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Inequality in the Epipaleolithic of the Levant

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Abstract. Surpluses have been viewed as a critical factor in the emergence of social inequalities and complexities and thus have been an important focus of archaeological work. Many researchers have tried to monitor prehistoric surpluses through archaeological evidence for food storage facilities. However, there are serious problems with this approach which have led to views of the Levantine Late Epipaleolithic as lacking surpluses, and thus, lacking inequalities and social complexity. Given the problems with interpreting past storage behavior, we advocate the use of proxy indicators for estimating surpluses using a combination of archaeology, ethnoarchaeology, ethnography and traditional use study information to explore new ways of thinking about how to study food storage and food surplus behaviors. From this perspective, we suggest that information has been overlooked that can provide insights into substantial surpluses in the Late Epipaleolithic, which suggest transegalitarian types of inequalities and social complexity.
Keywords: Epipaleolithic, Levant, surpluses, storage, inequality.

Вильнёв С., Хейден Б. Неравенство в эпипалеолите Леванта. Излишки рассматривались как ключевой фактор возникновения социального неравенства, и поэтому археологи уделяли им большое внимание в своей работе. Многие исследователи пытались судить о наличии излишков в преистории на основании археологических свидетельств существования сооружений для хранения припасов. Однако такой подход имеет ряд серьёзных недостатков, которые привели к мнению, что в позднем эпипалеолите Леванта излишки отсутствовали и, следовательно, отсутствовали также неравенство и сложные общества. Сознавая трудность выявления практики хранения в древности, мы предлагаем использовать для этого косвенные показатели и, опираясь на сочетание археологической, этноархеологической и этнографической информации, а также традиционного бытового опыта, исследовать новые пути осмысления того, как изучать поведение, связанное с хранением пищевых припасов и с их излишками. Руководствуясь этим подходом, мы предполагаем, что информация, могущая дать возможность выявить наличие существенных излишков (и, следовательно,

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трансэгалитарных типов неравенства) в эпипалеолите, упускалась из виду.
Ключевые слова: эпипалеолит, Левант, излишки, хранение, неравенство.

Surpluses have been thought to have been a central factor — perhaps *the* central factor — in enabling socioeconomic inequalities and complex societies to develop as argued by a long line of anthropologists including Boas, Childe, Herskovits, and Tax (see Harris 1959: 185) and in the last decades by archaeologists (see Kuijt 2015) including political ecologists like Hayden (2014). This has led to archaeological expectations that evidence of surpluses should appear in the prehistoric record just prior to or together with indications of increasing complexity and inequalities. A number of archaeologists have focused on indications of food storage and its scale as a means of gauging past surplus production (*e. g.*, Kuijt 2008; 2015). In contrast, based on ethnographic practices, it has been argued that evidence of storage in residential sites is an unreliable and generally inaccurate means of estimating surplus food production (Hayden in press). Because of this, we strongly feel that anthropological and ethnographic approaches are invaluable in understanding considerations involved in the analysis and interpretation of food surpluses and food storage behaviors. We explore a combination of archaeology, ethnoarchaeology, ethnography and traditional use study information to explore new ways of thinking about how to study food storage and food surplus behaviors.

In addition, the definitions used by many archaeologists of 'equality' or 'egalitarian' generally mask important distinctions. That is, there are important differences between true socioeconomic egalitarian societies (with obligate sharing and which lack economic inequalities or competition based on food resources — *e. g.* the San, Fuegians, Desert Australians, Cree, Inuit) versus transegalitarian societies with private ownership of produce and resource locations, significant wealth and power differences (sometimes including slaves), overt competition based on food, and the lack of obligatory general sharing (*e. g.*, the Northwest Coast groups of North America, many Californian Indians, the Ainu, Calusa, some Inuit, New Guinean hunter/gatherers, and many other horticultural groups at the tribal level).

