In memory of our colleagues

Klaus Schmidt
1953–2014

Sharon Zuckerman
1965–2014
small game like birds, rabbits, and hares. In many Neanderthal sites in north-central and northwestern Europe, the animal bones come almost exclusively from a single species of large game like reindeer or horse, though the exact species varies from place to place. In other sites, often in the Mediterranean region, the bones indicate that Neanderthals ate a large array of animals and did not focus on a single species. In those places where Neanderthals ate small game, there is diversity in the kinds of small game they hunted. In some sites, they only harvested slow, easy-to-catch small game like tortoises, while in other areas they also hunted fast and hard-to-catch small game like birds and rabbits. Overall, the way Neanderthals hunted and the species they ate varied from place to place. Because plant remains do not fossilize as readily as animal remains, there is less evidence for plant use. Charred seeds from legumes, grasses, and pistachios have been found at Kebara Cave, Israel, and phytoliths from grass seed husks and other plants have been found at Amud Cave, Israel, suggesting that in the Near East, at least, Neanderthals consumed a variety of plant foods. Similar remains have not been discovered at other Neanderthal sites, but it is difficult to tell whether this is a preservation bias or a true dietary difference.

The overall pattern suggested by the archaeological data is that Neanderthals consumed different foods in different habitats. Animal meat was consistently a large component of their diets, but the relative importance of large game, small game, and plant foods varied from place to place. Therefore, Neanderthals likely behaved more like modern human foragers, who also modify their diets depending on the abundance and value of the foods in their particular environment.

See also Archaeobotany; Dental Analysis; Foraging; Hunter-Gatherer Subsistence; Paleolithic Diet; Plant Processing; Residue Analysis, Starch; Stable Isotope Analysis; Weapons, Stone; Zooarchaeology

Further Reading
Conard, Nicholas J., and Jürgen Richter, eds. 2011. Neanderthal Lifeways, Subsistence and Technology: One Hundred Fifty Years of Neanderthal Study. Dordrecht: Springer.
Hovers, Ereilla, and Steven L. Kuhn, eds. 2006. Transitions before the Transition: Evolution and Stability in the Middle Paleolithic and the Middle Stone Age. New York: Springer.

AMANDA G. HENRY

NECTAR
See Honey and Nectar

NEOLITHIC PACKAGE
The terms Neolithic package or Neolithic bundle refer to a set of innovations that marked the transition from hunter-gatherer subsistence to agriculture during the Neolithic period.
Polished stone tools, the domestication of animals and plants, and sedentism have been seen as key elements of the “Neolithic package” that developed during the late tenth and ninth millennia BC in the so-called Fertile Crescent of the Near East. These transitions were followed by the introduction of pottery in the seventh millennium BC. These innovations would then have spread northward, arriving in central Europe around 5500 BC.

Recent research has outlined two main problems regarding this process. The first applies to the specific criteria for the Neolithic package itself, while the second, more contentious, question centers on the formation and the mode by which these innovations spread.

Detailed regional studies substantiate the fact that not all elements of the package were present in every region, and others were around much earlier than hitherto believed. A semi-sedentary lifestyle seems to have evolved in the Near East as early as the Epipaleolithic; at sites like Abu Hureyra (Syria) or Ohalo II (Israel), there is evidence for large-scale gathering of nondomesticated plants as a basis for year-round occupation. Most researchers now agree that a sedentary way of life and long-term acquaintance with wild plant and animal forms were essential to domestication processes. Pottery, on the other hand, was not invented yet when the key changes toward a new lifestyle took place in the Fertile Crescent, and thus was not part of the initial package transmitted to other regions in the Pre-Pottery Neolithic. The insight that there are several differently packaged Neolithic bundles has left only the presence of food production as a secure, ubiquitous indicator for the Neolithic stage.

Further, ideas on the location and reasons for the start of the Neolithic have seen paradigmatic changes over the last decades. Following the work of Kathleen Kenyon at Jericho, Israel, the roots of food production initially were sought in the Southern Levant. With the research of Linda and Robert Braidwood at Jarmo in northern Iraq, however, the focus shifted to the northeast of the Fertile Crescent, or its “hilly flanks.” Recently, it has become clear that the region between the middle and upper reaches of the Euphrates and Tigris and the foothills of the Taurus Mountains (Upper Mesopotamia) has the potential to be the cradle of agriculture in the Near East. In this region the wild forms of several domesticated plants (the “founder crops”: emmer wheat, einkorn wheat, hulled barley, lentil, chickpea, bitter vetch, and flax) overlap.

At the same time, research on the reasons for this important change has undergone further development. Initially a direct relationship between the material needs of people and the advent of agriculture had been drawn. In his model of what he termed the Neolithic Revolution, V.G. Childe proposed climate change as the main driving force for people to settle down permanently as farmers. In his view, aridity drove people to concentrate in oases, and population pressure forced them to adopt new ways of food production.

Starting with the Braidwoods’ research in Upper Mesopotamia, it became clear that this region had the environmental features and wild biota necessary for the Neolithization process. In addition, nearly every site from the tenth and ninth millennia BC excavated at the appropriate scale shows a spatial division into residential and specialized workshop areas, and special buildings or open courtyards for communal and ritual purposes as well as evidence for extensive feasting. This evidence suggests a degree of social complexity that was hitherto unsuspected for hunter-gatherers. The rich iconography and the monumentality of buildings related to cult are especially striking. One of the key sites
in this respect is the hilltop sanctuary of Göbekli Tepe in the Turkish Euphrates region. Excavations conducted there since 1995 have revealed monumental architecture and rich iconography dating to the early and middle Pre-Pottery Neolithic (9600–8000 cal BC). This indicates that the mentality of the hunter-gatherers who visited Göbekli Tepe and their social structures were changing before and not after the shift to food production as a way of life, as argued by Jacques Cauvin.

Another paradigm shift in recent years concerns the dispersion and emergence of Neolithic packages in several parts of the Old World. Three main hypotheses have been proposed. The first one sees the Neolithization of Europe as the result of the migration of people from areas with an already developed Neolithic society; parallel autochthonous invention of key innovations and the diffusion of ideas, food, and technology form the other poles of explanation. Genetic evidence as well as the analyses of strontium isotope ratios in bones seem to hint at the first possibility, the movement of people and domesticated animals, as the most important factor. Formation, content, and distribution of the “Neolithic package” are still under intense scientific debate, however.

See also Agriculture, Origins of; Archaeobotany; Biomolecular Analysis; Cereals; DNA Analysis; Food Technology and Ideas about Food, Spread of; Göbekli Tepe; Old World Globalization and Food Exchanges; Paleodemography; Plant Domestication; Sedentism and Domestication; Stable Isotope Analysis

Further Reading


OLIVER DIETRICH, JENS NOTROFF, AND KLAUS SCHMIDT

NEOLITHIC REVOLUTION/NEOLITHIZATION
See Agriculture, Origins of

NIAH CAVES (MALAYSIA)
The Niah Great Cave is the most iconic and comprehensively studied archaeological site in Island Southeast Asia. The cave system of Niah is part of the Gunung Subis limestone