Africa, Tropical: East African Foragers

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Key Points

- The concept of forager or hunter-gatherer is derived from ethnographic examples, and is often imposed on archaeological evidence that shows greater diversity in adaption and lifeways.
- The Middle Stone Age shows evidence of art and symbolic behavior in southern Africa as early as 77,000 years ago.
- The Later Stone Age emerges as early as 50,000 years ago in East Africa.
- Microlithic technology, evidence of symbolic capacity, expansion of the diet to include fishing, storage, and the diversification of lithic traditions mark the advent of the Later Stone Age.
- New research examines ancient human DNA and ostrich eggshell beads to suggest how migrations and social networks for the exchange of information and knowledge affected human culture and lifeways at this time.
- The Holocene was marked by two adaptations: first, flexible, terrestrial adaptations that often included seasonal mobility and other complex settlement patterns; and second, lake- and river-oriented adaptations of relatively settled and less mobile fisher-hunter-gatherers.
- The advent of food production was slow and patchy, and created frontiers of hunter-gatherer/food producer interactions of varying duration and location during the Later Stone Age. These enduring frontiers set the stage for hunting and gathering peoples of the historic period to play key roles in the colonial histories of East African peoples and the incorporation of Africa into global trading routes.

Abstract

Foraging societies like those known in the ethnographic record may have emerged in East Africa as early as 50,000 years ago. This entry discusses the definition of hunter-gatherers and diverse evidence regarding foraging societies, including sites, technologies, environmental adaptation, social interactions, genetic and linguistic evidence, and the ancient migrations that the record suggests. It also examines the transition from foraging to food production among East African foragers.

Introduction

Hunter-gatherers are a topic of sustained interest and importance in anthropology. Hunter-gatherers live in groups and collect most of their food from wild plants and animals, rather than domesticated plants and animals. They were the dominant form of human lifeway for tens of thousands of years preceding the origins of domestication and agriculture. From the 19th century, evolutionary theoretical perspectives have shaped the study of hunter-gatherer societies in anthropology. As such, they have been taken to represent the earliest form of human societies and the origin point for cultural evolution. For example, where did social inequality come from? Were hunter-gatherer societies characterized by primitive communism or widespread sharing (Lee, 1990)? Over several decades of anthropological research, more evidence has accumulated supporting the diversity in hunter-gatherer societies (Kusimba, 2005). Social anthropology has centered on foraging societies' relations with others, with history, and with climate crisis and conservation (Biesele et al., 2000; Bollig, 1987). Archaeological debates have focused on empirical questions of lifeways, technology, art, and ancestral relations of different groups (Kusimba, 2003; Prendergast, 2020). In spite of the diversity revealed (Kent, 1996), hunter-gatherers are still seen through an evolutionary lens in which they serve as the foundation and origins for the human story.

Overview: Defining Hunter-Gatherers or Foragers

Foragers and hunter-gatherers are two terms for the same type of society: they are peoples who live together in groups and who collect the majority of their food from wild plants and animals. They may also fish and collect shellfish. Food collecting may also involve actively taking care of wild plants, through practices such as weeding and selective planting. Such practices, designed to encourage the growth and productivity of plants, are called cultivation. The cultivation, including the care and husbanding, of quasi-domesticates such as baobab or honey is also a strategy pursued by hunter-gatherers, who do not just live in their habitats but also actively shape and manage their environments (Kusimba, 2003). By domesticating their environments, foragers, like food producers, are also able to impact the diversity, productivity, and predictability of resources.

The category of forager is often used to describe groups which have historically been hunter-gatherers, such as many Khoisan speaking peoples of southern Africa. The term foragers may also be used to describe a lifeway or food-getting strategy, rather than be used to denote specific groups of people. Indeed, foraging is often an important economic activity that provides supplemental foods and secondary products, such as hides, milk, bone, sinew and so on, for food producers of various kinds (farmers and pastoralists). Furthermore, the ethnographic record also documents many cases of long-term mutualism, especially trade, exchange, and intermarriage, among foragers and food producers living in close proximity and in economic and even cultural complementarity (Cronk and Dickson, 2000; Dale et al., 2004). Such studies have also served as models for archaeologists interested in reconstructing ancient practices of interaction, mutualism, or conflict between hunter-gatherers and food producing societies (Dale and Ashley, 2010).

