent ownership; closely identified with the group using the space; occupants in full control of use; intrusions by others understood as encroachments.

2. Corporate Physical Territories (intra-site and external): occupation repeated but not continuous; not subject to individual but to corporate ownership; use bound by certain conditions and functions; surveillance of use by representatives of social units.
3. Obtainable Physical Territories (intra-site and external): large number of individuals and groups interested in the use of the territory; rights to it disputed among these individuals and groups, with a high potential for conflict; control of territory is subject to mutual agreement and corporate defense; uses of territory restricted/limited; its transfer into permanent ownership requires mutual acceptance or forced acquiescence.

Gifford (1997) starts from environmental psychology and complements Altman's anthropological approach. Using their thinking, Neolithic territoriality can be defined as the personal sphere of an individual group (rarely of an individual) that is in the position to define physical borders or set norms in social, economic, or cognitive (innovation, tradition/conception/ritual) frameworks, and which can establish and maintain control of social, environmental, and otherworldly relationships and phenomena. Such permanent territories usually develop and persist only by having borders that are well-defined and well-defended. Although we expect that pre-Neolithic hunter-gatherer societies might have developed some aspects of territoriality, such territories no doubt tended to be rather casual, "porous", and unstable. What distinguishes Neolithic territoriality from foraging territoriality is simply that Neolithic societies produce and consume in a specific territory whereas foragers use and leave territories. We are aware that prehistoric reality is not *quite* so simple; but for the sake of clarity we feel permitted to emphasize that general distinction.

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

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

¹⁰ Other spatial burial understanding also existed, as reflected by „trash burials“, burials in ruins (Bienert et al. 2004), secondary skull burials after removing skulls from their primary contexts, etc. The location of more off-site graveyards or „villages of the dead“ (e.g., Goring-Morris/Kolska-Horwitz 2007; Galili et al. 2009) – also for the Early Neolithic period – has to be expected, too.

previously unknown and obliging extent. It created a new sedentary identity by providing and structuring the worldly and otherworldly contacts and spaces for the individual. Resident or seasonal foragers of the Near East may already have experienced ingredients of this ethos before whenever they chose reduced space to live together, but it was not before the Neolithic Evolution that it was widely and permanently established.

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

The major cause of any Neolithic territorial aggression probably was territorial crowding.¹¹ Territorial aggression must have been common (but see the reservations made below in the chapter on territories of social life, and Gebel 2010b) during the Near East's Early Neolithic period but may have disappeared in certain regions as a major developmental factor during the later Neolithic when the vast alluvial lands and steppes of Mesopotamia were adapted to new subsistence modes (early hydraulic and pastoral societies; see below). Unlike local territorial infringements, territorial crowding has the tendency for supra-communal, supra-local, and supra-regional overthrows. Territorial crowding (compare the development illustrated in Fig. 1) includes such phenomena as insufficient pasture lands for the increase of flocks, the disruption of social hierarchies through the inflation of prestige commodities, competition in social management solutions, and the like, overpopulated villages (Figs. 5, 7), and it results in environmental, social, economic, and ideological stress and conflicts that increase with densities. Density in one sphere can easily provoke a hypertrophic milieu. Several examples of such stress systems are known for the Neolithic in the Near East, one such being the recently-debated Mega-Site Phenomenon in the Jordanian mountain ranges (Gebel 2004a; Fig. 2). Stresses from territorial crowding of course increase with the duration of the crowding and if no outlet or adaptation to new modes of subsistence or ideology is found, the consequence is generally the environmental, socio-economic, and ideological implosion of the involved societies. Examples are the decline of mega-sites during the 8th millennium BC on the Middle Euphrates and in Transjordan, and the subsequent development of pastoralism in the Levant's semi-arid fringes, and Greater Mesopotamia's early hydraulic societies in the alluvial plains and their tributary valleys in the 7th millennium BC. In the sense of the Conservation Thesis, these major and supra-regional overthrows were briefly preceded by stress-lowering measures – the increase of vertical space in villages with the addition of a second and probably third story to buildings (Gebel 2006), an increased share of mobile herding in areas outside the daily walking distance, and the probable genderfication of post-PPNB agrarian social environments. The duration and intensity of density damages the social and economic behavior and values of individuals and groups and raises the levels of intra- and inter-group aggression. According to the Efficiency Thesis, we

