

## THE ARCHAEOLOGY OF AFRICA

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## Summary

Africa is an extensive continental land mass stretched almost equally on both north and south hemispheres. Its vegetations and faunas, extremely diverse and rich, are the product of a long and complex environmental and climatic history. It is the cradle of humanity, and its archaeology is precisely the archaeology of humanity up to a certain point. Early Stone Age assemblages, of the Oldowan variant appeared some 2.7 millions years ago. From then on, proto-humans and later humans spread all over the continent, colonizing new habitats and inventing new tools. Most of the continent was inhabited at the end of the Acheulean period with small scattered groups of foragers. The Middle Stone Age witnessed sustained trends toward regional diversification with more elaborate tool-kits, more structured settlement-subsistence systems, and the emergence of Modern humans. A process of standardization and miniaturization took place at the end of the Pleistocene resulting in the invention of the bow and arrow and other composite tools. The intensification in the exploitation of wild resources, transfer of ideas and contact between neighboring groups led to the emergence of food producing economies, livestock husbandry first, and agriculture later. Mixed farming and village life developed during the Holocene, with longer lasting or sedentary settlements. Social inequality, long distance exchange, and differential concentrations of peoples combined to fuel the development of complex societies from the Middle Holocene period onward. Africa was never totally isolated from the rest of the world, but the circum-navigation and European interference shifted the fate of the whole continent.

## Introduction

The archaeology of Africa is synonymous with the archaeology of humankind. Remarkably, in Africa archaeological research is the product of all existing academic traditions. In addition, the continent has the longest archeological sequence of the world, from the uncertain beginnings of humanity to the present. This entry summarizes the substantive achievements of archaeology in shedding light on Africa's past, from its remotest beginnings to the emergence of early towns and states.

### 1. Cultural Beginnings

The investigation of human origins involves many fields of inquiry all part of palaeoanthropology. Archaeology focuses on the analysis of hominid/human-made artifacts collected from early human sites. The idea of cultural beginnings is relatively easy to grasp: culture begins with the manufacture of artifacts. This beginning is however difficult to pin down in the archaeological record. Does the selection of a specific kind of non-modified rock indicative of “cultural drive”? Does the use of slightly modified nature-facts qualify for inclusion in the “cultural universe”?

Setting the demarcation line is tricky, as the selection, use, and manufacture of tools, are part of a continuum at the interface between the hominids/humans and the world they live in. The systematic use and production of artificially made tools put the emerging humanity into a peculiar evolutionary path, away from “animal-hood”. The earliest proto-human-made artifacts were found in a number of localities distributed along the Rift Valley in Eastern Africa (Figure. 1). The earliest stone artifacts were discovered along the Gona River, in the Kada Hadar Member of the Hadar Formation (Ethiopia).

The recovered material, stone artifacts as well as a small amount of animal bones, date from 2.7 to 2.4 m years, The density is low but the clustering is unmistakable. The artifacts repertoire consists of two basic categories: cores and flakes (Figure. 2). Each category is divided in two classes: core-tools/chopper and core fragments, and whole flake and flake fragments. Some cores and flakes show traces of intentional modification from their use in subsistence activities. In general, the stone pieces are irregular in shape, and small in size. The faunal material, highly fragmented, presents spiral and longitudinal fractures but no cut-marks. At least six mammal's species are represented, including hippopotamus, elephant, equid, and several bovids.

Comparable artifacts associated with animal bones and dating from 2.2 to 1.6 myrs were recorded elsewhere along the Rift valley (Figure. 1). It is the case in member E and F of the Shungura Formation (Omo valley) in southern Ethiopia, KBS Industry the Koobi Fora Formation, and Bed I in Olduvay Gorge. This early stage of proto-human technology is termed Oldowan. The sites are on river banks and lake shores, encased in fine sandy to silty sediment. Post-depositional disturbance varies but is moderate to low in the excavated localities. None of the sites is totally isolated, being nodes in a more extensive proto-human territory. They are partitioned into three broad categories depending on their “taphonomic integrity”.

