



Nile Valley-Levant interactions: an eclectic review

Citation

Bar-Yosef, Ofer. 2013. Nile Valley-Levant interactions: an eclectic review. In *Neolithisation of Northeastern Africa*, ed. Noriyuki Shirai. *Studies in Early Near Eastern Production, Subsistence, and Environment* 16: 237-247.

Link

<http://nrs.harvard.edu/urn-3:HUL.InstRepos:31887680>

Terms of use

This article was downloaded from Harvard University's DASH repository, and is made available under the terms and conditions applicable to Open Access Policy Articles (OAP), as set forth at

<https://harvardwiki.atlassian.net/wiki/external/NGY5NDE4ZjgzNTc5NDQzMGIzZWZhMGFIOWI2M2EwYTg>

Accessibility

<https://accessibility.huit.harvard.edu/digital-accessibility-policy>

Share Your Story

The Harvard community has made this article openly available.
Please share how this access benefits you. [Submit a story](#)

In: N. Shirai (ed.) *Neolithization of Northeastern Africa*. Studies in Early Near Eastern: Production, Subsistence, & Environment 16, *ex oriente*: Berlin. pp. 237-247.

Nile Valley-Levant interactions: an eclectic review

Ofer Bar-Yosef

Department of Anthropology, Harvard University

Opening remarks

Writing a review of a prehistoric province as an outsider is not a simple task. The archaeological process, as we know today, is an integration of data sets – the information from the field and the laboratory analyses, and the interpretation that depends on the paradigm held by the writer affected by his or her personal experience. Even monitoring the contents of most of the published and online literature is a daunting task. It is particularly true for looking at the Egyptian Neolithic during the transition from foraging to farming and herding, when most of the difficulties originate from the poorly known bridging regions.

A special hurdle is the terminological conundrum of the Neolithic, as Andrew Smith and Alison Smith discusses in this volume, and in particular the term “Neolithisation” that finally made its way to the Levantine literature. It seems that most writers prefer this shorthand jargon created in Europe that replaces complicated terms such as the “transition from foraging to farming” which occurred during the end of the Terminal Pleistocene and the first two millennia of the Holocene in the Levant (e.g. Willcox and Stordeur 2012; Watkins 2010; Bar-Yosef 2011). Somehow such a vague and imprecise term is preferred by several authors over the names of cultural entities such as the Khiamian, Mureybetian, Sultanian and others that try to identify the ‘people’ who went through the socio-economic changes, struggled with technical and social difficulties, made their choices, abided by the new rules of their own society, succeeded and sometimes failed.

In the Egyptian literature, we have local terms that define socio-economic entities through time and space, such the “Qarunian”, “Fayumian”, “Shamarkian”, “Elkabian” and more (e.g. Wendorf and Schild 1976 and references therein; Vermeersch 1978). These designations are based on the culturally designed artifacts resulting from teaching, learning and transmitting knowledge through generations within a large group (tribe) that shares the

same language or dialect. Abandonment of the chrono-stratigraphic terminology, that characterized the pioneering stage of the Paleolithic research in the 19th and early 20th centuries, signifies the desire to get anthropologically closer to the people of the past. From this angle, the Levant, in my view, suffers from the same old chrono-stratigraphic terminology. The periodic subdivision of Jericho proposed by K. Kenyon (1953) as Pre-Pottery Neolithic A and B (abbreviated as PPNA and PPNB or replaced by Aceramic Neolithic) not only swamped the literature but became a cultural definition. However, with the advent of radiocarbon dating, it lost its presumably ‘accurate’ chronological meaning. “PPNA” as a culture or cultural complex began earlier in one area and the technical achievements by a particular population were either diffused, transmitted by communication among different groups, or transported by migration to other areas.

The papers in this volume demonstrate what all prehistorians know- the past cultural variability and subsistence strategies before and after the transition to agro-pastoral societies were more complex than the schematic subdivision into “periods” as suggested by the Lyon School or the abbreviated terminology of PPNA and PPNB. The local cultural names employed in North Africa depart from the Levantine approach and make the chronological correlations based on 14C dates. At the same time, the task of comparisons between components of material culture in both areas becomes more difficult. I will therefore try to add to these illuminating chapters some comments on the relationships between the Levant and Egypt before and during the Neolithic period as suggested by the editor (Shirai, this volume). I will discuss the two potential ways through which people moved from and into Egypt. While most of the connections could have been terrestrial, a discussion of a Holocene maritime route is necessary and will be presented in the last section. In addition, I did not include the Egyptian oases in this short review. Finally, I use calibrated BP dates for industries earlier than the Late Glacial Maximum (LGM) and ‘cal BC’ for the later millennia in order to correspond to the common use in Egyptian chronology.

Early crossings: Late Pleistocene

Hunter-gathers known from ethnographic records are mostly mobile mainly due to the ecological constraints of their territories. When yields of reliable and abundant resources decrease due to environmental degradation and their distribution is spatially reduced prior to

depletion, the search for better areas becomes an urgent matter. Movements of bands thus depend on close relationships with their neighbors. As 10-20 bands share the same mating system, migration to a different region becomes an option unless longtime enemies prevent them from doing so. On the other hand, when environmental conditions are considerably improved and more food is available for foragers, expansion due to better survival of newborns takes place. Thus advancements into previously unexplored areas such as semi-arid or arid lands allow contacts across large terrestrial regions. Similar long distance connections also occur in order to obtain requested commodities.

