New book further supports controversial theory of 'Man the Hunted'

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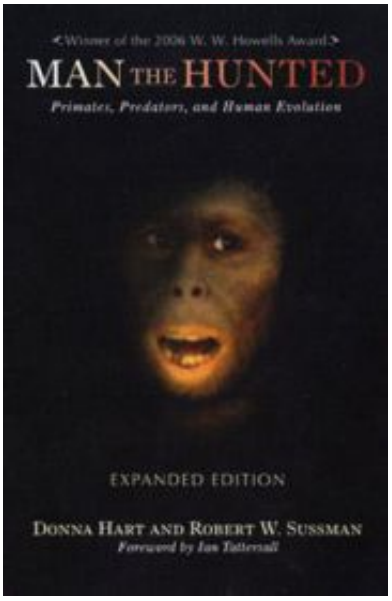

Man the Hunted: Primates, Predators and Human Evolution. Credit: Robert W. Sussman

Despite popular theories to the contrary, early humans evolved not as aggressive hunters, but as prey of many predators. "Humans are no more born to be hunters than to be gardeners," argues Robert W. Sussman, Ph.D., professor of anthropology at Washington University in St. Louis, in the newly-updated version of the controversial book "Man the Hunted: Primates, Predators and Human Evolution."

The soft cover book, released in July by Westview Press, includes a new

chapter aimed at quieting critics and responding to new evidence that has appeared since the book's original publication in 2005.

In the original volume, Sussman poses a new theory, based on the fossil record and living primate species, that primates have been prey for millions of years, a fact that greatly influenced the evolution of early man. The book won the 2006 W.W. Howells Award for the best book in biological anthropology written for a wide audience.

Both versions are co-authored by Donna L. Hart, Ph.D., a member of the faculty of Pierre Laclede Honors College and the Department of Anthropology at the University of Missouri-St. Louis.

The controversial ideas proposed by the original "Man the Hunted" raised many eyebrows in the academic community and beyond.

"We wrote this update to answer some of the criticisms and to provide more evidence for our view of early man as prey," Sussman says.

The book's new chapter addresses such topics as evidence of additional predators found in the fossil record since the first book's publication, evidence of predation by eagles, cannibalism, cut and tooth marks, scavenging and cooperation.

"One major alternative theory that has gained more attention since we wrote the original book is that early man was not a hunter, but was a scavenger instead," Sussman says. "We have found that while early man may have done some scavenging, it was opportunistic. Very little of early human's diet came from meat."

Sussman and Hart argue that early man did not have the capacity to detoxify rotting meat nor the ability to chase off competing animal scavengers.

"Not one of the more than 250 living primate species is a scavenger," says Sussman. "They are not scavengers because they avoid decomposing food."

Sussman and Hart also address the topic of cannibalism, which they claim is "beyond rare," and atypical, strange human behavior. "It just hardly ever happens," Sussman says.

The philosophical question of how a new scientific paradigm gets accepted is also discussed. "Once a paradigm becomes established within a scientific community, most practitioners become technicians working within the parameters of the theory but rarely questioning the validity of the theory itself," Sussman writes.

Changing the currently popular Man the Hunter theory is difficult for that reason.

Though Sussman realizes there will still be critics of the Man the Hunted theory, he believes the book's new version will help to quiet some of that.

Early man may have hunted, but was not a hunter. He may have scavenged, but was not a scavenger. Humans evolved mainly as a plant-eating species that ate some animal protein collected opportunistically, Sussman and Hart claim.

"We are not saying that our theory is absolutely correct and will never be disproven," he says "But we are saying that the evidence we have today best fits the theory of Man the Hunted than of Man the Hunter."

Background on the original 'Man the Hunted.'

Sussman's book, "Man the Hunted: Primates, Predators and Human

Evolution," poses a new theory, based on the fossil record and living primate species, that primates have been prey for millions of years, a fact that greatly influenced the evolution of early man.

He co-authored the book with Donna L. Hart, Ph.D., a member of the faculty of Pierre Laclede Honors College and the Department of Anthropology at the University of Missouri-St. Louis. The book is scheduled to be released in late February.

Our intelligence, cooperation and many other features we have as modern humans developed from our attempts to out-smart the predator, says Sussman.