We view feasting, and the rituals associated or surrounding food, as forms of food-based competition and cooperation, that among transegalitarian groups, allowed a shift to generating and utilizing food surpluses in ways that help underwrite social or political pursuits. We have been investigating the relationship of surpluses and their use in socioeconomic or sociopolitical strategies, particularly feasting and ritual, for over 20 years. Our research has spanned ethnoarchaeology in Southeast Asia, Indonesia, Polynesia, and Western North America, as well as long term archaeological investigations and traditional use studies on the Western Canadian Plateau at pithouse villages and major storage sites. We have also explored these issues in Paleolithic contexts, including over a decade of research in Paleolithic caves (Villeneuve, Hayden 2007; Villeneuve 2008; Hayden 2018).

In the Americas, one of the key geographical areas for studying the emergence of complex hunter-gatherer societies has been the Northwest Coast and Plateau of North America (for example, Ames 2004; Sassaman 2004). Hayden (2004; 2011) has compared the Northwest Plateau developments to very similar developments in the Near East, particularly in terms of the Natufian culture. We think that comparisons are apt between the two areas. On the Canadian Plateau, as in other regions of

archaeological interest, debates have arisen over the timing and conditions surrounding the emergence of inequalities and whether they are represented by early developments of semi-sedentary large villages. Models focus on whether inequality emerged with early village developments under conditions of resource abundance and changes in procurement or storage technology (Burley 1980; Matson 1985; Hayden 2001; 2005) or whether inequalities occurred later in village development under resource and demographic pressures during periods of climate change (Prentiss *et al*. 2007). Research into these issues on the Canadian Plateau is of considerable importance since it has contributed to archaeological models used elsewhere in the world for understanding the adaptation patterns of early complex hunter-gatherers, and the pathways to more complex social and economic organizations including the initial stages of institutionalized inequalities, which has been considered one of the least understood areas in the study of cultural evolution (Wiessner 2002: 233).

These models are testable by examining the timing of cultural changes (the beginning of large villages and multi-family structures, specialized ritual structures and wealth-related artefacts reflecting inequality) in relation to coterminous environmental conditions or technological changes and their magnitude. Attempts have been made to use various types of analysis to monitor economic, social and climatic changes over time in the large Canadian Plateau pithouse village sites (Hayden 1997; 2000a; 2000b; 2004; Prentiss *et al*. 2003; 2007).

However, we have been exploring a number of new approaches to provide an improved means of investigating changes over time (*e. g.*, Villeneuve 2015), including new ways to estimate surpluses based on ethnographic estimates and cross-cultural studies in food storage behaviors.

In this cultural context we have the advantage of the combination of data from excavations at Keatley Creek, the largest pithouse village site in Western Canada, as well as investigations specifically focusing on variation in storage practices, combined with a wealth of ethnographic data, as well as contemporary traditional use knowledge. Hayden (2011; in press) recently attempted a preliminary application of some of the data from this region to the Natufian to explore the potential of this line of investigation to provide helpful insights into social dynamics surrounding food that is easily overlooked by traditional archaeological approaches.

Storage may seem like a simple behavior, however, in reality it is a very complex issue with many theoretical assumptions and implications. While from an ecological viewpoint, necessity may be the "mother-of-invention" and is a common model used by archaeologists for explaining cultural changes, including food storage behaviors, it is opposed by a number of ethnographic accounts and our ethnoarchaeological studies in which food surpluses (and their storage) were generated and utilized for sociopolitical ends rather than for purely subsistence purposes.