The concept of the forager is derived from ethnographic examples of hunter-and-gatherer people whose lifeways and diet are based on the exploitation, and in some cases the management, of wild plants and animals as food. These prominent ethnographic descriptions include African peoples such as the San and related peoples of Botswana and Namibia, and various Central African ethnic and cultural groups who often lived near or in tropical forests. In East Africa, the Hadzabe of the Eyasi Basin in northern Tanzania are the best known and studied foraging groups (Marlowe, 2002). These ethnographic cases, derived from late 19th and early to mid-20th century studies, have been used to create a composite definition of foragers that is in some sense an interpretive tool through which to examine the archaeological record (Kuhn and Stiner, 2001). In turn, during the 1960s and 1970s, the Kalahari Project of Harvard University supervised research into foraging peoples of Southern Africa which was directly oriented toward producing data suitable for the interpretation of archaeological sites, including information on settlement patterns and site occupation, activity areas within sites, foraging strategies, cooking and other technologies, social networks, and exchange, and so on. Studies of "optimal foraging" or calories and time expended versus resources gleaned examined the productivity of activities like the gathering of tree nuts (Lee, 1973). Such studies drew attention to the practices and behaviors behind archaeological signatures. As an analogical tool, then, the concept of a forager can be used to understand where archaeological evidence differs, and how much, from an ethnographically derived and 19th to 20th century-based understanding of African foragers.

Foragers derive their food from capturing wild plants and animals. Foraging may also include the capture of fish and shellfish. The evidence found often suggests varying degrees of difference between the present and the past. Archaeological hunter-gatherers are quite different from ethnographic examples, even in the same environments. Twentieth-century hunter-gatherers were largely found in areas marginal for food production, such as arctic, desert, and tropical rainforest biomes, and therefore arguably represent relict populations pushed into undesirable environments by more powerful groups through displacement, and sometimes violence.

Because of the diversity of cultures and lifeways often bundled under the hunter-gatherer portmanteau, it has been suggested that the term hunter-gatherer be rejected. It is likely that our trusted cubby holes for "hunter-gatherers," "pastoralists," or "farmers" misrepresent a prehistoric world frequently less economically specialized than that of the ethnographic present. We must be mindful that the ethnographic record not become a tyranny that prevents us from viewing the past on its own terms (Wobst, 1978). Nevertheless, one might be wary of rejecting a term that brings badly-needed standardization to the difficult effort of archaeological interpretation and comparison. Instead, we can try to appreciate how environment, history, and interactions have created variability in hunting-and-gathering societies.

One can also look to sources like linguistics and genetics to add information to the hunter-gatherer story. Present-day or ethnographically described hunter-gatherers, including many hunter-gatherer cultures of Southern Africa as well as the Sandawe and Hadza and Dahalo in East Africa, speak languages characterized by click consonants. These may indicate a common ancestry, or simple borrowing (Guldemann and Stoneking, 2008). Genetically contemporary hunter-gatherer peoples including some Khoisan speaking groups, the Mbuti and Aka in central Africa, and the Hadza in Eastern Africa, share some of the earliest diverging genetic lineages (Shriner et al., 2018). A genome-wide analysis of sixteen Holocene individuals dating to up to 8000 years ago indicates that populations related to the contemporary Khoisan speaking peoples of southern Africa were once widespread in sub-Saharan Africa, and that sometime during the Holocene West African peoples diverged from those of East and Southern Africa; however, significant genetic diversity in ancient foragers has been lost over time (Skoglund et al., 2017).

Key Issues

Modernity?: The Middle Stone Age

Three basic time periods of African Foragers will be reviewed in East Africa: the Middle Stone Age, the Later Stone Age, and the transition to food production. Lasting from 200,000 years ago to around 50,000 years ago, the Middle Stone Age included

environmental and climatic shifts from glacial to interglacial periods, which in Africa were experienced as shifts from an arid, cold climate to a wetter, warmer climate. The Middle Stone Age is defined according to the type of flaked stone tool technology often made during this time period. It is characterized by Levallois and other prepared core methods of stone tool manufacture. A common tool type is the Stillbay point made from discoidal core reduction. Such tool manufacture involves shaping a core (or source for flaked stone tools) into an external shape that will enable successive flaking of large, relatively flat tools, which in turn are either used as is or gradually shaped and flaked either for resharpening or for deliberate modification into particular types of tools. Prepared core manufacture requires considerable skill and understanding of angles, shapes and volumes. The Middle Stone Age also includes evidence of the use of hafting—the attachment of flaked stone onto wooden handles—for the manufacture of spears and cutting implements. Furthermore, the Middle Stone Age saw the innovation of worked bone implements, including bone points used for perforating. Fire was arguably controlled and used for heating habitation sites.