Since the 1924 discovery of the first early humans, australopithicenes, which lived from seven million years ago to two million years ago, many scientists theorized that those early human ancestors were hunters and possessed a killer instinct.

Through his research and writing, Sussman has worked for years to debunk that theory. An expert in the ecology and social structure of primates, Sussman does extensive fieldwork in primate behavior and ecology in Costa Rica, Guyana, Madagascar and Mauritius. He is the author and editor of several books, including "The Origins and Nature of Sociality," "Primate Ecology and Social Structure," and "The Biological Basis of Human Behavior: A Critical Review."

The idea of "Man the Hunter" is the generally accepted paradigm of human evolution, says Sussman, who served as past editor of American Anthropologist and is currently editor of the Yearbook of Physical Anthropology. "It developed from a basic Judeo-Christian ideology of man being inherently evil, aggressive and a natural killer. In fact, when you really examine the fossil and living non-human primate evidence, that is just not the case."

And examine the evidence they did. Sussman and Hart's research is based on studying the fossil evidence dating back nearly seven million years. "Most theories on Man the Hunter fail to incorporate this key fossil evidence," Sussman says. "We wanted evidence, not just theory. We thoroughly examined literature available on the skulls, bones, footprints and on environmental evidence, both of our hominid ancestors and the predators that coexisted with them."

Since the process of human evolution is so long and varied, Sussman and Hart decided to focus their research on one specific species, Australopithecus afarensis, which lived between five million and two and a half million years ago and is one of the better known early human species. Most paleontologists agree that Australopithecus afarensis is the common link between fossils that came before and those that came after. It shares dental, cranial and skeletal traits with both. It's also a very well-represented species in the fossil record.

"Australopithecus afarensis was probably quite strong, like a small ape," Sussman says. Adults ranged from around 3 to 5 feet and they weighed 60-100 pounds. They were basically smallish bipedal primates. Their teeth were relatively small, very much like modern humans, and they were fruit and nut eaters.

But what Sussman and Hart discovered is that Australopithecus afarensis was not dentally pre-adapted to eat meat. "It didn't have the sharp shearing blades necessary to retain and cut such foods," Sussman says. "These early humans simply couldn't eat meat. If they couldn't eat meat, why would they hunt?"

It was not possible for early humans to consume a large amount of meat until fire was controlled and cooking was possible. Sussman points out that the first tools didn't appear until two million years ago. And there wasn't good evidence of fire until after 800,000 years ago. "In fact, some

archaeologists and paleontologists don't think we had a modern, systematic method of hunting until as recently as 60,000 years ago," he says.

"Furthermore, Australopithecus afarensis was an edge species," adds Sussman. They could live in the trees and on the ground and could take advantage of both. "Primates that are edge species, even today, are basically prey species, not predators," Sussman argues.

The predators living at the same time as Australopithecus afarensis were huge and there were 10 times as many as today. There were hyenas as big as bears, as well as saber-toothed cats and many other mega-sized carnivores, reptiles and raptors. Australopithecus afarensis didn't have tools, didn't have big teeth and was three feet tall. He was using his brain, his agility and his social skills to get away from these predators. "He wasn't hunting them," says Sussman. "He was avoiding them at all costs."

Approximately 6 percent to 10 percent of early humans were preyed upon according to evidence that includes teeth marks on bones, talon marks on skulls and holes in a fossil cranium into which sabertooth cat fangs fit, says Sussman. The predation rate on savannah antelope and certain ground-living monkeys today is around 6 percent to 10 percent as well.

Sussman and Hart provide evidence that many of our modern human traits, including those of cooperation and socialization, developed as a result of being a prey species and the early human's ability to out-smart the predators. These traits did not result from trying to hunt for prey or kill our competitors, says Sussman.

"One of the main defenses against predators by animals without physical defenses is living in groups," says Sussman. "In fact, all diurnal primates

(those active during the day) live in permanent social groups. Most ecologists agree that predation pressure is one of the major adaptive reasons for this group-living. In this way there are more eyes and ears to locate the predators and more individuals to mob them if attacked or to confuse them by scattering. There are a number of reasons that living in groups is beneficial for animals that otherwise would be very prone to being preyed upon."

Source: Washington University in St. Louis