Hence, optional movements from the Nile valley or the African coasts to and from the Levant were feasible by crossing the Gulf of Suez into southern Sinai or along the Red Sea coasts (both west and east) or by following the sandy areas of northern Sinai that connect the Levant with the Nile delta. The development of navigation across the Mediterranean, as indicated by the colonization of Cyprus and the Aegean islands, suggests that landings on other coastal areas were also possible. Additional maritime connections through the Red Sea from the Arabian Peninsula or Mesopotamia are better known from the Predynastic period, but it does not exclude earlier maritime contacts. All these different sea crossings provided the opportunities for people bearing their own 'cultural packages' to meet others.

Early terrestrial migrations or slow movements between Egypt and the Levant have been recognized through the search for archaeological records from both regions. The evidence that Sinai, through its southern and northern sub-regions, served as two-way routes for human movements dating to the Upper Paleolithic, Epi-Paleolithic and Neolithic periods is found in still fragmentary archaeological records. For this purpose, a brief summary of the chronological- cultural sequence of the Levant is needed. The Terminal Pleistocene and Holocene chronology of this region is well-known and recent summaries are available in more than one publication (e.g. Belfer-Cohen and Goring-Morris 2011; Watkins 2010; Bar-Yosef 2011; Finlayson et al. 2012).

I intentionally skip the 'out of Africa' of modern humans that is currently dated to *ca.* 55/50 Ka, and start with the evidence for what could be interpreted as direct connections during the later Upper Paleolithic when fully developed blade production characterized the lithic assemblages in both regions. Apparently, when environmental conditions could fully satisfy the needs of a foraging society, bands took the opportunity and moved into or through

Sinai. Indeed, the early evidence for connections after the 'out of Africa' is the technological similarity between the Egyptian blade assemblages retrieved at Nazlet Khater and the Lagaman assemblages uncovered in western through central northern Sinai in Wadi Sudr, the Gebel Maghara area, and Qadesh Barnea oasis in eastern Sinai as well as the sites in Wadi Feiran in the south (Bar-Yosef and Phillips 1977; Belfer-Cohen and Goldberg 1982; Phillips 1988, 1994; Baruch and Bar-Yosef 1986; Gilead 1984; Gilead and Bar-Yosef 1993; Becker 2003). One may speculate, based on palaeoclimatic evidence, that this period (*ca.* 37-35/31 Ka cal BP) was sufficiently wet to facilitate movements of foragers across northern Sinai and the Negev. Similar dates were obtained at Nazlet Khater 4 in Middle-Egypt Nile valley (Vermeersch et al. 1982). Water resources were available in springs along Wadi Sudr, wadis in Gebel Maghara and in particular in Qadesh Barnea, as well as in Wadi Feiran, to mention just a few.

Apparently, the Late Glacial Maximum (LGM) was a relatively dry and cold period in the Levantine region and only the forested areas along the coastal plain were suitable for continuous survival of hunter-gatherers. In the Jordan valley, the eastern plateau (in Jordan) and Sinai, habitable localities were only in oases or along wadi courses. Archaeologically, the lithic assemblages uncovered in these sites are incorporated under the terms of the Masraquan and the Kebaran Complex that are better known from numerous sites (e.g. Bar-Yosef 1975; Goring-Morris 1995, 2009 and references therein). Elsewhere it was reported that the Kebaran sites are not found in the semi-arid areas except for oases such as Kharaneh IV, Azraq and Jilat (all within a radius of 20 km) as well as in the mountains of southern Jordan. Therefore, their geographic distribution corresponds to the habitable conditions within the Mediterranean vegetation belt and the marginal Irano-Turanian steppic areas.

In the northern Levant, similar ecological conditions provided adequate environments, but the distribution of the microlithic industries (early Epi-Paleolithic) is poorly known except for the basin of el-Kowm. The vast area from the Taurus foothills through the middle Euphrates area is still a *terra incognita* for late Pleistocene archaeological entities.

With the improved climatic conditions of the post-LGM millennia demonstrating a slow rise of temperature and an increase in winter precipitation, we witness the spread of the Geometric Kebaran complex (*ca.* 16/15.5- 13/12.6 Ka cal BP) in the former semi-arid areas. Sites are located within the three phytogeographic belts that stretch in parallel to the Eastern

Mediterranean coastline, namely, the Mediterranean forests, the Irano-Turanian semi-steppic belt, and the desertic Saharo-Arabian region. As examples for the success of the expansion of Geometric Kebaran foragers, I cite only a few locations in the previously arid and semi-arid environments. In the northern Levant, the el-Kowm basin produced a major site and so did the Palmyra oasis (Cauvin and Coqueugniot 1988; Fujimoto 1979). In the central Levant, Kharaneh IV is probably the largest aggregation site (Maher et al. 2012), and in Wadi Feiran in southern Sinai, the site of Wadi Sayakh marks the remotest location (Bar-Yosef and Killbrew 1994).

The great similarity in reduction sequence and the shaping of the geometric forms of microlithic trapeze-rectangles from blade/bladelet blanks among all the sites that were spread along a geographic axis of over 1000 kilometers suggest that this kind of uniformity indicates the strength of the Geometric Kebaran tradition. This observation may suggest that all the bands that were spread mainly from north to south and from west to east within ecologically variable environments were closely related to each other, and probably had several aggregation sites in the Levant. Good examples for the importance of this cultural uniformity are the rich sites of Kharaneh IV and Ayun el Musa in Jordan where a suite of burials were exposed (Maher et al. 2007; Maher et al. 2012).

