

anthro notes

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MAN THE SCAVENGER

For several decades now, long enough to have influenced generations of students, the most familiar picture of early man has been that of the hunter, whose very instincts, social behavior, and mating patterns were all honed by the stringent demands of a predatory existence. This preoccupation with hunting as the "master behavior pattern of the human species" (Laughlin 1968 in Man the Hunter, edited by Lee and DeVore) has been fueled by many factors: by the indisputable evidence of large-scale big-game hunting in Upper Paleolithic Europe, by the visible archeological

record with its emphasis on stone "weapons" and animal bone fragments, and also (perhaps somewhat subliminally) by the high value accorded meat and hunting as a leisure activity in Western society.

But is it really true that hunting is the primary human adaptation? Some new research answers, "Maybe not." Given the widespread influence the "hunting hypothesis" has had in shaping our thoughts about human evolution and psychology, some careful rethinking of the work of the last several decades is in order.

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If the hunting proclivities of early hominids were interesting only for the evidence provided about diet and food acquisition, then changes in the portrait of early man would scarcely be noted beyond the ivy-covered walls of academic research. But of course, our interest in what early humans ate and how they obtained it has far wider implications. How any animal makes a living in large part determines many other aspects of its behavior, reproduction and social organization. The question of human hunting moreover, invokes larger and more philosophical questions about the very essence of human nature. Since the discoveries of early hominids in South Africa, it has suited those impressed by the evil capabilities of mankind to find the roots for this darker side of human nature in the adaptations of the earliest hominids. It was Raymond Dart, the discoverer of the Taung baby, who in a 1953 article first characterized Australopithecus as a "confirmed killer" who bore the "mark of Cain."

Evidence from Bones

The physical evidence he used to support this contention, the fragmented animal bones found with hominids in South African cave sites, has since been reexamined, and his claims refuted. Yet, the image of early man as a predator who killed his food and occasionally his conspecifics has persisted in popular literature such as African Genesis and The Hunting Hypothesis, by Robert Ardrey. As a result, human hunting has been equated with innate aggressiveness, and aggression in modern man has often been seen as an unfortunate but probably unavoidable consequence of this earlier reliance on predation.

However, new evidence and theories proposed in the last few years are dramatically altering the way in which paleoanthropologists currently reconstruct early hominid diet and behavior.

The strongest evidence comes from finds of flaked stone tools with quantities of animal bones. East Africa has produced many such sites, from as early as 2 million years ago. The tendency among paleoanthropologists has been to assume that these accumulations of bone were the end-product of hominid hunting. Although it now seems to most workers indisputable that early man was involved at some level in transporting or processing animal carcasses, recent work has challenged the idea that human hunting was responsible for acquiring the animal parts.

A survey of animal bones from hominid-bearing deposits at Olduvai Gorge and Koobi Fora showed that a number of them bore surface markings which looked very much like damage done by stone knives or flakes (Bunn 1981; Potts & Shipman 1981). These scratches, or cutmarks, could be proof that early hominids were cutting up animal carcasses. The purpose of this is not as obvious as it looks at first glance, however. Potts & Shipman's survey of Olduvai bones showed that cutmarks frequently occurred in locations where little or no meat is found, such as lower limb bones and feet. They speculated that sinew and hide might have been what the hominids sought, rather than meat. In addition, they found some bones showing the gnawing marks typical of carnivore chewing as well as cutmarks from stone edges. The cutmarks were often made after the gnaw marks, suggesting that carnivores had first possession of the carcass, and hominid utilization came later.

Modern Scavengers

The idea that early humans might have obtained meat by scavenging rather than hunting is not a new one. But the recent evidence from cutmarks has produced a spate of new studies exploring this idea. Prominent among

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these is a survey of animal carcass condition, size, and availability on the modern Serengeti savanna by Robert Blumenschine, a graduate student at the University of California at Berkeley. Though the work is still in progress, he has determined that usually very little meat is left for scavengers on the typical lion kill (Bower 1985). Other edibles, such as marrow, fat and brains, might be more important, he proposes. These results may support Potts and Shipman's speculations that meat was not the only possible attraction for early hominids. Blumenschine has also discovered that the best opportunities for scavenging today occur in wooded patches near water sources, which is the very same type of geological setting where most East African hominids, tools and fossil bone sites have been found.

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While Blumenshine tests the possibilities of making a living by scavenging on a modern savanna, Shipman (1984) has been exploring the theoretical needs of scavenging as a way of life. By surveying modern scavenging birds and animals, she has found that a successful scavenger has four special qualities: first, the ability to cover large distances searching for carcasses; second, a way of improving its vantage point to locate carcasses; third, a strategy for dealing either with the primary predator or other competing scavengers, in order to gain possession of a carcass; and fourth, when times are lean, an adequate fall-back diet. Shipman suggests that bipedal locomotion would have satisfied the first two requirements. Because of their small body size, early hominids probably relied on stealth rather than direct confrontation to get hold of carcasses and ate fruits and insects when they couldn't. Although the model does not fit everything we now know about early hominids (for instance, some hominids were considerably bigger than her estimates, as the recent find of a 1.6 million year old Homo erectus from West Turkana shows, and other types of plant food may have been more important than either fruits or meat), Shipman's scenario provides paleoanthropologists with an important new hypothesis to test.

In sum, evidence is accumulating that scavenging was at least a feasible strategy for early hominids. It may have been from gleaning bits of meat and other animal protein from carrion that humans first acquired a taste for meat and later developed the means to obtain it more regularly.

Lessons from Lions

Although this revision of early man's food habits is bound to distress some, it should be pointed out that the lion, an animal we often endow with human-like qualities and refer to as the "greatest hunter" and the "king of

beasts," has also been revealed recently as somewhat less "noble" than was thought before. Ironically, lions in East Africa scavenge or steal other hunters' kills at least as often as they kill themselves, and by such behavior they fall into Shipman's "bully-scavenger" category.

Perhaps it is time to demythify hunting and its purported influence on human psychology, and recognize that as there is more than one way to skin a cat, so are there several ways to bring home the bacon. Hunting is merely a somewhat more reliable way of acquiring the bacon in the first place, and although armed hunting certainly represents a quantum leap in terms of foresight and strategy, it does not necessarily imply a major change in human psychology or aggression.

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