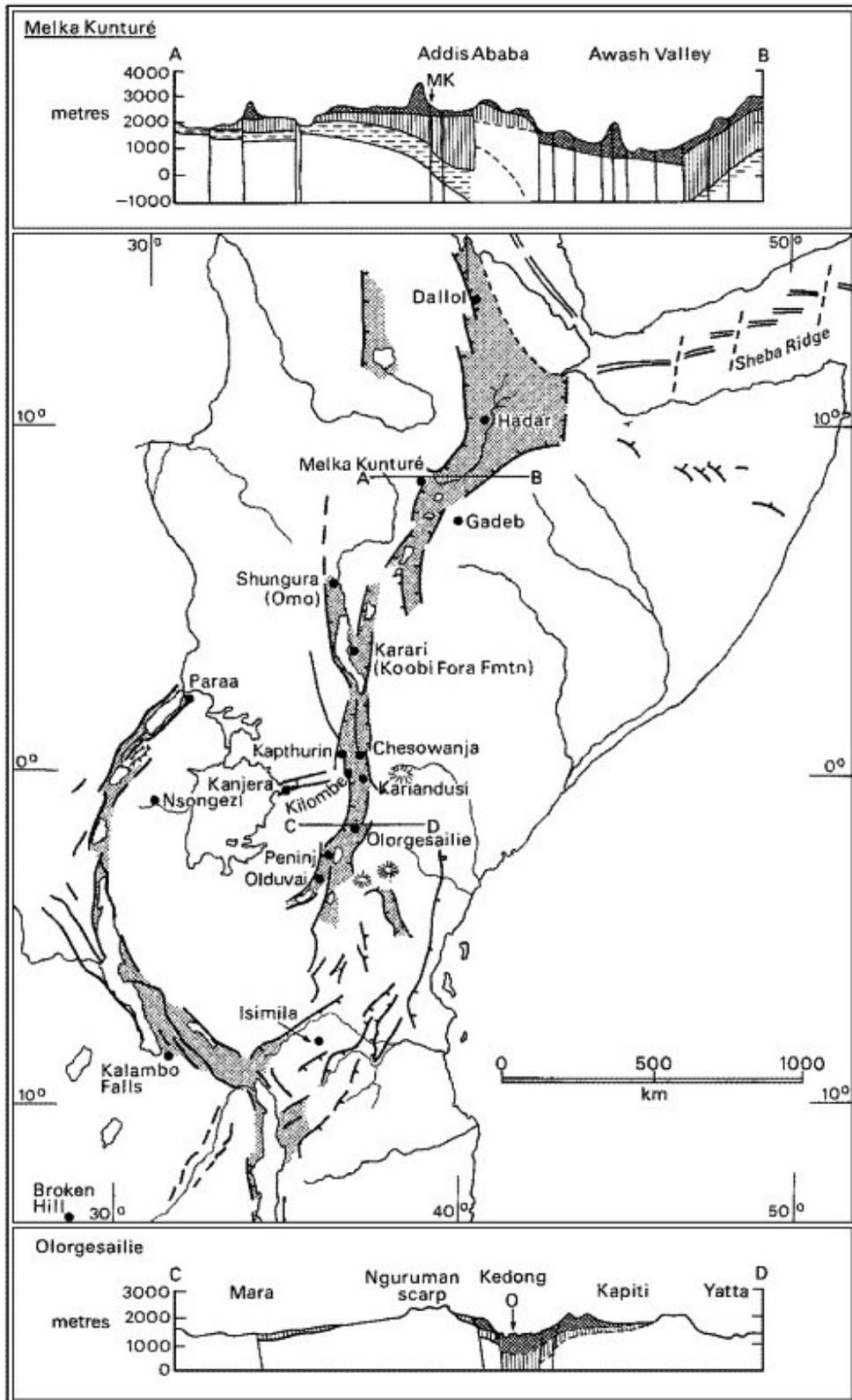


Figure 1: The Rift Valley in East Africa with key Early human sites (from J.D. Clark 1982: 188)