During the millennia of the Terminal Pleistocene, a new entity of hunter-gatherers in northern Sinai, named the Mushabian, occupying in several cases the same locations of Geometric Kebaran foragers, was recognized (Bar-Yosef and Phillips 1977). In this report, we suggested that the particular microlithic industry was labeled as Mushabian. The Mushabian operational sequence resembles North African characteristics in the heavy use of the microburin technique and the exploitation of *piquant trièdre* for shaping the La Mouillah points. We therefore speculated that bearers of this lithic technology represents an expansion of foragers from the Nile valley or the broad area of northeast Africa, attracted by the improved conditions of the Terminal Pleistocene, in Sinai (*ca.* 14-12.7/5 Ka cal BP). Thus, the same environmental circumstances that drove groups of the Geometric Kebaran to increase their populations and to migrate further south into previously semi-arid areas attracted northeast African foragers. The techno-typological differences between the two populations should be stressed. The main reduction sequences for blade/bladelet production of the Geometric Kebaran stone industry continued and elaborated on those of the Kebaran

Complex. When the two lithic traditions are compared, it becomes obvious that the Mushabian industry is of non-Levantine origin. The survey by F. Debono during the 1930s near Helwan at the apex of the Nile delta recovered Mushabian surface sites (Schmidt 1996). Indeed, a tradition is formed through the continuation of making specific types of stone tools that is taught and learned technical behavior, as mentioned by Shirai (this volume and references therein), and what has been secured for hundreds of years indicates the biological survival of prehistoric tribes. Unfortunately, in the absence of other cultural elements, we can only refer to the making and using of stone objects as the attributes of past cultures. Nonetheless, once a series of assemblages which are distributed over a particular territory and well dated chronologically is recognized, this way of understanding stone industries, supported by a wealth of ethnographic examples, allows us to discuss the social history of people without name.

Thus, the movements of foreign people from west to east possibly resulted in competition for the best resources between the Geometric Kebaran and the Ramonian (originally called Late Mushabian, *ca.* 12.7/5- 11.0 Ka cal BP). The latter were the winners as indicated by the geographic distribution of their sites through northern Sinai and the Negev, reaching the Judean foothills at the northern edge of the Beer-Sheva valley. However, the original homeland of these groups that successfully adapted to semi-arid environments is poorly known and an alternative proposal views them as moving-in from the Syro-Arabian desert to the Levant (Goring-Morris 1995). It is worth mentioning that the presence of Helwan lunates in the Ramonian entity is also recorded in the earlier Early Natufian.

The Helwan lunate is a particular microlith, shaped by bifacial retouch, and sometimes found with similarly retouched bladelets. It was first identified in surface collections at Helwan in Egypt. It received its name from D. Garrod, the pioneer excavator of the Natufian at Shukbah cave in Wadi el-Natuf and el-Wad cave in Mt. Carmel in the ensuing years (1928-1934; Garrod and Bate 1937; Garrod 1957). The presence of this lunate, in the absence of radiometric dates, led her to assume that the Natufian originated in Egypt and could have been tied to the Capsian of the Maghreb. The rest is history. The homeland of the Natufian culture was identified mainly in the southern Levant and its role in the origins of cultivation was long assumed, although with little support from archaeobotanical evidence.

Research in selected areas in the arid and semi-arid Sinai peninsula, serving as the terrestrial bridging ‘corridor’ between the Levant and the Nile valley, produced some ambiguous evidence for the prehistoric connections that would be considered as Epi-Paleolithic. In addition to the comments concerning the Mushabian and Ramonian, the Harifian sites in Gebel Maghara in northern Sinai belong to the entity spread in the Negev, and is dated within a range of *ca.* 10,700-9,300 cal BC (Goring-Morris 1991; Finlayson et al. 2011). The assemblages contain, in addition to typical Harif points, rare Ounan points (as defined by Tixier 1963), while most other microliths bear abrupt retouch (Goring-Morris 1987). Helwan lunates are extremely rare, and given their particular hafting technique, one may wonder if these were not borrowed from other, older or contemporary assemblages.

Interestingly, in southern Sinai, the assemblages of the Abu Madi I site (Bar-Yosef 1985), dated to *ca.* 9,600-8,300 cal BC, contain el-Khiam and tanged points, as well as small rods (bipolar retouched, narrow, double pointed microliths) and a few Helwan lunates. It seems that a site that lies some 150-250 km south of any Natufian sites including those on both sides of the Jordan Rift valley retained an old tradition. Abu Madi I is also far away from the original localities at Helwan, where only a couple of dozens of Helwan lunates were found in the detailed survey carried out by F. Debono in the 1930s (Schmidt 1996 and references therein). To this we should also add the undated context of obsidian Helwan lunates in an assemblage retrieved in Dahlak island (Eritrea) in the Red Sea some 1,800 km south of the Nile delta (Blanc 1952). By comparison to studied shell middens with lunates, the dates at Dahlak may range from *ca.* 6,800 to 6,000 cal BC (Bar-Yosef Mayer and Beyin 2009). Thus the Helwan retouch on lunates, bladelets and blades was transmitted as a cultural attribute, although its proliferation among Early Natufian sites speaks for a Levantine origin. However, even in this cultural context, it is a new invention that dramatically departs from the reduction sequences of the Geometric Kebaran.

