How smart does a hunter need to be?
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The belief that hunting animals tend to be clever is very deeply held in our culture. Our images of predators, from lions to eagles, portray them in positions of power, both physical and intellectual. Whether there is truth in this portrayal depends very much on one's definition of intelligence. If we employ two commonly used criteria -- that intelligent animals typically use their cognitive abilities for environmental problem-solving and that being smart allows them to adjust quickly and frequently to novel situations -- we find that most species of predators are not necessarily very intelligent. Many employ a highly evolved set of weapons and a few, such as lions and wolves, also use cooperation to kill their prey. Without using teeth and claws, even the most cooperative wolf hunt would be unsuccessful.

Humans are an exception. The idea that hunters are smart comes mainly from human hunting, in which outwitting one's quarry is more important than possessing the best weapon. Hunting for a living is still practiced by some traditional foraging societies, and in these societies meat is by far the favored food source (Cordain et al. 2000). The notion that hunting places a natural selection pressure on the evolution of intelligence acquired a bad name during the 1970s and '80s, due to a now-infamous body of theory often labeled "Man the Hunter. Sherwood Washburn and Chet Lancaster (1968) hypothesized a crucial role for hunting in the evolution of the human intellect, because of the natural selection pressure placed upon coordination and communication during the hunt. This placed the evolution of the human mind in the brain of the male, who hunted, rather than females, who tended not to hunt. In the early 1970s, other anthropologists pointed out that Man the Hunter neglected the role of the human female in the evolutionary process, citing data from a variety of traditional societies that women are responsible for procuring the majority of protein calories for the family group. In spite of the attention paid to male hunting behavior, these critics claimed that gathering by females that was nutritionally more important. These criticisms led to a dismissal of theories about hunting and the early human diet (Tanner and Zihlmann 1976). Through the 1980s, theories of early human foraging behavior focused mainly on scavenging rather than hunting (Blumenschine 1987). The pendulum has swung back to the importance of hunting in the past decade in part due to field data on chimpanzee behavior. Models of the primacy of high quality foods like meat are again at the center of hypothesized links between hunting and brain size (see Kaplan et al. 2000).

There is one nonhuman animal that is both our close relative and also a social predator much like traditional foraging people. Chimpanzees are closely related enough to humans and also cognitively similar enough to suppose that the evolutionary pressures on their encephalization may have been similar to our own. In order to learn more about the role of cognition in hunting behavior, I turned to the predatory behavior of wild chimpanzees. In the early 1960s, when Dr. Jane Goodall began her now famous study of the chimpanzees of Gombe National Park, Tanzania, it was thought that chimpanzees were strictly vegetarian. Today, hunting by chimpanzees at Gombe has been well documented (Teleki 1973; Goodall 1986; Stanford 1998), and hunting patterns have been reported from most other sites in Africa where chimpanzees have been studied: these include Mahale National Park in Tanzania (Uehara et al. 1992), Kibale National Park in Uganda (Mitani and Watts 1999) and in Taï National Park in Ivory Coast (Boesch and Boesch 1989; Boesch 1994).

Chimpanzee society is called fission-fusion, because there is little cohesive group structure apart from mothers and their infants; instead, temporary subgroupings called parties come together and separate throughout the day. These parties vary in size, in relation to the abundance and distribution of the food supply and the presence of estrous females, who serve as a magnet for males, so the size and membership of hunting parties vary greatly, from one to thirty-five. The hunting abilities of the party members as well as the number of hunters present can thus influence when a party hunts as well as whether it will succeed in catching a colobus.