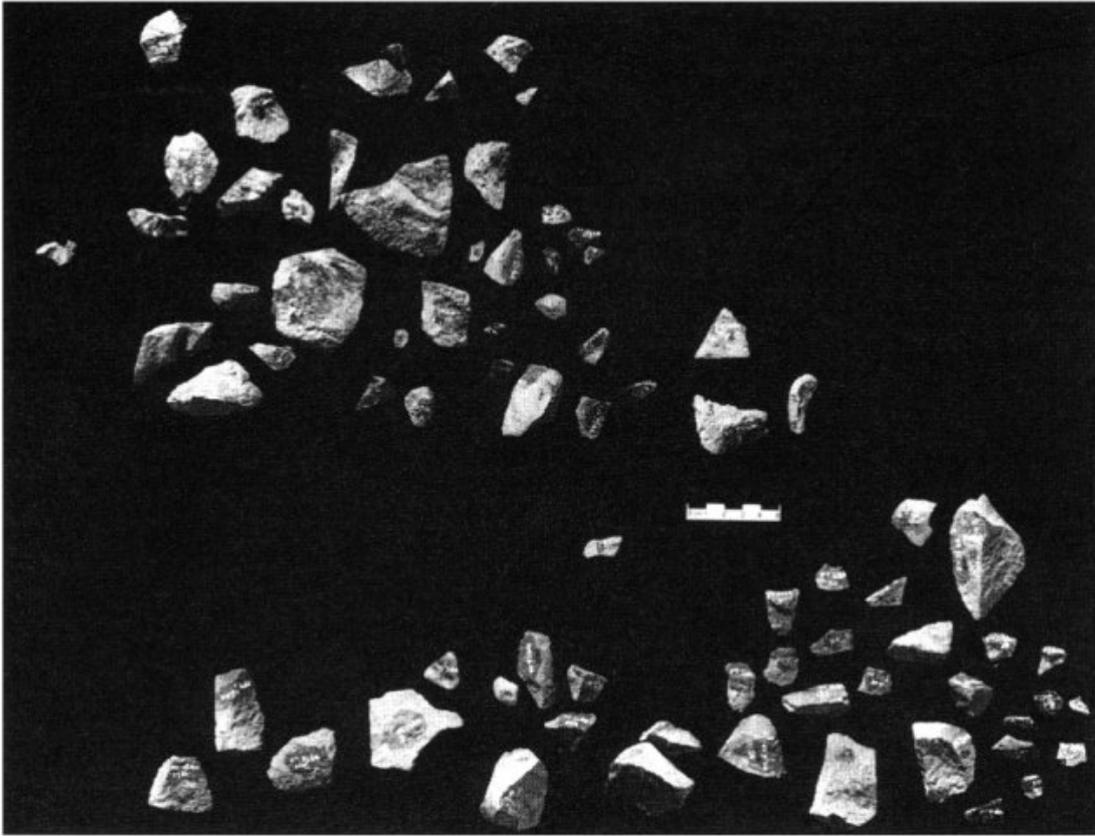


Figure 2: The KBS Industry from the Koobi-Fora Formation (from R. Lewin 1993: 122)

(1) Occupation floors are the less disturbed sites. The cultural deposit is generally thin, 0.10 to 0.30 m, and the archaeological remains are more often than not clustered in high-density spots. Such sites were used frequently by groups of proto-humans, but the construction of shelter as suggested at DK IA in Lower Bed I, Olduvay Gorge, is still controversial. (2) Slightly modified sites have thicker deposits, 0.40 to 1.00 m, with moderate to high density of cultural remains. They result from short distance re-mobilization of archaeological remains from their original locations. The spatial relationship between artifacts is disrupted but their preservation is generally good. (3) Hydraulic Jumbles are not strictly speaking archaeological sites but “finds spots. The sedimentary matrix is generally a few meters thick and the density of finds very low. The artifacts as well as animal bones were generally dragged on considerable distance within a river drainage and trapped here and there in the river bed.