Connections during the Neolithic times

This volume, as well as previous studies by Shirai (2010) examines the Holocene connections between the lower Nile valley, the Egyptian oases, North Africa and the Levant. This section will center on the various lines of evidence concerning the connections between the Levant and Lower Egypt during the early millennia of the Holocene. My current

approach here, similar to an earlier paper on the same subject (Bar-Yosef 2002), is based on a proposal to consider two possible routes between these two regions, namely, by sea and by land. In the efforts to trace the evidence for both routes, we face similar difficulties in obtaining sound information dated to the first millennia of the Holocene especially for the marine route. Thus, I will start with the latter because it requires the understanding of the geological history of the Nile delta and early seafaring in the Eastern Mediterranean.

It is well established that the recorded Neolithic occupations in the delta, such as Merimde Beni Salama, date to much later times than those in the Levant. The layer with Helwan points in Merimde was dated to 4900-4500 cal BC but Eiwanger, the excavator, claims that the date is too recent due to the presence of bladelets and it would be better to view the layer as of 6th millennium BC (Shirai 2010: 320), although Hassan (2002) accepts this date in his comprehensive review. Other sites are el-Omari and Minshat Abu Omar (Krzyzaniak 1992). In addition, the earliest Neolithic in the Fayum basin begins somewhat later and lasts from 5480 to 4260 cal BC (Shirai 2010: 49) while the “agricultural package” was introduced only sometime before 4600 cal BC, after the hiatus of the early 6th millennium BC (i.e., the effects of the so-called “8200 cal BP cold event”). The arrival of ovicaprids is considered as preceding the introduction of domesticated plants and dated to *ca.* 5,800 cal BC in Sodmain Cave near the Red Sea (Vermeersch et al. 1996), and slightly later in the Western Desert oases of Dakhleh (*ca.* 5,700 cal BC. McDonald, this volume), Farafra (Barich and Lucarini 2008; Lucarini, this volume) and Nabta Playa (Hassan 2002 and references therein). In sum, the emergence of societies of hunter-herders who continued to gather plant food characterized the early arid tropics (Marshall and Weissbrod 2011).

At this point, I would like to briefly add a demographic hypothesis that will be discussed and tested elsewhere. The late beginning of agro-pastoral societies along the Nile valley from around 5,500 cal BC, regardless of whether we accept the early cattle domestication in the Eastern Sahara or not (see discussion in Andrew Smith, and Alison Smith this volume), resulted in population growth. Instead of small Neolithic villages of farmers-herders archaeologists uncovered and describe the formation of the Maadi-Buto (from around 4000/3900 cal BC) in Lower Egypt and Nagada (I – III from *ca.* 3900 to *ca.* 3200 cal BC) in Upper Egypt as ‘proto-state’ societies defined by Levy and van den Brink (2002). These two Predynastic cultures were the background for the appearance of the first

dynasties. In brief, only producers of cereals and pulses as basic staple food could facilitate the fast population increase. Sedentism, storage, and weaning foods for babies allow for the growth of communities known as the Neolithic Demographic Transition (Bouquet-Appel and Bar-Yosef 2008 and papers therein; Bouquet-Appel 2011). Based on several archaeological examples from western and eastern Asia, the hypothesis of the NDT estimates that approximately 3000 to 4000 years are required for the emergence of the first large Predynastic ‘proto-states’. If the beginning of agro-pastoral societies along the Nile valley was really around 5,500 cal BC, their subsequent development toward ‘proto-states’ looks unusually too rapid. I therefore assume that farming actually reached the Nile delta and started there by 8,000-7,000 cal BC and then spread upstream along the Nile valley. Hamlets and villages of this period were not yet found in the Nile delta or between its apex and the Fayum basin. The current belief is that the sites of this time are buried deep beneath the deposits of the Nile delta.

Thus, the demographic hypothesis concerns the arrival of farmers by sea probably from the northern Levant during the PPNB period (*ca.* 8,500- 6,200 cal BC) bringing with them domesticated animals and plants. This suggestion is somewhat different from my original proposal (Bar-Yosef 2002) to see the first arrival of farmers as triggered by the so-called “8200 cal BP cold event” (*ca.* 6,200 cal BC). In my previous presentation, I proposed that the adoption of symbols and elements of Egyptian cosmology from Levantine Neolithic contexts was due to late arrival of farming in the Nile valley. While earlier cultural transmission is still a valid option, it seems that a post “6,200 cal BC cold event” Levantine migration is a better candidate for this diffusion of beliefs and symbolic presentations.

The hypothesis concerning maritime dispersals of farmers requires us to look into the evidence now well-known from Cyprus. The Cypriote records permit archaeologists to reconstruct the general type of vessels that could have served the colonists who also landed in the Nile delta. Cyprus was first temporarily colonized by hunter-gatherers at *ca.* 10,900-9,700 cal BC (Simmons 1999, 2012) and then during the 10th millennium BC by farmers who cultivated wild cereals (Vigne et al. 2012; Manning et al. 2010). The vessels of the colonists should have been adequate for transporting the calves, Fallow deer, pigs as well as goat and sheep. Although prehistoric seafaring boats were uncovered near Cyprus or the Levantine-Turkish coast a suggested reconstruction was already published (Vigne 2009, Fig.7).