As in other cases where our archaeologically logic-based assumptions often get flipped when we enter anthropological domains of investigation, the same is true for some aspects food surplus and food storage behaviors. Understanding to what degree and in what domains our target information deviates from our logical assumptions is the challenge of continued research. There are a number of problems with inferring assessments of food surpluses from direct evidence of food storage in archaeological excavations. The first of these involve environments where surpluses are permanently available. Since Testart presented his thesis on the importance of storage for creating cultural complexity in 1982, a number of authors, including Testart, have noted that there are some cases where the environment and technology were

able to support complex societies based on surpluses that were permanently available without any need to store food staples. Some of the best documented cases are the Calusa hunter/gatherer chiefdoms relying primarily on fish and shellfish in Florida (Widmer 1988); the complex hunter/gatherers of New Guinea who harvested sago year-round (Roscoe, in press); Amazonian horticulturalists who had a constant supply of manioc in the ground (Saulieu, Testart 2015); and the Melanesian/Polynesian chiefdoms with irrigated plots that constantly produced taro (Bayliss-Smith, Hveding 2015). Thus, at the outset, the link between surplus food, storage and social complexity is not strong in all regions, contrary to archaeological assumptions.

An even more pervasive problem emerges from the ethnographic literature which reveals that most storage in hunter/gatherer ethnographic societies was above ground on posts, in the rafters of houses, in storage baskets, boxes or a range of other perishable caches. These leave minimal recognizable archaeological remains (DeBoer 1988; Hayden in press). In addition to this, ethnographic practices of hunter/gatherers and horticulturalists often involve the storage of large amounts of food at considerable distances away from permanent or seasonally-permanent residences. Often food was stored in locations near resource procurement sites or in locations easily accessible after winter thaws (Morgan 2012). Archaeologists rarely record, recognize, or even look for such isolated storage features in the landscape away from residential sites.

Additional problems arise in determining the actual use of storage pits, versus processing or cistern pits, whether pits were used exclusively for surpluses versus subsistence foods, the kind of food stored, and the group that had access to stored food. For all these reasons, our contention is that the use of direct archaeological evidence for storage in the form of pits, silo's, or storage rooms, is unreliable and likely to be a grossly inaccurate indicator of actual food surpluses.

An alternative approach — proxy measures

Rather than relying on direct indications of storage to estimate food surpluses, we suggest the development of proxy measures that constitute more useful surplus measures. To develop proxy measures, we turned to ethnographic, ethnoarchaeological and traditional use information. Some of the proxy measures that we think can be explored for the Natufian in the Levant, include:

- Feasting
- Prestige animals and prestige items
- Indications of brewing
- Pronounced degrees of sedentism (either seasonal or year-round) and large site sizes
- Ecological contexts favorable for the mass harvesting of food resources on a seasonal basis and evidence of mass kills and/or mass harvesting technology
- Isotopic indicators from human bones indicative of significant reliance on foods that are only seasonally available.

While not all of these proxy indicators may lend themselves to quantification of surpluses or the amounts stored, by using ethnographic analogues together with energy expenditures similar to those utilized by optimum foraging theorists and cultural ecologists, these proxies should be capable of indicating the overall magnitude of abundance that was produced by communities as well as their relative ranking in terms of surpluses or storage. Monitoring Natufian surpluses is particularly important

since the resulting interpretations carry major implications for understanding the process of domestication in the Near East.

The paucity of cache pits or rock-based silos has been used by some Near East researchers to bolster arguments that there were minimal or no surpluses in the late Epipaleolithic and early Pre-Pottery Neolithic societies and therefore it is argued that there was no basis for competitive feasting and no basis for inequalities (*e. g.*, Twiss 2008: 426–427, 436–437; Kuijt 2008; 2009; 2015). In contrast, consideration of the proxy indicators of surpluses described below provides good reason to think that surpluses did exist in the Natufian and that they were used for the creation of basic socioeconomic inequalities typical of many transegalitarian societies.

Feasting

Hayden (2011) has argued that there is considerable evidence for feasting in the Levant Late Epipaleolithic, especially in funerary contexts. He estimated that major feasts probably involved up to 100 individuals requiring surpluses of food to feed everyone and prestige item gifts for specially invited guests. Most major ethnographic feasts last several days which would substantially increase the estimates we provide below. Types of feasts that would be expected in the Natufian include: occasional funerals, marriages, alliance feasts, house completion feasts, clan or lineage solidarity or promotional feasts, and special ritual events (*e. g.*, harvests, solstices, mass herd culls).