### 1.1 Scatters of Stones and Bones

The earliest traces of proto-human culture consist of scatters of stones and bones. Some of the stones are unshaped nature-facts, others are utilized, and others again are shaped into cores-tools and sharp-edge flakes. Some animal bones were dropped by proto-humans, others re-deposited by natural agencies, and others again came from *in-situ* dead animals. How and why did these two distinct categories of material remains come to be intricately mixed in proto-human sites. The distribution of proto-human sites

across the landscape and the differential frequencies of stones pieces and animal bones have been used to draft “Stone Age Visiting Card”. Special purpose sites display a narrower range of “cultural by-products”. A single animal species site with a small amount of stones pieces signals a butchering or meat-procurement locale. A dense concentration of débitage by-products with very few formal tools points to a workshop. The occurrence of a handful of bones and stones pieces indicates a bivouac. A large concentration of bones and stones pieces suggests a frequently visited spot used as “basecamp”, “home-base”, or “central place foraging”. The above Stone Age sites systematic was derived from contemporary hunter-gatherers ethnographies. Its heuristic value is however severely limited if the aim of the investigation is the understanding and explanation of early proto-human sites. How did proto-humans access resources to sustain their lives?

## 1.2 The Hunting Hypothesis

Hunting performed by proto-humans was the obvious explanation for the co-occurrence of stone and bones in the archaeological record. Bones found in association with stone tools were accepted *ipso-facto* as the product of proto-human behavior, the remains of their meals. The influential “hunting hypothesis” dominated palaeoanthropology debates up to the early 1970s. According to that theory, hunting is the driving force behind human evolution; it explains the need for tools as well as their constant improvement, structures the division of labor between “man-the-hunter” and “woman-the-gatherer”, justifies the territorial imperative, and provides an outlet for proto-human and later human inherent violent instincts. Accordingly, hunting provided proto-humans with much needed high grade food and alleviated in-group tensions. The hunters not only hunted and brought meat back to be shared among women and children, but also protected the group from dangerous predators and competitors. Social and cultural evolution was consequently viewed as driven by male competition for resources and mates. Fundamentally, the hunting hypothesis was based more on a series of assumptions than supported by facts. Long-term participant-research on hunter-gatherers life-ways that started after World-War II challenged the hunting hypothesis. Meat is a desirable food item but its supply is uncertain. People thus rely more often on gathered plant products. Plant resources offer the certainty and predictability crucial in the maintenance and reproduction of proto-humans/humans groups.

## 1.3 The Gathering Hypothesis

The “Gathering Hypothesis” was a reaction against the “Man –the-Hunter” approach to human evolution. Its main claims were, in fact, more supported by the empirical evidence marshaled to strengthen its criticism of the then dominant point of view. The proponents of “Woman, the Gatherer” theory questioned the importance assigned to meat in proto-humans/early humans diets and the prominent role attributed to men in the procurement and supply of meat to the rest of the community. Ethnographic research among inter-tropical hunter-gatherers has shown meat to be a highly desired food item, of variable availability, and most of the time, unreliable. Tropical foragers diets were shown to include more than 80% of plants products with minor if fluctuating proportion of meat. Accordingly, with proto-humans living in the tropics, their diet is expected to include more plants than meat. In addition, the access to plants resources is more

reliable and less stressful. The gathering of plant resources carried out by women thus provided more reliable and sustainable food sources to proto- and early human groups. The ideas of exclusive pair-bonding between mother and child as well as mate-selection are other crucial dimensions of “Woman-the-Gatherer” hypothesis. In both cases, male presence is peripheral and dependent upon the will and decision of the female. In social-evolutionary terms, most of the reliable food resources are provided by women. Women carry the babies during their pregnancy and develop strong if exclusive relationship with them once they are born. Women make decisions and select their mates following their preferences. Considering these interwoven crucial social roles, “woman-the-gatherer” hypothesis suggests that women were likely the driving force in the emergence of human social characteristics.