There is no unambiguous evidence that farmers arrived at that time in the Nile delta. The presence in Lower Egypt of rare el-Khiam points, objects known to have been exchanged among farmers and foragers (Bar-Yosef and Belfer-Cohen 1989) indicate a geographically long range distribution as they do occur in the Abu Madi I in southern Sinai (Bar-Yosef 1985). The charcoal dates from this site are spread from 9,600-8,300 cal BC and thus are more or less contemporary with other PPNA sites in the Levant. In addition, the small sample of Helwan points common in PPNB times in the Levant but are probably dates in Lower Egypt to later times as suggested by Shirai (2010). Hence, if we accept the Terminal Pleistocene connections between the two regions expressed by the presence of the Mushabian, and probably by the later Ramonian (characterized by assemblages that include Helwan lunates), the spread of early Neolithic point suggests an accidental continuous connection interaction.

Foragers continued to survive in the Nile valley as documented by the Qarunian sites in the Fayum basin (only 70 km from Helwan as the crow flies) dated to *ca.* 7500-6000 cal BC (Shirai 2010), or the Elkabian in Upper Egypt of *ca.* 6800- 6500 cal BC (Vermeersch 1978). Thus we should consider the option that even if the delta was colonized first, archaeological remains of the early colonization are no longer visible.

The geological and archaeological evidence demonstrates that during the Holocene some 50 m thick sediments accumulated in the Nile delta that are currently mostly under the sea level (Stanley et al. 2008). Hence it is not surprising that a Predynastic artifact dated to *ca.* 4,000-3,900 cal BP was found at 7.5 m below the surface. The artifact was not washed by fluvial action but left there at the time when the coast was 15 km north of the current coastal line. The famous site of Buto was on the edge of a marshy area stretching into this earlier lagoon enclosed by a bar where the drilling of core S-50 uncovered this stone object. This research and others indicate that the sinking of the delta is due to a series of fault lines running approximately in parallel to the edge of the African continent (Samuel et al. 2003). Thus we should expect earlier Neolithic landing sites to be even deeper than 7.5 m. This expectation is supported by many studies based on numerous boreholes and hundreds of radiocarbon dates (e.g. Butzer 2002 and references therein; Stanley 2002 and references therein).

The next phase of migration by farmers bringing goats and later sheep into Egypt took place after the “8200 cal BP cold event” (*ca.* 6200 cal BC). Interestingly, the currently available radiocarbon dates indicate that it was probably this climatic instability with years of droughts that correlates with the chronological gap between the Qarunian, the Epi-Paleolithic culture of the Fayum basin, and the Fayumian (5480-4260 cal BC), the early Neolithic agricultural culture (dates from Shirai 2010). It should be remembered that this climatic crisis lasted for a few centuries as indicated by different palaeoclimatic sources and its impact is quite clear in the Levantine records (e.g. Bar-Yosef 2001; Rohling and Pälike 2005; Berger and Guilaine 2009; Weninger et al. 2009; van der Plicht et al 2011 and references therein) and apparently also in Egypt. The impact of such abrupt climatic changes is often visible in the settlement patterns, such as the colonization of western Anatolia (Özdoğan 2011). We may therefore expect that human movements in the Eastern Mediterranean lands caused changes in Egypt as well.

The Egyptian Neolithic that dates to the 6th millennium BC provides a wealth of evidence for the connections with the Levant partially due to inward migration of small groups as indicated by the genetic evidence (see A. Smith this volume). Thus, the Levantine origins of the bifacial projectiles and knives were already suggested by more than one study (e.g., Wetterstrom 1993; Shirai 2010 and references therein). Movements of Levantine groups was probably the mechanism that brought the cattle, goat and sheep to the Nile valley. It could have been that at that time when several symbolic sexual expressions and cosmological concepts also arrived in the Egyptian world and resulted later in the production of the Coptos colossi (Bar-Yosef 2002).

An additional Levantine technical invention that indicates the knowledge acquired during the 10th-9th millennia BC (or earlier) is the ability to dig wells reaching the water table, known from Atlit-Yam, Miloutkhia, Sha’ar Hagolan, and more (Galili and Nir 1993; Peltenburg et al. 2001; Garfinkel et al. 2006). The Egyptian examples include wells dug in Bir Kiseiba since the mid-7th millennium BC as suggested by the excavators (Wendorf and Schild 1980; Close and Wendorf 1992). A more recent discovery of a well in Kharga oasis, some 200 km west of the Nile valley, dated to 4,800-4,200 cal BC (Briais et al. 2012). Transmission of material culture between the Levant and the Nile Valley continued by walking across the northern Sinai route (*ca.* 250 km between Gaza and the Pelusian branch

of the Nile) and riding donkeys from *ca.* 4,000 cal BC (Rossell et al. 2008). These interactions evolved in the course of the 5th-4th millennia BC and continued as better established trade routes during the reign of the Egyptian dynasties that also contributed to the ensuing interactions.