¹¹ Of course consequences of environmental impacts can also result in increased aggression and even Neolithic war (Bar-Yosef 2010), connected with the collapse of settlements and societies. But here again the question is whether we should step into the traps of monocausal explanation: How to identify a major cause in a complexity of e.g. combined social deterioration, environmental degradation, climate impact, subsequent crowding, and commodification regimes acting against territorial aggression (Gebel 2010b).

should assume a decline in innovation and production during the later stage of increasing densities.

The sedentary territory as an issue of commodification: an excursus

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

Commodification, or the production of tangible and intangible values given to things, and things producing tangible and intangible values for people, is the major characteristic which distinguishes foraging from sedentary life (Gebel 2010a). While foraging life modes created values for things in more casual and adaptive frameworks thought to satisfy immediate needs, Neolithic values for things were produced, altered, and accepted to sustain and supply “permanent” needs. The well-established term “things” in the commodification/commoditization¹² concept (original concept presented by Appadurai 1986 and Kopytoff 1986) comprises all life-relevant items and matters of both material and immaterial nature. Basically, all acts of neolithization are commodification measures; the concept of commodification allows the most holistic approach to neolithization, including all biotic and non-biotic domestication processes, technological developments, or cognitive-ideological spheres. The importance of the commodification concept and its meaning for future Neolithic research is evaluated in Gebel 2010a where the characteristics of commodities and of its basic commodity types are defined for the Near Eastern Neolithic, using and altering original ideas of Arjun Appadurai (1986) and Igor Kopytoff (1986). In short, Neolithic commodification is present when

- in productive milieus tangible and intangible things become subjects of common acceptance and value by (re-) production and use, and receive a social value through this;
- a behavioral difference occurs between taking and making things (representing the new/Neolithic ethos in terms of territorial, reciprocal, and commodification behavior using confined sedentary and pastoral milieus in the environmental, technological, social, cognitive and ritual spheres);
- things and their biographies “contribute” stability to prolific material and immaterial regimes/systems, while the same can be done through their de- and ex-commodification;
- it produces the social and individual identity that regulates relations among humans in their productive natural, built and cognitive/ideological environments while at the same time it triggers or directs more/other subjects of commodification allowing growth/surplus production, territorial claims, security/confined reciprocity, etc.

Sedentism brought new needs to all spheres of life. Worldly and otherworldly spaces suitable for a sedentary life had to be produced (“commodified”) and constantly reproduced on more

¹² Arjun Appadurai (1986) and Igor Kopytoff (1986) used the term commoditization for what we here call commodification. We cannot discuss here (but see Gebel 2010a) the – so far not sufficiently discussed – distinction between commodification and commoditization, but present here our preliminary understanding, based on the ideas of Douglas Rushkoff (<http://rushkoff.com/2005/09/04/commodified-vs-commoditized/>, accessed March 2010):

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

complex levels. Progressive population dynamics through philopatry, wealth of time and goods beyond subsistence needs, and competition through diversification demanded order for sedentary life and generated identity.

Whenever consumption of resources becomes dependent on accumulated stocks, it becomes necessary to protect these supplies and to structure their distribution. At the beginning these supplies were probably predominantly nutritional and included the emerging idea that the food producing land around the group's settlement was supply in the guise of property. But the organization of supplies and the activities necessitated by the need to accumulate supplies,¹³ forced giving value to materials and then further securing these values by supporting them with ideologies. Commodification promoted security on all levels, as ex-commodification can do. The internal and external security of the individual, his/her group, and his/her *koinon* (sensu Jacques Cauvin) is balanced by commodification regimes. The more sedentary and domestic life becomes, the more important is commodification. The values commodification provides are essential to maintaining sedentary loyalties and structures: productive types of commodification are directly related to a sedentary ethos and territoriality, and would hardly work in non-sedentary societies.