For a feast size of 100 individuals, at roughly 2,000 kcal per person, this would amount to 200,000 kcal of surplus food that would need to be provided for just one large feast per year. In our experience, as well as in ethnographic accounts of others (see Hayden 2014), most transegalitarian communities have more major feasts per year as well as numerous smaller feasts to reaffirm relationships between families or kin groups, for healing, or for other purposes.

Thus, the estimate here is far below the likely real value.

Prestige animals

A range of animals were commonly kept by transegalitarian hunter/gatherers as prestige pets or for other social purposes versus pure subsistence. Some examples include dogs, certain birds, and fur bearers (Hayden 2014:120–122). In terms of dogs, the earliest widely accepted evidence for the keeping and breeding of dogs is 12,000 years ago from Natufian contexts (Davis, Valla 1978; Tchernov, Valla 1997). Based on ethnographic records from the Northwest Coast, Alaska, and Siberia, the equivalent of one kilogram of fish was the amount consistently reported as needed to feed one dog every day, totaling 365 kilograms per dog each year (Durrer, Hannon 1962; Hewes 1973; O'Leary 1992: 92; Shnirelman 1994: 180, 188). It is unlikely that a single breeding pair would be demographically viable, so it is probable that at least a small dog population was present in each village. If there were 10 dogs, there would have to be 3,650 kilograms of yearly surplus fish or equivalent foods to feed them on a sustained basis over many years. While the Natufians may not have used fish, the food requirement for maintaining dogs could have involved substantial surpluses amounting to 5,840,000 kilocalories per year for a small population of dogs.

Prestige items

Special or exotic items imported from long distances provide another means of estimating the surpluses involved in their production and procurement. The acquisition of specialist or exotic prestige objects like shells, nephrite and copper certainly entailed the use of surpluses to either underwrite their production and long-distance procurement or to provide exchange materials that most likely reflected production and transport costs. These values are difficult to determine archaeologically, although some exchange rates have been recorded ethnographically from groups in the Northwest Plateau which are comparable to Natufian cases.

Dentalium

Dentalium shells, for example, were traded at the rate of 2 fathoms (or 4 meters) of strung dentalia for 3 "sticks" of dried salmon at 100 fish per stick, or traded for 4 bags of salmon oil (Teit 1900: 260–262). Estimating the length of a single dentalium shell to be around 2 cm, this would result in about 200 dentalium shells for 300 dried salmon. This would mean a total of 1,200 kilograms of fresh fish for 200 dentalium shells or about 6 kilograms per dentalium shell.

Given the adornment of Natufian skulls at El Wad with about 200 dentalium shells (Garrod, Bate 1930), this would represent a surplus equivalent of 1,200 kilograms of fish or 1,800,000 kilocalories. The 3,200 dentalium shells recovered from Hayonim (Belfer-Cohen 1991: 579) alone would represent 19,200 kilograms of fish or 28,800,000 kilocalories. On the Northwest Plateau of Canada, bone and antler beads had approximately the same value as dentalium shells and it seems reasonable to assume a similar equivalency for Natufian beads, especially those brought in from distant sources. We are only discussing the tip of the iceberg of surpluses used to acquire prestige items. From the example of dentalium, it is apparent that even small prestige items may represent considerable surplus expenditures.

Much more can be done to investigate this dimension of prestige items further. In the Natufian other items to consider could include colorful stone beads, shell disk beads, shark teeth, bird wings or talons, fox and leopard pelts, cinnabar, copper ornaments, engraved stone cups, basalt plates, basalt mortars and pestles, jade, and obsidian from 500 km away. Perishable prestige items could well have included feathers, baskets, clothing, furs or buckskin, wood carvings, fragrant resins, architectural features such as thatching or carved posts, and even slaves.

