

[IMAGE]

## Were We Really Born to Run?

By Thomas Michaud, DC

According to a few well-respected paleoanthropologists, our ancient ancestors (specifically *Homo erectus*) were so efficient at running they could chase prey for hours, eventually killing the exhausted animals by hand. In an interesting paper that went on to create the barefoot running movement, Bramble and Lieberman claim that the consumption of meat obtained by long-distance running is the only way to explain the mystery of how *Homo erectus* was able to double its brain size in a relatively short time period about 2 million years ago.

These authors propose that because the brain consumes 16 times the calories of an equivalent mass of muscle, and meat provides four times the calories of an equal-sized serving of fruit, the only way *Homo erectus* could have fueled such rapid brain expansion was if they were able to obtain calorie-dense meat by running prey to exhaustion. Because *Homo erectus* lacked the ability to use even the simplest of weapons, it seemed logical that chasing prey for hours was their only option for obtaining the amount of meat necessary to fuel their rapidly expanding brains.

### The Myth of Long-Distance Running

While there was an increase in the number of animal bones found in early *Homo erectus* archaeological sites, confirming that meat consumption did correlate with brain expansion, a paper recently published in *Proceedings of the National Academy of Sciences* suggests it wasn't long-distance running that allowed for brain expansion; it was the ability to cook.

running - Copyright © Stock Photo / Register Mark The authors of this paper prove that fire was discovered much earlier than previously believed and the ability to heat food was instrumental in brain expansion because heat softens tough fibers, speeding up the process of chewing and digestion.

Cooking food also allows for a greater percentage of food to be metabolized by the body: 100 percent of cooked food is metabolized, while only 30-40 percent of the nutrients present in raw foods can be digested. These researchers claim that by incorporating fire to cook their food, *Homo erectus* could easily obtain the calories necessary to fuel their expanding brains.

Fire may also have indirectly allowed for brain expansion by keeping predators at bay throughout the night. The improved sleep provided by a primitive campfire may have allowed for the rapid eye movement (REM) sleep proven to accelerate brain development.

### **The Case Against the "Born to Run" Movement**

Not all paleoanthropologists believe the "born to run" theory. After studying the hunting and gathering habits of the sub-Saharan Hadza tribe (whose lifestyle and environment closely match that of our hominid ancestors), Pickering and Bunn made the important observation that Hadza hunters rarely run, and when they do it is usually in an attempt to "avoid approaching rain showers, stinging bees, and marauding elephants."

Pickering and Bunn emphasize that prior studies reporting that running prey to exhaustion was an effective method of hunting are flawed, in that many of the long-distance running hunts referred to were prompted by researchers attempting to film the hunts for television documentaries. In many situations, the long-distance running hunts" were commenced from a vehicle and hunters refilled their water bottles during hunting." Even with the aid of the television crew, only three of the eight prompted persistence hunts were successful.

Ironically, in one of the few unsolicited persistence hunts witnessed by Bunn and a colleague, a tribal hunter identified the fresh footprints of a small deer and relentlessly *walked* after the animal for about three hours. The hunter kept forcing the deer away from the few shady areas available until the animal was exhausted and readily killed with a small club.

Pickering and Bunn suggest that because running is metabolically expensive and greatly increases the risks of dehydration and heat exhaustion, it is unlikely that our ancient ancestors would have chosen such a risky and inefficient method of hunting.

In order to test the theory that long-distance running played an important role in the development of our species, researchers from Harvard University compared muscle forces associated with walking and running, and determined that the transition to running resulted in a 520 percent increase in quadriceps muscle activity. This massive increase in quadriceps activity would have presented a significant problem to our hominid ancestors, as they would have had difficulty gathering the calories necessary to fuel such an inefficient form of transportation.

The Harvard researchers state that because of the inflated metabolic expense associated with conventional running, efficiency was "unlikely a key selective factor favoring the evolution of erect bipedalism in humans."

The belief that we were not born to run long distance is also supported by longevity research. In a long-term study of 20,000 Danes followed since 1976, subjects who ran 5-15 miles per week lived almost six years longer than the runners who averaged more than 25 miles per week. If we were really born to run, there wouldn't be a negative consequence associated with the higher weekly mileage.

Although the notion that we were born to run barefoot long distances has become popular in the mainstream press, current research suggests we were born to walk and on occasion, run in moderation.

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