The African Middle Stone Age is of immense importance to archaeology. It is at the center of a debate over the origins of modern humans and the behaviors that are central to our species, such as the capacity to represent the world symbolically and to share those representations with others as forms of knowledge and understanding—the very definition of culture (Davies, 2021). Evidence suggests that modern humans arose in sub-Saharan Africa shortly before or at the same time as the Middle Stone Age (Schlebusch et al., 2017). Behaviorally as well, it appears that humans with the behavioral complexity and symbolic capacity of modern humans arose in sub-Saharan Africa (Henshilwood and Debreuil, 2011; Henshilwood and Marean, 2003). In terms of where, the question is more difficult, given the great size of the continent and the relative paucity of archaeological sites and evidence over this time period. A metapopulation model suggests that behaviorally modern humans, especially those with language or symbolic abilities, evolved in a kind of patchwork in different locations around Africa. These populations were sometimes connected and sometimes isolated as environments and resources fluctuated (Scerri et al., 2019). Ancient DNA studies indicate that southern and eastern forager groups diverged sometime between 70,000 and 350,000 years ago (Schlebusch et al., 2017).

To some archaeologists, the Middle Stone Age (MSA) shows the gradual accumulation of the modern hunter-gatherer repertoire in terms of behaviors and cultural traits as inferred from the archaeological record; a process which may also have been global, involving multiple populations and even species; we must not assume that Africa was special, unique, or at the forefront of this process (d'Errico, 2003). This repertoire, as far as the MSA is concerned, might include geographic diversity in the styles of lithic artifacts and projectile weapons, backed microliths and composite tools, bone tools and bone points, the ability to hunt successfully and exploit fish, and the successful exploitation of small and sedentary resources such as shellfish. The exploitation of shellfish may represent the beginning of a broad-spectrum or intensification process (Klein, 2009). Other behaviors inferred for this time period, again using the ethnographic record as an interpretive model, include: land use patterns characterized by a San-like mobility pattern of seasonal aggregation and dispersal; repeated occupation of rock shelters as dwelling and activity sites; cultural use of space and activity areas within sites; increased artifact trade across space; and in terms of symbolic and other activity, the making of beads and use of ochre for decoration or in the making of adhesives. These behaviors and artifact types imply modern symbolic behavior in the sense that they are associated with *Homo sapiens* (Henshilwood and Marean, 2003).

At the center of the evidence for modernity during the Middle Stone age is the site of Blombos Cave on the southern coast of South Africa (Henshilwood et al., 2018). At Blombos, MSA levels dating to 77,000 years ago have yielded more than 30 worked bone awls and points and 8000 pieces of worked ochre, at least 13 of which are incised with parallel lines. Most of the ochre pieces show they were ground down to produce powder. The ochre may have been used for tanning hides or as part of adhesives for making multicomponent, hafted tools or as body paint or adornment. In addition, numerous bone points were recovered, which show evidence of hardening at the tips and working with lithic tools and may have been used as awls or perforators in the manufacture of clothing or leather containers. Other hardened and sharpened bone points were heavily stained with ochre and may have been used as ochre applicators or even tattoo needles (Deter-Wolf, 2013) as well as beads. Other sites of the African MSA also show evidence of several distinct artifact designs and geographic diversity. Microlithic backed tools and hafted tools also appear. The site and others of the South African MSA have yielded evidence of hunting, manufacture of sophisticated bone and lithic assemblages, fishing, mollusk gathering, animal procurement, and use of symbolic artifacts such as beads and ochre.