Final Remarks

The connections between Egypt and the Levant are a constant subject for discussions and conferences, but the discussions have often been focused on the 4th millennium BC and later times. I tried in this eclectic review to bring some of the information regarding the interactions in the preceding millennia without minimizing the difficulties in recognizing and interpreting the evidence. The distances between the two regions and the eventual hardships in boating or walking from one area to the other should be taken into account. We can estimate that it did not take more than two weeks for simple boats to travel from the northern Levant to the Nile delta. As navigating up and down the Nile also developed in an earlier age, we can assume that maritime routes between Egypt and the Levant, although limited by seasonal conditions of streams and winds, were developed as early as those with Mesopotamia. However, we should remember that the time it takes to go from the Gaza coastal area or the Negev highlands to the Nile delta is far less than 10-14 days, and trips were probably feasible during the entire year. Thus advantages of the terrestrial trips between the Levant and the Nile delta are that they were more easily manageable by walking and were facilitated once donkeys were introduced as the carriers of heavy loads, and that the routes were open in both directions. Accepting these general conclusions opens the door for speculating about long distance networks, formation of interaction spheres, and for further examinations of cultural impacts within the variable interaction spheres of the Eastern Mediterranean.

Acknowledgements

I am grateful to N. Shirai and H.G. Gebel for inviting me to contribute a paper to this volume . I thank N. Shirai and D.E. Bar-Yosef Mayer for their comments on a previous draft. Needless to mention that all shortcomings are mine.

References

- Barich, B. E. and G. Lucarini
2008 The Nile valley seen from the oases: the contribution of Farafra. In B. Midant-Reynes and B. Tristant (eds.), *Egypt at its origins vol.2*: 338-345. Peeters, Leuven.
- Bar-Yosef, O.
1975 The Epi-Palaeolithic in Palestine and Sinai. In F. Wendorf and A. E. Marks (eds.), *Problems in Prehistory: North East Africa and the Levant*: 363-378. SMU Press, Dallas.
- Bar-Yosef, O.
1985 The Stone Age of the Sinai Peninsula. In M. Liverani, A. Palmieri and P. Peroni (eds.), *Studi di Paleontologia in Onore di Salvatore M. Puglisi*: 107-122. Università di Roma "La Sapienza", Rome.
- Bar-Yosef, O.
2001 From sedentary foragers to village hierarchies: The emergence of social institutions. In G. Runciman (ed.), *The Origin of Human Social Institutions*: 1-38. Oxford University Press, Oxford.
- Bar-Yosef, O.
2002 Early Egypt and the Agricultural Dispersals. In H. G. K. Gebel, B. D. Hermansen and C. H. Jensen (eds.), *Magic Practices and Ritual in the Near Eastern Neolithic*: 49-65. ex oriente, Berlin.
- Bar-Yosef, O.
2011 Climatic fluctuations and early farming in West and East Asia. *Current Anthropology* 52(Supplement 4): S175-S193.
- Bar-Yosef, O. and A. Belfer-Cohen
1989 The Levantine "PPNB" interaction sphere. In I. HersHKovitz (ed.), *People and Culture in Change*: 59-72. Archaeopress, Oxford.
- Bar-Yosef, O. and A. Killbrew
1984 Wadi Sayakh- A Geometric Kebaran site in Southern Sinai. *Paléorient* 10: 95-102.
- Bar-Yosef, O. and J. L. Phillips (editors)
1977 *Prehistoric Investigations in Jebel Meghara, Northern Sinai*. Hebrew University, Jerusalem.
- Bar-Yosef Mayer, D. E., B. Vandermeersch and O. Bar-Yosef
2009 Shells and Ochre in Middle Paleolithic Qafzeh Cave, Israel: Indications for Modern Behavior. *Journal of Human Evolution* 56: 307-314.
- Baruch, U. and O. Bar-Yosef
1986 Upper Paleolithic Assemblages from Wadi Sudr, Western Sinai. *Paléorient* 12:

69-84.

Becker, M. S.

2003 Spatial Patterning in the Upper Palaeolithic: A Perspective from the Abu Noshra Sites. In A. Belfer-Cohen and A. N. Goring-Morris (eds.), *More than Meets the Eye: Studies on Upper Palaeolithic Diversity in the Near East*: 134-150. Oxbow Books, Oxford.

Belfer-Cohen, A. and P. Goldberg

1982 An Upper Palaeolithic site in South Central Sinai. *Israel Exploration Journal* 32(4): 185-189.

Berger, J. F. and J. Guilaine

2009 The 8200 cal BP abrupt environmental change and the Neolithic transition: A Mediterranean perspective. *Quaternary International* 200: 31-49.

Blanc, A. C.

1952 L'industrie sur obsidienne des îles Dahlac (Mere Rouge). Paper presented at the Pan African Congress.

Bouquet-Appel, J.-P.

2011 The agricultural demographic transition and after agriculture inventions. *Current Anthropology* 52 (Supplement 4): S497-S-510.

Bouquet-Appel, J. P. and O. Bar-Yosef (editors)

2008 *The Neolithic demographic transition and its consequences*. Springer, New York.

Briois, F., B. Midant-Reynes, S. Marchand, Y. Tristant, M. Wuttmann, M. De Dapper, J. Lesur and C. Newton

2012 Neolithic occupation of an artesian spring: KS043 in the Kharga Oasis, Egypt. *Journal of Field Archaeology* 37(3): 178-191.

Butzer, K. W.

2002 Geoarchaeological implications of recent research in the Nile delta. In E. van den Brink and T. E. Levy (eds.), *Egypt and the Levant: interrelations from the 4th through the early 3rd millennium BCE*: 83-97. Leicester University Press, London.