Basalt mortars

Larger items would have also required surplus financing, such as heavy basalt mortars from 60–100 km away. At an estimate of 80 km distance to basalt sources (Weinstein-Evron *et al*. 1999; Weinstein-Evron 2009: 85,108–109), a work group of 4 individuals traveling at an average of 20 km a day for 4 days of travel, with potentially 5 or more days at the quarry to rough out mortars, pestles, cups, bowls and plates, and then returning during 4 days, would all amount to about a total of two weeks or 56 person days for the group. At 3,000 kilocalories a day per person, this would amount to about 168,000 kilocalories required to procure basalt items.

Another example is plaster and ochre lined walls. At one Beidha PPN structure, estimates for a single plastering of the floor and walls required 2,250 kg of lime and 9,000 kilograms of wood to make the lime (Byrd 1994: 657). Estimating potentially only a quarter or fifth this amount for the Mallaha burial pit, would require around 500 kg of lime and 2,000 kg of wood.

To travel and make lime by two people acquiring adequate wood and limestone supplies, as well as kiln preparation time and making numerous trips to transport the lime, this could potentially involve 18 to 20 person days just for the production and supplying of materials. This amounts to about 60,000 kilocalories of surplus food that would need to be supplied for the work.

Brewing

With the recent indications of brewing in the PPNA and Natufian (Dietrich *et al*. 2012; Hayden *et al*. 2013; Liu *et al*. 2018), brewing should also be considered in estimates of surplus food. A feast involving 100 individuals, at up to 5 litres of beer per person, would require 500 litres of beer. This represents roughly 100–150 kilograms of grain (at contemporary brewing rates of 0.2–0.3 kilograms of grain per litre of beer, see Gupta *et al*. 2010) or about 107,900 to 163,500 kilocalories. Traditional societies only brew beer for special occasions like feasts, which was also very likely the case for the Natufian.

Other considerations

Other considerations that could indicate levels of surplus food might involve the degree of sedentism and population densities which, if elevated, would support the notion of surplus production in rich environments. Natufian estimates of village sizes range from 50 to 300 individuals with indications of full sedentism in some cases (Tchernov 1991; Moore *et al*. 2000: 491). Evidence of massive seasonal kills by Natufians of up to 500 gazelles must require some form of preservation, which could also provide support for the notion of surpluses (Legge, Rowley-Conwy 2000: 440–442, 449–450). Ethnographically, dried meat from such mass kills can last families the entire year (*Ibid*.). The existence of inequalities also implies the production of significant surpluses on a regular basis. As previously noted inequalities in the Natufian are indicated by elaborate burials and burial goods, the existence of prestige items (also indicative of private property), and evidence for feasting as well as indications of human sacrifices (Hayden 2004; 2011; 2014).

Conclusions

When all the proxy indicators of surpluses are added up, they total a very conservative minimum of 8,135,900 to 8,231,500 kcal per year per community. This is a not an inconsiderable surplus. It is the equivalent of at least five and a half tons of meat or two and a half tons of grain for community members. More realistically, this figure should probably be doubled or tripled, falling more likely in the realm of 16–24 million kcal, or the equivalent of 11–16 tons of meat, or 7.5 tons of threshed of grain used to support social and political gambits of residents who held feasts, raised prestige animals, and obtained prestige objects to achieve their goals.