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

The southern Levantine expression of Near Eastern Neolithic territories

To illustrate the establishment of sedentism and Neolithic territories, in the following the sedentism trajectory of the southern Levantine is described as a regional example. Other larger regions of the Near East passed through different processes of sedentarization and territorialisation, not allowing the presentation of a general Near Eastern trajectory. However, the southern Levantine case explains such processes in principle.

¹³ An extensive survey of Near Eastern Neolithic storage findings was published by Bartl 2004.

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

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

Territories of land

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

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

The sedentarization of the southern Levantine landscapes was an asynchronous and polycentric assortment of advances and regressions, mirroring its small neighboring ecological zones (Gebel 2002b: Table 2), which influenced each other to a much higher extent than was the case for large neighboring ecological units such as the Mesopotamian flood plains and the Zagros foothills. Though capable of such corporate action as the "tower" of PPNA Jericho, others migrated as belated hunter-gatherers between seasonal camps in the wadis of the south Jordanian Highlands. It cannot even be taken for granted that the southern Levant followed the classical four major steps of Near Eastern Neolithic evolution through substantial and synchronic phases. It is more likely that some potential "motor" regions were hindered from sharing the Near Eastern "sedentism trajectory" by the neighboring semi-arid "deficit" regions, which acted as a drag on their progress. An example is the Greater Petra Area, in which eight palaeophysiographic units neighbor each other from west to east within only some 40 - 45 km distance (Gebel 1990, 1992), and of which only three to four should have been able to sustain Neolithic subsistence modes for

any extended period. In such areas, socio-economic and related changes are virulent: forces and mechanisms of permanent adaptation within spatially restricted and ecologically sensitive habitats – which are subject to intense human impact – rule their development. Their limited and diversified sets of natural conditions allowed the sharing or the rejection of necessary ingredients of Neolithic subsistence modes, and created pressure to return to foraging lifestyles. In southern Jordan, the loss of the balance between exploitation of limited biotic resources and population growth frequently necessitated innovative human adaptation to avoid a regional regression from neolithization. This, for example, happened through the regional emergence of pastoralism (the “palaeo-bedouins”) in the LPPNB/FPPNB after 7000 BC (onsets of pastoralism already in the LPPNB, 7500-7000 BC).

Territories of built space

Built space means – in terms of sedentary territoriality – imposing boundaries and separating primary and corporate physical territories (Table 2) from land; such areas may already be occupied by other sorts or the same sort of territoriality. Social, cultural, and behavioral structures and rules jointly determine the permeability and use of these boundaries. Built space is transferred by rights which may be based on mixed elements of heritage rights (e.g., birth rights, kinship), transactions (e.g., all sorts of land property exchange), symbolic/mythological traditions, or it may be taken or destroyed by acts of violence. Built spaces in the southern Levant’s Neolithic can be landscapes occupied and altered by food production and other sorts of organized exploitation (extra-site route system, hunting, pens, field terraces, water harvesting, mineral exploitation, etc.), locations of habitation (e.g., houses, settlements, including caves/natural shelters used as a sedentary base; examples Figs. 5-6, 10), places of commemoration/religious activity/social gathering (e.g., graves, burial grounds, shrines, assembly rooms; example Fig. 10), and communal installments (e.g., protective walls against aquatic erosion/enemies, wells, intra-site routes; but also controlled settings/access, e.g., Figs. 3-4). All these are manifestations of protection and commodification needs and of individual and collective security. The core feature of built space in the southern Levant’s Neolithic is the domestic structure, although Late Epipalaeolithic Wadi al Hammeh 27 and Mallaha already give evidence of building for (exclusively?) symbolic/ritual purposes, or domestic structures with a prominent symbolic/ritual inventory, at the onsets of sedentary life.

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

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

- 1) isolated, round structures agglomerate to
- 2) clusters of round structures, then these clusters are transformed into

- 3) multi-roomed rectangular houses expanding
- 4) the vertical space to a second story.