Important MSA sites in northern Tanzania such as Nasara Rockshelter and Mumba Rockshelter, Mumba Hohle, Olduvai Gorge, and a recent excavation at Loiyangalani near Olduvai Gorge, have yielded MSA flaked stone artifacts as well as bone artifacts and fishbones (Prendergast, 2011). Southwestern Tanzania also has MSA localities along the Songwe River. In Kenya, sites have been found in the Kenya Rift Valley including Prospect Farm, Lukenya Hill and in Ethiopia at Porc Epic Cave and Aduma. The East African MSA is rarely associated with ostrich eggshell beads, as reported from Mumba and the Loiyangalani site, but is quite often associated with the so-called Kenya Stillbay industry, which includes small and large points. Stillbay points are often interpreted as spear points. Other areas that were inhabited during the Middle Stone Age include the Kenya Coast and Unguja Island, Zanzibar, where the sites of Panga ya Saidi and Kuumbi Cave date to 78,000 years ago (Goldstein et al., 2022). These coastal sites nonetheless have evidence of food-obtaining strategies focusing on small bovids rather than fish or seafood.

Special interest has surrounded the manufacture of beads, especially ostrich eggshell beads (Miller and Wang, 2022). These beads roughly appear in the record around 57,000 years ago. Influential ethnographic studies of the San people found that they exchange beadwork and handicrafts, an institution known as *hxaro*, as part of the process of building social networks of reciprocity, kinship and friendship (Wiessner, 2002). By analogy then the advent of bead manufacture and exchange indicates that social identities and networks have become forms of adaptation by this time.

The beads show regional differences and suggest an origin in eastern Africa. A comparative study of 1516 beads from 31 MSA and LSA sites dating from the past 50,000 years shows interesting regional differences between Eastern and Southern Africa and suggests

that population movements and symbolic communication differed over time. Before the onset of the extremely arid Glacial Maximum, populations and social networks distributed beadworking and its technologies southward (Miller and Wang, 2022). Around 33,000 years ago, however, beadworking networks contracted until the late Holocene, when herding societies moved southward across the continent. In Eastern Africa, these beads show very little variation over time, and they indicate continuous habitation of a region in spite of extreme aridity and productivity loss during glacial cold periods especially from 33–19,000 years ago. In South Africa, by contrast, many populations may have retracted and social network interactions contracted, and later expanded as climate became warmer and wetter after 19,000 years ago and especially during the Holocene. From 2000 years ago, the migration of new herder populations south into southern Africa is marked by stylistic changes including larger beads (Miller and Wang, 2022). These bead studies reveal complex social interactions at a wide geographic scale.

Diversification and Intensification: The Later Stone Age

The Later Stone Age, beginning around 50,000 years ago, starts during Marine Isotope Stage 3, a relatively warm and wet period that ends around 33,000 years ago with the onset of ice sheet growth and increasing cold, which continued until around 19,000 years ago when global climate became wet and warmer again. The last deglaciation ended around 11,600 years ago when the still warmer Holocene period began (Miller and Wang, 2022), especially the African Humid Period. The early Holocene was a time of great climatic fluctuation between hyper-humid and arid climate. The African Humid Period from 14,000 to 4000 years ago brought increased precipitation and expanded lake and river areas. At the Pleistocene-Holocene boundary numerous larger grazing herbivores went extinct due to climate shifts.

The later Stone Age is marked by the transition from the discoidal and Levallois core reduction methods to the manufacture of leptolithic or small tools, usually based on the manufacture of small blades. Such small tools were more than likely hafted in a variety of ways to make a multiplicity of composite tools. The result was a broadening of the design potential and functional range of lithic technology. Multiple bladelets could be hafted into the tip of a projectile or cutting implement, for example; as documented from the European Mesolithic, bladelets could even be hafted onto a wooden surface to produce a shredding board. The sequence of LSA lithic industries at Lukenya Hill, Kenya, documents the appearance and increasing proportions of microlithic tools also associated with modern behavior. Other LSA sites show increasing use of bone tools, the exploitation of fish using specialized technology and the use of bored stones as weights for digging sticks in plant food gathering. LSA sites also contained early evidence of artifacts related to personal adornment. Often these are blade tools. Lukenya Hill contains at least five early LSA archaeological sites including GvJm 62, 46, 22, and 60. Analysis of these sites shows that the proportions of microlithic tools and the use of non-local obsidian from the central Rift Valley of Kenya, about 150 km from Lukenya Hill, increases over time. The use of increasing proportions of non-local obsidian could indicate an expansion of forager ranges and/or increased exchange, as social networks and interactions among foraging groups expanded. Other important early LSA sites include Enkapune ya Muto in Kenya's Central Rift Valley. Here, a high-altitude adaptation, exploiting fauna like the bongo and favoring boundaries between forests and grasslands, was successful. Lithic and artifact assemblages show parallels with the Lukenya Hill area, such as ostrich eggshell beads, hafted microliths, and small round steep scrapers similar to those made at JvJm 62.