Earlier generations of archaeologists dealing with the origins of inequality relied extensively on social or demographic theories (for instance, the ideas of Jean-Jacques Rousseau, Thomas Malthus, Karl Marx, Émile Durkheim and Friedrich Engels) and anthropological theorists (such as Sahlins and Service, Carnerio and Harris) to establish their models. They tended to use simple prime movers such as ecological circumscription and demographic pressure to explain a wide range of processes involved in the evolution of social complexity (for example, Binford 1968; Cohen 1977). Since the 1980s, archaeologists have increasingly developed their own theories, relying on archaeological data and their own analyses of historical records and early ethnographies (for example, Flannery 1977; Earle 1989; McGuire, Paynter 1991; Brumfiel, Fox 1994; Arnold 1996). Explanations for the development of complex or transegalitarian hunter-gatherers still frequently appeal to demographic pressures, climate changes, technological changes and ideological shifts. We have tried to bring a new dimension of sociopolitical strategies into consideration for the origins of inequalities and complexity. We base our approach largely on our reading of original ethnographies and our own ethnoarchaeological work. It is clear to us that the standard model of egalitarian hunter/gatherers fails to account for much of the ethnographic and archaeological record, including the Late Epipaleolithic of the Near East. The production of surpluses and the use of surpluses in sociopolitical strategies to acquire power and wealth (and create inequalities) were almost certainly a central part of their dynamics and social structure.

In conclusion, we would suggest that this paper has provided a good example of the importance that ethnographic and anthropological considerations can provide for the analysis and interpretation of archaeological data. Indeed, we would argue that the collection of archaeological data divested of anthropological or ethnographic contexts becomes a sterile product of little use or interest to anyone else besides archaeologists.

References

Ames K. 1981. The evolution of social ranking on the Northwest Coast of North America. *American Antiquity* 46, 789–805.

Arnold J. 1996. The archaeology of complex hunter-gatherers. *Journal of Archaeological Method and Theory* 3, 77–126.

Bayliss-Smith T., Hviding E. 2015. Landesque capital as an alternative to food storage in Melanesia. *Environmental Archaeology* 20, 425–436.

Belfer-Cohen A. 1991. Art items from Layer B, Hayonim Cave. In: Bar-Yosef O., Valla F. R. (eds.). *The Natufian Culture in the Levant.* Ann Arbor, Michigan: International Monographs in Prehistory, 569–588.

Binford L. 1968. Post-Pleistocene adaptations. In: Binford S., Binford L. (eds.). *New Perspectives in Archaeology.* Chicago: Adline, 313–342.

Brumfiel E., Fox J. (eds.). 1994. *Factional Competition and Political Development in the New World*. Cambridge: Cambridge University Press.

Burley D. 1980. *Marpole: Anthropological Reconstructions of a Prehistoric Northwest Coast Culture Type.* Burnaby, B.C.: Department of Archaeology, Simon Fraser University.

Byrd B. 1994. Public and private, domestic and corporate: The emergence of the Southwest Asian village. *American Antiquity* 59, 639–666.

Cohen M. 1977. *The Food Crisis in Prehistory.* New Haven: Yale University Press.

Davis S., Valla F. 1978. Evidence for the domestication of the dog 12,000 years ago in the Natufian of Israel. *Nature* 276, 608–610.