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

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

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

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

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

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

Territories of social life

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

The emergence of sedentary communities in the southern Levant and their inherent social transformations show two basic tendencies: 1) complex social structures were replaced by less complex ones before more complex social structures developed again, and 2), most likely connected to that, heterarchical and hierarchical patterns were linked to various degrees. That is to say, the more need there was for social regulation, the more heterarchical elements triggered corporate, hierarchical, and central structures and new types of sedentary conflict must have occurred. The development of household and communal life modes moved as shifting waves through the ecozones of the southern Levant. Core household structures (MPPNB: small "houses"/families) were replaced by corporate¹⁴ households structures (LPPNB: large extended "houses"/families) which then again were replaced by core household structures (FPPNB - PNA-B: smaller "houses"/families). Heterarchical communities (PPNA) were replaced by hierarchical communities (MPPNB - LPPNB), before pastoral-heterarchical communities developed (FPPNB - PNA-B) and co-existed together with the hierarchical permanent settlements of the FPPNB-PNA-B. Qualities and momentum of this general development may have differed according to regional ecological conditions, including reversible and conservative regional developments.

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

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

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

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

¹⁴ Definition of *corporate*: a general term for the socioeconomic and ideological milieu in which different individuals and parties share and maintain tangible and intangible properties (material spaces, skills, beliefs, etc.) for securing and maintaining their living mode and its related structures. Joint ventures and feasts increase mutual dependence and decrease potential conflicts. Those who leave a corporate reciprocity regime are socially ostracized. Corporate behaviour is confined to one's own group or, when extended outside of one's own group, conditioned by its interests. "Corporate" refers to behaviour, "communal" to organization/structure. Corporate activities may not necessarily take place for an immediate, or for any rational tangible or intangible, benefit.

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

FPPNB - PPNC: disintegrative structures with increasingly emerging pastoral groups (early tribal structures?) in the steppe environments and small to large farming households and communities in the arable areas (6900 - 6500 BC)

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

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

The Mega-Site Phenomenon in the LPPNB (7600 - 7000 BC; Fig. 2) is a superb example of a powerfully spreading and self-suffocating social and cultural paradigm of early sedentism, once creating extensive territories of social coherence in the Jordanian highlands and being of relative uniformity. It is presented here to elaborate on how social identities could territorialize in larger areas of the Fertile Crescent's Early Neolithic¹⁵. The hypothesis that the Jordanian highlands witnessed an influx of people – or started to accommodate a successfully migrating socio-economic paradigm – arriving from the central Jordan Valley after 7600 BC (Rollefson 1989, 2004a) could not be neglected, rather it has to be enforced (Gebel 2004a: Fig. 1). The understanding is that population pressure and the depletion of resources made the sedentary villagers west of the central Jordan Valley seek lands in the east; settlements like Jericho¹⁶ might have been bridgeheads. Here they – or their economy – met the small MPPNB/Early LPPNB villages like 'Ain Ghazal and Wadi Shu'aib which started to prosper on the basis of the vast steppe-like hinterlands with their migrating ungulates. At the same time these vast steppe

¹⁵ Similar phenomena, of course, are represented by the earlier mega-site phenomenon on the Middle Euphrates and the Göbekli Tepe ritual interaction sphere.

¹⁶ MPPNB Jericho might have already developed features like the later mega-sites to the east, since the migrating gazelles in the rift valley provided the hunting grounds to grow; possibly Jericho was a kind of progenitor of the Mega-Site Phenomenon.

environments allowed herding to an extent not known from west of the Jordan. Evidence shows that the households grew from small households to large corporate ones with “extended families”. During the spread of the phenomenon the corporate structures must have become vital for the survival of the social territories, especially when this new socio-economic paradigm migrated further south to the less favorable and smaller semi-arid catchments. Like a domino effect, the new sites es-Sifiya (Fig. 9), Khirbat Hammam, Ghwair, Basta (Fig. 7), Ba‘ja (Figs. 4, 3-6, 8, 10), al-Baseet, and ‘Ain Jammam were founded (Fig. 2), and MPPNB sites like Beidha, Shkarat Msaied, adh-Dhaman, and Ail 4 (?) were deserted due to the integral power of the new socio-economic paradigm. We may assume that the LPPNB Mega-Site Phenomenon reached favorable areas even north of ‘Aqaba.