Cauvin, M.-C. and E. Coqueugniot

1988 L'oasis d'el Kowm et le Kébarien Géométrique. *Paléorient* 14: 270-282.

Close, A. E. and F. Wendorf

1992 The Beginnings of Food Production in the Eastern Sahara. In A. B. Gebauer and T. D. Price (eds.), *Transitions to Agriculture in Prehistory*: 63-72. Prehistory Press, Madison, Wisconsin.

Finlayson, B., S. Mithen and S. Smith

- 2011 On the Edge: Southern Levantine Epipalaeolithic–Neolithic Chronological succession. *Levant* 43(2): 127-138.
- Fujimoto, T.
1979 The Epi-Palaeolithic assemblages of Douara Cave. *Bulletin University Museum, Tokyo* 16: 47-75.
- Galili, E. and Y. Nir
1993 The submerged Pre-Pottery Neolithic water well of Atlit-Yam, northern Israel, and its paleoenvironmental implications. *The Holocene* 3(3): 265-270.
- Garfinkel, Y., A. Vered and O. Bar-Yosef
2006 The domestication of water: the Neolithic well at Sha'ar Hagolan, Jordan Valley, Israel. *Antiquity* 80: 686-696.
- Garrod, D. A. E.
1957 The Natufian culture: The life and economy of a Mesolithic people in the Near East. *Proceedings of the British Academy* 43: 211-227.
- Garrod, D. A. E. and D. M. Bate
1937 *The Stone Age of Mount Carmel I*. Clarendon Press, Oxford.
- Gilead, I. and O. Bar-Yosef
1993 Early Upper Paleolithic Sites in the Kadesh Barnea area, northeastern Sinai. *Journal of Field Archaeology* 20: 265-280.
- Goring-Morris, A. N.
1987 *At the Edge: Terminal Pleistocene hunter-gatherers in the Negev and Sinai*. Archaeopress, Oxford.
- Goring-Morris, A. N.
1991 The Harifian of the Southern Levant. In O. Bar-Yosef and F. R. Valla (eds.), *The Natufian Culture in the Levant*: 173-216. International Monographs in Prehistory, Ann Arbor.
- Goring-Morris, A. N.
1995 Complex Hunter-Gatherers at the End of the Paleolithic (20,000-10,000 BP). In T. E. Levy (ed.), *The Archaeology of Society in the Holy Land*: 141-168. Leicester University Press, London.
- Goring-Morris, A. N.
2009 Two Kebaran Occupations near Nahal Soreq, and the reconstruction of group ranges in the early Epi-Paleolithic in the Israeli littoral. *Eurasian Prehistory* 6: 75-94.
- Hassan, F. A.
2002 Archaeology and Linguistic Diversity in North Africa. In P. Bellwood and C.

- Renfrew (eds.), *Examining the farming/language dispersal hypothesis*: 127-133. McDonald Institute for Archaeological Research, Cambridge.
- Kenyon, K. M.
1957 *Digging Up Jericho*. Benn, London.
- Krzyzaniak, L.
1992 The Later Prehistory of the Upper (Main) Nile: Comments on the current state of research. In F. Klees and R. Kuper (eds.), *New Light on the Northeast African Past*: 239-248. Heinrich-Barth-Institut, Köln.
- Levy, T. E. and E. van den Brink
2002 Interactions models: Egypt and the Levantine periphery. In E. van den Brink and T. E. Levy (eds.), *Egypt and the Levant: interrelations from the 4th through the early 3rd millennium BCE*: 3-38. Leicester University Press, London.
- Maher, L. A.
2007 2005 Excavations at the Geometric Kebaran site of ‘Uyun al-Hammam, al-Koura District, northern Jordan. *Annual of the Department of Antiquities of Jordan* 51: 263-272.
- Maher, L., T. Richter, D. Macdonald, M. D. Jones, L. Martin and J. T. Stock
2012 Twenty thousand-Year-Old huts at hunter-gatherers settlement in Eastern Jordan. *PLOS ONE* 7(2): e31447.
- Manning, S. W., C. McCartney, B. Kromer and S. T. Stewart
2010 The earlier Neolithic in Cyprus: recognition and dating of a Pre-Pottery Neolithic A occupation. *Antiquity* 84: 693-706.
- Marhsall, F. and L. Weissbrod
2011 Domestication processes and morphological change: Through the lens of the donkey and African pastoralism. *Current Anthropology* 52(Supplement 4): S397-S413.
- Özdoğan, M.
2011 Archaeological evidence on the westward expansion of farming communities from Eastern Anatolia to the Aegean and the Balkans. *Current Anthropology* 52(Supplement 4): S415-S430.
- Peltenburg, E., P. Croft, A. Jackson, C. McCartney and M. Murray
2001 Well-established colonialists: Mylouthkia 1 and the Cypro Pre-Pottery Neolithic B. In S. Swiny (ed.), *The Earliest Prehistory of Cyprus: From Colonization to Exploitation*: 61-93. American Schools of Oriental Research, Boston.
- Phillips, J. L.
1988 The Upper Paleolithic of the Wadi Feiran, Southern Sinai. *Paléorient* 14: 183-199.