Other significant LSA industries are found in the Eburran of the Central Rift Valley in Kenya. The Eburran industry represents hunter gatherers well adapted to Rift Valley Highlands and lake basins in East Africa. The makers of the Eburran used abundant obsidian to make microlithic tools. They hunted a variety of ungulates associated with woodlands and forests. After 3000 BP many Eburran sites show transitions to food production, in particular the keeping of goats as at Enkapune ya Muto. LSA people are also associated with fish exploitation and the making of pottery as evidenced in the Kansyore midden sites of Lake Victoria.

Rock art is known from rockshelters and inselbergs from Late Pleistocene and early Holocene occupations in the Central Rift Valley and Athi Plains in Kenya and Northern Tanzania including the Eyasi, Erangi, and Kondoa Inselbergs (Bwasiri and Smith, 2015; Prendergast, 2020). These rock art tableaux show hunting of large wildebeest, buffalo and zebra with spears, bows and arrows.

The African Humid Period, beginning around 11,000 years ago, is noted for the expanded size and extent of lakes and rivers. Although exploitation of fish goes back millions of years, it became an important part of livelihoods during the Holocene, when lakeside habitations and shell middens attest to relatively sedentary fishing settlements around Lakes Turkana, Victoria, and Rutanzige (Prendergast, 2010; Stewart, 1989). These sites include bone points, often barbed, and harpoons that may have been used in fishing. Around Lake Turkana, these sites include pottery. People here fished a variety of species and hunted terrapins, hippopotamus, and crocodiles. The site of Nataruk may attest to warfare or interpersonal violence (Lahr et al., 2016; Stojanowski et al., 2016).

Numerous fishing sites around Like Victoria contained Kansyore pottery, which is decorated with parallel lines and dot impressions, and which dates from 8000 to 2000 years ago. These fisherfolk also gathered shellfish and likely used weirs, baskets, harpoons, and hook and line fishing (Dale and Ashley, 2010).

These fishing adaptations likely coexisted, throughout the Holocene, with more terrestrial food-based adaptations. These include areas of the Central Rift Valley in Kenya where Eburran foragers exploited both forested and open grasslands (Ambrose, 1998). In northern Tanzanian inselbergs, seasonal rounds appear to have incorporated diverse strategies shaped by seasonal mobility of large ungulate prey, and possibly including interaction with fishing folk around lakes. As in the period before 19,000 years ago, where East Africa appeared relatively more stable and technologies less changeable than in Southern Africa, the Holocene appears to have had two major forager adaptational strategies: the first, a lake shore/riverine strategy focused on fishing and mollusk collecting, along with hunting of terrestrial fauna and aquatic-loving fauna such as hippo and crocodile; and in grasslands and forests,

a more flexible and mobile adaptation that shows seasonal mobility (Prendergast, 2020). In highland areas this involved movement along altitudinal gradients to maximize access to complimentary plant and animal foods in both forest and grassland areas (Ambrose, 1998). Such flexibility would give important resilience against climate stress and variation in access to diverse plant and animal foods.

The Transition to Food Production

The problem of the transition from hunting and gathering to food production has been approached by examining how economies changed through diffusion and innovation of domesticated plant and animal species and the interactions of hunters and others who were herders/farmers (Marshall and Hildebrand, 2002). Many reviews of the origins of domesticated plants and animals in Africa have emphasized the early and indigenous development of food production, the impact of cattle-borne disease, patterns of indigenous development and diffusion, the role of arid and unpredictable environments, and the evidence of early domesticated plant foods in Africa. Several scholars have compared the ethnographic record of hunter-gatherers and food producers, both from the perspective of understanding the process of the adoption of food production and understanding hunter-gatherer and food producer interactions (Cronk and Dickson, 2000; Lane et al., 2007).

The earliest evidence of herding in eastern Africa is from Lake Turkana, where the Nderit tradition, around 5000 years old, includes elaborate rock pillar cemeteries, pastoralism, and fishing (Robbins, 2006). Around 3000 years ago pastoralists appear to have moved south. Specialized pastoralist sites expanded into northern Tanzanian grasslands and into the Great Lakes, where early farmers also adopted metallurgy (Marshall and Hildebrand, 2002).