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

Territories of cognition

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

According to Robert Gifford (1997, 2002), all ideological frameworks – including meaning bearing innovative milieus and objects – are territories. As human beings mark, personalize, and defend physical territories and objects, they mark, personalize and defend ideas, beliefs, traditions, etc. (in our understanding all these are commodities if operated in productive sedentary environments). Both tangible items and intangible ideas provide identity in similar ways and create territories. We refer to the example provided by Harvey Whitehouse (1995, 2000) describing original rituals (imagistic and emotional modes of religiosity of small-scale societies in Papua New Guinea), being commodified by serving a following cognitive territory of doctrinal religiosity as a religious substratum.

Trevor Watkins stressed in several recent contributions that southwest Asia’s “external symbolic storage networks are extraordinarily powerful” (e.g. Watkins 2002, 2005, 2009a), and that they – being partly non-verbal – originate in the Neolithic. He understands that the “core of the Neolithic revolution lies in the emergence of symbolic culture, particularly external symbolic storage, which allowed the formation and sustaining of large, permanently co-resident

communities”. And further: “As these communities developed practical farming to sustain their own growing populations, they opened the way for the export of the whole package – the culturally rich environments of large permanent communities supported by a highly productive economic system.” (Watkins, pers. comm.). Future research applying the commoditization and territoriality approaches to all cognitive – not only the symbolic – and material spheres will not only underline this understanding, it probably will show how symbolic storage networks had to “cooperate” (or had to be altered) and how they existed through the general web of networks formed by all sorts of innovation and decline in all the socio-economic and environmental spheres.

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

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

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

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

- were a result of the social need to diversify/segregate identities on house/gender, communal, and regional levels, and may include elements or tendencies to “individualize” identity and action by things (Fig. 8);
- led to or increased the share of new fashions and related demands;
- led to or increased the share of innovative technologies showing hierarchical work organization (example Fig. 8);
- led to or increased the share of site-related specialized knowledge;
- show clear tendencies toward multi-craft and multi-subsistence site economy (craft and subsistence diversification);
- led to or increased the share of territorial control of abiotic resources;

- separated production and consumption to a hitherto unknown extent;
- joined production knowledge to “market knowledge” (for “commodities by destination”);
- presumably caused surplus production that resulted in increased long-distance reciprocity;
- established commodity coupons and early recording systems (notions of values, changing notions of values; examples Figs. 8-9).

Concluding Note

This contribution aims to stress that the Near Eastern Neolithic packages were saturated by new territorial milieus functioning through newly introduced value producing regimes (or, confined commodification systems), and that Neolithic sedentism features cannot be analyzed and explained without understanding the territoriality and commodification supporting and allowing sedentary life. It claims that a set of Neolithic packages, each formed by its regional blend of (interacting) natural, social and cognitive environments (including the inherent territoriality concepts), finally established sedentism in the Near East, but not as a linear development having its origin in a certain cause, or set of certain causes. Rather it was a complex web of circular interacting regional events, each caused by those varied local conditions which allow and sustain residency, which are characterized by temporary failures and set-backs (illustrated by the example of the Mega-Site Phenomenon) on their sedentism trajectory. Innovative adaptations, successful and unsuccessful socioeconomic, technological and/or ideological paradigms, and changing local conditions affecting sedentary life influenced each other over the five millennia of sedentarization in the moderate and semi-arid Near East. “Sedentism” becomes a dominant feature of the Neolithic, but it is not a completely new ingredient in the Neolithic packages. We can unwrap Neolithic packages and see their contents, but we will understand Neolithic packages only by understanding in what they are wrapped: confined territoriality, confined commodification regimes.