- Phillips, J. L.
1994 The Upper Paleolithic chronology of the Levant and the Nile Valley. In O. Bar-Yosef and R. Kra (eds.), *Late Quaternary Chronology and Paleoclimates of the Eastern Mediterranean*: 169-176. Radiocarbon and the American School of Prehistoric Research, Tucson and Cambridge.
- Rohling, E. J. and H. Pälike
2005 Centennial-scale climate cooling with sudden cold event around 8,200 years ago. *Science* 434: 975-979.
- Rossel, S., F. Marshall, J. Peters, T. Pilgram, M. D. Adams and D. O'Connor
2008 Domestication of the donkey: Timing, processes, and indicators. *Proceedings of the National Academy of Sciences* 105(10): 3715-3720.
- Samuel, A., B. Kneller, S. Raslan, A. Sharp and C. Parsons
2003 Prolific deep-marine slope channels of the Nile Delta, Egypt. *The American Association of Petroleum Geologists* 87(4): 541-560.
- Schmidt, K.
1996 Helwan in Egypt: A PPN Site? In S. K. Kozłowski and H. G. K. Gebel (eds.), *Neolithic Chipped Stone Industries of the Fertile Crescent and Their Contemporaries in Adjacent Regions: Proceedings of the Second Workshop on PPN Chipped Lithic Industries, Warsaw 1995*: 127-136. ex oriente, Berlin.
- Shirai, N.
2010 *The archaeology of the first farmers-herders in Egypt: New insights into the Fayum Epipalaeolithic and Neolithic*. Leiden University Press, Leiden.
- Simmons, A. H.
1999 *Faunal Extinction in an Island Society*. Kluwer Academic/Plenum Publishers, New York.
- Simmons, A.
2012 Mediterranean island voyages. *Science* 338: 895-897.
- Stanley, J. D.
2002 Configuration of the Egypt-to-Canaan and north Sinai byway in the Bronze Age. In E. van den Brink and T. E. Levy (eds.), *Egypt and the Levant: interrelations from the 4th through the early 3rd millennium BCE*: 98-117. Leicester University Press, London.
- Stanley, D. J., T. F. Jorstad, M. P. Bernasconi, D. Stanford and M. Jordy
2008 Predynastic human presence discovered by core drilling at the northern Nile delta coast, Egypt. *Geology* 36(8): 599-602.
- Tixier, J.
1963 *Typologie de l'Epipaléolithique du Maghreb*. C. R. A. P. E., 2, Paris.

- van den Brink, E. and T. Levy, E. (editors)
2002 *Egypt and the Levant: interrelations from the 4th through the early 3rd millennium BCE*. Leicester University Press, London.
- van der Plicht, J., P. M. M. G. Akkermans, O. Nieuwenhuyse, A. Kaneda and A. Russell
2011 Tell Sebi Abyad, Syria: Radiocarbon chronology, cultural change and the 8.2 Ka event. *Radiocarbon* 53(2): 229-243.
- Vermeersch, P. M.
1978 *Elkab II: L'Elkabien Épialéolithique de la Vallée du Nil Égyptien*. Universitaire Pers Leuven, Bruxelles.
- Vermeersch, P. M., P. Van Peer, V. Rots, L. Van Kerckhoven and W. Van Neer
1996 The Middle Holocene Shell Mound of El Gouna on the Red Sea (Egypt). *Journal of Field Archaeology* 30: 435-442.
- Vermeersch, P. M., M. Otte, E. Gilot, E. Paulissen, G. Gijssels and D. Drappier
1982 Blade technology in the Egyptian Nile Valley: Some new evidence. *Science* 216: 626-628.
- Vigne, J-D.
2009 Introduction et réintroduction des mammifères à Chypre aux IX^e et VIII^e millénaires av. J.-C. (Néolithique précéramique): indice indirects de l'usage de la voile au Néolithique? In *De Méditerranée et D'Ailleurs... Melanges offerts à Jean Guilaine*. Pp. 807-820. Archives d'Écologie Préhistorique: Toulouse.
- Vigne, J.-D., F. Briois, A. Zazzo, G. Willcox, T. Cucchi, S. Thiébault, I. Carrère, Y. Franel, R. Touquet, C. Martin, C. Moreau, C. Comby and J. Guilaine
2012 First wave of cultivators spread to Cyprus at least by 10,600 y ago. *Proceedings of the National Academy of Sciences* 109(22): 8445-8449.
- Watkins, T.
2010 New light on the Neolithic Revolution in south-west Asia. *Antiquity* 84: 621-634.
- Wendorf, F. and R. Schild
1976 *Prehistory of the Nile Valley*. Academic Press, New York.
- Wendorf, F. and R. Schild
1980 *Prehistory of the Eastern Sahara*. Academic Press, New York.
- Weninger, B., L. Clare, E. J. Rohling, B. Bar-Yosef, U. Böhrer, M. Budja, M. Bundschuh, A. Feurdean, H.-G. Gebel, O. Jöris, J. Linstädter, M. P., T. Mühlenbruch, A. Reingruber, G. Rollefson, D. Schyle, L. Thissen, H. C. Todorova and C. Zielhofer
2009 The Impact of Rapid Climate Change on prehistoric societies during the Holocene in the Eastern Mediterranean. *Documenta Prehistorica* 36: 551-583.

Wetterstrom, W.

1993 Foraging and farming in Egypt: The transition from hunting and gathering to horticulture in the Nile valley. In T. Shaw, P. Sinclair, B. Andah and A. Okpoko (eds.), *The Archaeology of Africa: Food, Metals and Towns*: 165-226. Routledge, London.

Willcox, G. and D. Stordeur

2012 Large-scale cereal processing before domestication during the tenth millennium cal BC in northern Syria. *Antiquity* 86: 99-114.