The expansion of food production led to a period of interaction between food producers and hunter-gatherers, a complex frontier that had social and cultural as well as environmental dimensions (Kusimba and Kusimba, 2005). Important cases of food producer—farmer interaction include that of Eburran and Pastoral Neolithic sites in the Central Rift Valley, which indicates the association of Eburran sites with domestic stock, and in lower altitude locations, which presumably reflects interaction with plains pastoralists (Ambrose, 2002). In Tsavo in southeastern Kenya hunter gatherers known as the Waata persisted until the 20th century by exchanging hunted meat and ivory tusks with Oromo and Wambisha pastoralists. The Tsavo region shows, over time, little disruption in hunter-gatherer lifeways during the transition to food production (Kusimba et al., 2005; Goldstein et al., 2022). Finally, montane hunter gatherers variously known as Okiek or Dorobo interacted with Masai and other pastoralists. The two groups exchanged honey and meat, procured by hunter-gatherers, for agricultural products and animal secondary products which were produced by pastoralists (Kusimba, 2003).

A similar case of interaction, that led to the absorption of hunter-gatherers by more numerous and politically dominant herders and farmers, comes from the Mukogodo foragers from Mount Kenya in central Kenya. In the early 20th century, the Mukogodo became alienated from their land due to British Colonial settlement and sought marriage of their daughters to neighboring Maa-speaking pastoralists. In this case, cattle acquired through bridewealth circulations became necessary to Mukogodo participation in the regional economy, thus signaling the end of forager autonomy in the highlands.

In earlier periods as well, forager-food producer interactions were doubtless often mutually beneficial and included food exchange, cooperation and intermarriage, especially in cases where food producers were new migrants into an area that hunter-gatherers had long successfully domesticated. The archaeological cases that have been best described suggest that mosaics of herders/fishers/farmers/foragers could be longstanding (Kusimba and Kusimba, 2005). Examples of such mosaics include near Lake Victoria, Kenya, where Kansyore fisherfolk adopted livestock from neighboring, immigrant herders; southeastern Kenya, where the Tsavo mosaic also mediated interactions with medieval coastal cities; and northern Tanzanian inselbergs, where food-producer/forager interaction lasted 3000 years (Prendergast, 2011; Kusimba et al., 2005).

Models derived from ethnography suggest that hunter-gatherers may have been politically subordinate and materially less wealthy than their food producing neighbors (Kusimba, 2003). In many regions such as Northern Tanzania, a longstanding frontier zone with several hundreds or even thousands of years of co-existence without incorporation is suggested. But in other cases, as foragers saw the necessity of participating in regional economies, they inevitably were brought into incorporation into regional interaction spheres and ethnomosaics, either through exchange and complementarity in economic roles, or through intermarriage and hypogyny (marriage of hunter-gatherer women to food producing men, as in the Mukogodo case) (Kusimba and Kusimba, 2005). Overall, scholars of African foragers must take the complex recent histories of hunter-gatherers into account. In some cases, enduring frontiers have only fallen to assimilation recently, as among the Mukogodo (Cronk, 2002). In others, foraging has been a refuge and a way of persisting and enduring social and political upheaval. In the Tsavo area, for example, hunter-gatherer sites were refugia from slave trade and ivory trade and cannot be separated from the colonial interactions that increasingly brought East Africa into connection with Eurasian explorers, slave traders and colonial powers (Kusimba, 2014). Here people inhabited fortified rock-shelters from which they hunted hornbills, dikdik and other local fauna (Kusimba, 2003; Kusimba et al., 2005).

Summary and Future Directions

Contemporary work on hunting and gathering peoples continues to put genetic, linguistic, and archaeological evidence in comparison and conversation, and to consider the importance of minority groups to histories of globalization from below. The hunter-gatherer story is a story of origins, of persistence, of flexibility, of history, and more recently of marginalization (Burch, 1998).

Contemporary studies of the peripatetic (Bollig, 1987)—or displaced, marginalized, dispossessed, or subordinate groups—remind us of the enduring importance of this lifeway to the human story and to the empirical study of how humans came to be. Future research will focus on ancient and modern DNA evidence as well as linguistic evidence, as becoming more and more key in understanding the forager story. Understanding history using DNA and linguistic studies as a complement to archaeological patterns of site locations and chronology is filling out and enriching our understanding of where and how ancient populations formed, moved and diverged (Schlebusch et al., 2017).

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