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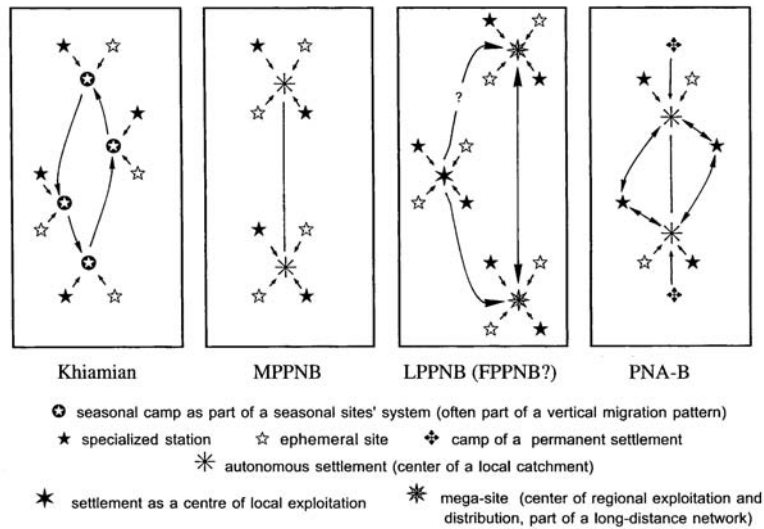


Fig. 1. The example of a Neolithic settlement pattern's development in a present-day semi-arid environment: Greater Petra-Area, south Jordan <smallest units are shown>. (drawing: H.G.K. Gebel)

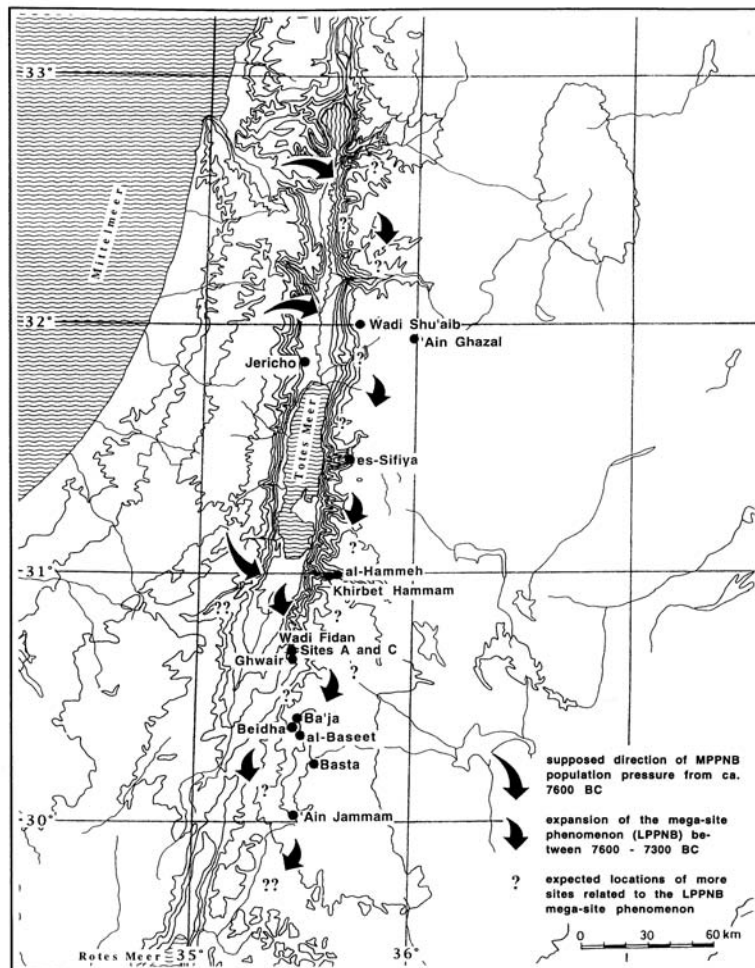


Fig. 2 The expansion of the LPPNB Mega-Site Phenomenon and its major villages in the Jordanian highlands. (map: H.G.K. Gebel)