DeBoer W. 1988. Subterranean storage and the organization of surplus: The view from Eastern North America. *Southeastern Archaeology* 7, 1–20.
Dietrich O., Heun M., Notroff J., Schmidt K., Zarnkow M. 2012. The role of cult and feasting in the emergence of Neolithic communities. New evidence from Göbekli Tepe, south-eastern Turkey. *Antiquity* 86, 674–695.
Durrer J., Hannon J. 1962. Seasonal variation in caloric intake of dogs living in an Arctic environment. *American Journal of Physiology* 202, 375–378.
Earle T. 1989. The evolution of chiefdoms. *Current Anthropology* 30, 84–88.
Flannery K. 1977. *The Early Mesoamerican Village*. New York: Academic Press.
Garrod D., Bate D. 1937. *The Stone Age of Mount Carmel,* 1. Oxford: Clarendon Press.
Gupta M., Abu-Ghannam N., Gallahar E. 2010. Barley for Brewing: Characteristic changes during malting, brewing and applications of its by-products. *Comprehensive Reviews in Food Science and Food Safety* 9, 318–328.
Harris M. 1959. The economy has no surplus? *American Anthropologist* 61, 185–195.
Hayden B. 1997. *The Pithouses of Keatley Creek.* Fort Worth: Harcourt Brace.
Hayden B. 2000a. (ed.). *The Ancient Past of Keatley Creek. Volume I: Taphonomy*. Burnaby, BC: Archaeology Press, Simon Fraser University.
Hayden B. 2000b. (ed.). *The Ancient Past of Keatley Creek. Volume II: Socioeconomy.* Burnaby, BC: Archaeology Press, Simon Fraser University.
Hayden B. 2001. Richman, poorman, beggarman, chief: The dynamics of social inequality. In: Feinman G. M., Price T. D. (eds.). *Archaeology at the Millennium: A Sourcebook*. New York: Kluwer Academic/Plenum Publishers, 231–272.
Hayden B. 2004. Sociopolitical Organization in the Natufian: A view from the Northwest. In: Delage C. (ed.). *The Last Hunter-Gatherer Societies in the Near East*. Oxford: Archaeopress (British Archaeological Reports International Series 1320), 263–308.
Hayden B. 2005. The emergence of large villages and large residential corporate group structures among complex hunter-gatherers at Keatley Creek. *American Antiquity* 70, 169–174.
Hayden B. 2011. Feasting and social dynamics in the Epipaleolithic of the Fertile Crescent. In: Aranda G., Montón-Subías S., Sánchez M. R. (eds.). *Guess Who's Coming to Dinner: Feasting Rituals in the Prehistoric Societies of Europe and the Near East.* Oxford: Oxbow, 30–63.
Hayden B. 2014. *The Power of Feasts.* Cambridge: Cambridge University Press.
Hayden B. 2018. *The power of ritual in prehistory*. Cambridge: Cambridge University Press.
Hayden B. In press. Pitfalls of storage. *Current Anthropology*.
Hayden B., Canuel N., Shanse J. 2013. What was brewing in the Natufian? An archaeological assessment of brewing technology in the Epipaleolithic. *Journal of Archaeological Method and Theory* 20, 102–150.
Hewes G. 1973. Indian fisheries productivity in pre-contact times in the Pacific Salmon area. *Northwest Anthropological Research Notes* 7 (2), 133–155
Kuijt I. 2008. Demography and storage systems during the Southern Levantine Neolithic demographic transition. In: Bocquet-Appel J.-P., Bar-Yosef O. (eds.). *The Neolithic Demographic Transition and Its Consequences.* New York: Springer, 287–313.
Kuijt I. 2009. What do we really know about food storage, surplus and feasting in pre-agricultural communities? *Current Anthropology* 50, 641–4.
Kuijt I. 2015. The Neolithic refrigerator on a Friday night. *Environmental Archaeology: Journal of Human Paleoecology* 20, 321–336.
Legge A., Rowley-Conwy P. 2000. The exploitation of animals. In: Moore A., Hillman G., Legge A. (eds.). *Village on the Euphrates — From Foraging to Farming at Abu Hureyra.* Oxford: Oxford University Press, 423–471.
Liu L., Wang J., Rosenberg D., Lengyel G., Nadel D. 2018. Fermented beverage and food storage in 13,000 y-old stone mortars at Raqefet Cave, Israel: Investigating Natufian ritual feasting. *Journal of Archaeological Science: Reports* 21, 783–793.