#### **1.4 The Sharing Hypothesis**

“Man-the-Hunter” and “Woman-the-Gatherer” hypotheses are antithetic mirror-images. The polarized debate of the 1960s-1970s had more to do with contemporary social issues than early human evolution. In the late 1970s, the “Sharing Hypothesis” was developed, with wide ranging implications in the emergence of human characteristic behaviors. According to this hypothesis, the members of any distinct hominid group characteristically cooperate, support each other, and share information and resources. This cooperation and sharing triggered the development of elaborate communication that ultimately led to languages. It generated the characteristic division of labor along gender lines to insure the procurement of much needed resources. Information on the distribution and timing of resources, as well as potential dangers, collected by each member of the group is pooled and shared. The home-base or Central Place Foraging (CPF) was the main locus where the hominid group was supposed to enact the different facets of the Sharing hypothesis. In simple terms, the sharing hypothesis tried to reconcile the “Man-the-Hunter” and “Woman-the-Gatherer” hypotheses into one more encompassing model. Men hunt, women gather, and share the products of their respective subsistence forays out of the home-base. The sharing hypothesis was widely adopted as the most “parsimonious” explanation for the emergence of human social systems. It was however anachronistic, plagued by the reliance upon *Homo-Sapiens* analogs to understand and explain proto-human behavioral characteristics. A devastating critique was launched against the “Home-Base-Sharing, and hunting hypotheses. It suggested that proto-humans were more or less skilled scavengers, triggering a new round of debate on the origins of human behavioral patterns.

#### **1.5 The Scavenging hypothesis**

As indicated by the archaeological record from Koobi-Fora and Olduvay, protohumans access to potentially large supply of meat from big-size mammals is compelling. Sharp flakes with “meat” polish and cut-marks on long bones are clear indications of both the procurement and consumption of meat. How did such a system operate? According to the “scavenging hypothesis”, proto-humans relied on scavenging strategies to acquire meat. They were often secondary feeders exploiting marrowbones and the left-over of effective and specialized predators. Scavenging is nonetheless a complex procurement system. It involves spotting animal carcasses across the landscape, avoiding and/or driving away competitors, collecting pieces of the kills, and moving to safer locations.

However, while scavenging is likely the best explanation for proto-human access to large animals carcasses, it does not completely rule out the possibility for hunting of small size game

In summary, the period running from ca. 2.7 to 1.65 million years was characterized by diversification in proto-human species. At least four Australopithecus species, *A. afarensis*, *A. Bosei*, *P. robustus*, and *A. africanus*, and one *Homo habilis* are represented in the archaeological record. The “bushy pattern” of inter-species evolution ended with the emergence *Homo ergaster* at the 1.7-1.6 million years boundary. Based on the most recent discussions of the issues pertaining to proto-human patterns of behavior, plant gathering was likely the most reliable component of their food procurement strategies. Meat was accessed from time to time and its overall availability may have been strongly seasonal. Proto-humans may have developed ways of conveying and communicating information and emotions to fellows within and outside their respective groups. It was certainly a kind of language; spoken language – speech – was a much later development.

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### **Biographical Sketch**

**Augustin F.C. Holl** is Professor in the Department of Anthropology and the Center for Afroamerican and African studies, and Curator of West African Archaeology in the Museum of Anthropology. His research revolves around issues of social evolution, the advent of Food-producing economies, the emergence, and growth of complex social systems in West Africa and the Levant. He has conducted fieldwork in the Saharan desert in Mauritania, the Negev desert in Israel, the Chadian plain in Northern Cameroon, and is currently director the Mohoun Bend Archaeological Project (MOBAP) in northwestern Burkina Faso. Other facets of Holl's research touch on Mortuary archaeology through the New York African Burial Ground research project, and the anthropological archaeology of Central Sahara Rock Art. He is editor in chief of the *West African Journal of Archaeology*.