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



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

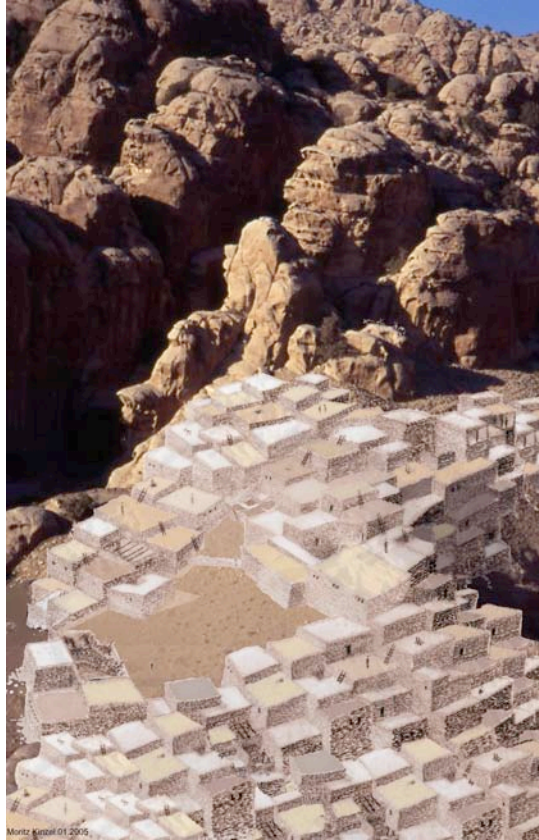


Fig. 5 A reconstruction of the LPPNB village of Ba'ja: with central space and two-storied terraced housing on the locality's steep slopes ($< 40^\circ$). Example of spatial aggregation processes characteristic for the Near East's early sedentism. (reconstruction: M. Kinzel, Ba'ja N.P.)



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



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



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

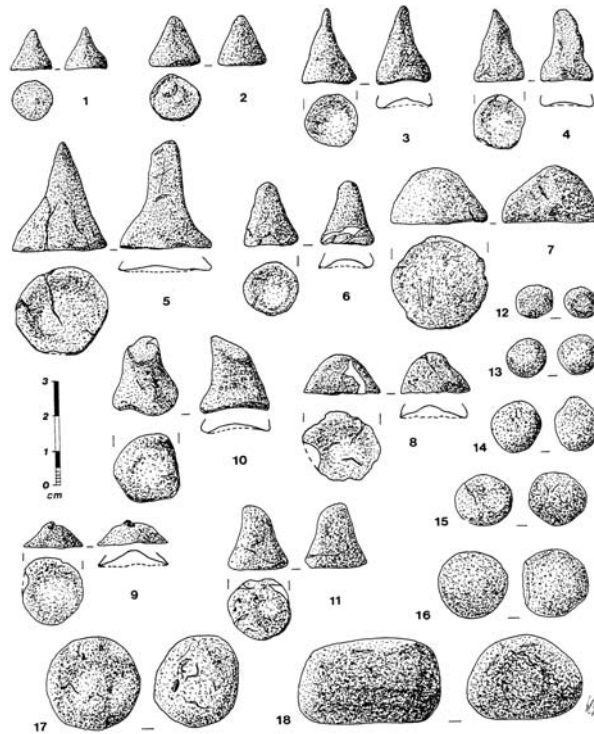


Fig. 9. The tokens (“calculi/counters/gaming pieces/geometrics”) from es-Sifiya, central Jordan, possibly witnessing early transactions/recording. (Mahasneh/Gebel 1999; drawings: H.G.K. Gebel)



Fig. 10. The example of an intra-mural (small room) sub-floor collective burial: Collective burials in Ba‘ja are placed in pits or a chamber with space less than 0.75 m², hosting up to 13 individuals (majority are babies). Example of marking/legitimizing house territory by “ancestors’ storage”? (photo: J. Gresky, Ba‘ja N.P.)