Matson R. G. 1985. The relationship between sedentism and status inequalities among hunters and gatherers. In: Thompson M., Garcia M. T., Kense F. (eds.). *Status, Structure and Stratification*, Calgary: Archaeological Association of the University of Calgary, 245–252.
McGuire R., Paynter R. (eds.). 1991. *The Archaeology of Inequality*. Oxford: Blackwell Books.
Moore A. M., Hillman G., Legge A. (eds.). 2000. *Village on the Euphrates — From Foraging to Farming at Abu Hureyra*. Oxford: Oxford University Press.
Morgan C. 2012. Modeling modes of hunter-gatherer food storage. *American Antiquity* 77, 714–736.
O'Leary B. L. 1992. *Salmon and storage: Southern Tutchone use of an 'abundant' resource*. (Occasional Papers in Archaeology 3). Whitehorse: Heritage Branch, Government of Yukon.
Prentiss W. C., Lenert M., Foor T. A., Goodale N. B., Schlegel T. 2003. Radiocarbon dating at Keatley Creek: the chronology of occupation at a complex hunter-gatherer village. *American Antiquity* 68, 719–736.
Prentiss A. N., Lyons N., Harris L. E., Burns M. R. P., Godin T. M. 2007. The emergence of status inequality in intermediate scale societies. *Journal of Anthropological Archaeology* 26, 299–327.
Rosco P. In press. The emergence of social inequality among New Guinea's forager communities. In: Moreau L. (ed.). *Inequality Before Farming.* Cambridge: MacDonald Institute of Achaeology.
Sassaman K. E. 2004. Complex hunter-gatherers in evolution and history: a North American perspective. *Journal of Archaeological Research* 12, 227–280.
Saulieu G., Testart A. 2015. Innovation, food storage and the origins of agriculture. *Environmental Archaeology* 20, 314–320.
Shnirelman V. 1994. Cherchez le chien: Perspectives on the economy of the traditional fishing-oriented people of Kamchatka. In: Burch E. S., Ellanna L. S. (eds.). *Key Issues in Hunter-Gatherer Research.* Oxford: Berg, 169–188.
Tchernov E. 1991. Biological evidence for human sedentism in Southwestern Asia during the Natufian. In: Bar-Yosef O., Valla F. (eds.). *The Natufian Culture in the Levant*. Ann Arbor, Michigan: International Monographs in Prehistory, 315–340.
Tchernov E., Valla F. 1997. Two new dogs, and other Natufian dogs. *Journal of Archaeological Science* 24, 65–95.
Teit J. 1900. *The Thompson Indians of British Columbia*. (Memoirs of the American Museum of Natural History. Anthropology Vol. 1, part 4). New York: American Museum of Natural History, 163–392.
Testart A. 1982. The significance of food storage among hunter-gatherers. *Current Anthropology* 23, 523–537.
Twiss K. 2008. Transformations in an early agricultural society: Feasting in the southern Levantine Pre-Pottery Neolithic. *Journal of Anthropological Archaeology* 27, 418–442.
Villeneuve S. 2008. *Looking at Caves from the Bottom Up: A Visual and Contextual Analysis of Four Painted Caves in Southwest France (Dordogne)*. Unpublished MA Thesis.
Villeneuve S. 2015. Methodological approach to the study of early cultural developments and adaptations in hunter/gatherer communities: A case study from Keatley Creek on the Canadian Plateau. In: *World Heritage Papers: Human Evolution Sites and the World Heritage Convention in the Americas* 2. Paris: UNESCO, 107–126.
Villeneuve S., Hayden B. 2007. Nouvelle approche de l'analyse du contexte des figurations parietales. In: de Beaune S. (ed.). *Chasseurs-cueilleurs: Comment vivaient nos ancêtres du Paléolithique supérieur.* Paris: CNRS, 151–159.
Weinstein-Evron M. 2009 *Archaeology in the Archives: Unveiling the Natufian Culture of Mount Carmel*. Boston: Brill.
Weinstein-Evron M., Lang B., Ilani S. 1999. Natufian trade/exchange in basalt implements: Evidence from northern Israel. *Archaeometry* 41, 267–273.

Widmer R. 1988. *The Evolution of the Calusa: A Nonagricultural Chiefdom on the Southwest Florida Coast.* Tuscaloosa: University of Alabama Press.
Wiessner P. 2002. Vines of complexity: Egalitarian structures and the institutionalization of inequality among the Enga. *Current Anthropology* 43, 233–270.