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## Cooking a Giant Leap in Human Evolution: Homo Erectus the First Chefs

By Carl Bagh

Our early ancestors, the Homo erectus, learnt how to cook with fire earlier than we thought.

A recent study by researchers at Harvard University confirms that our ancient kins were eating processed food as early as 1.9 million years ago.

Until now it was believed that our ancestors learnt how to control fire at about 1.5 million B.C.

Researchers reached the conclusion after analyzing DNA, molar size and body mass of Homo erectus and other nonhuman primates.

The study revealed that Homo erectus, Neanderthals and Homo sapiens developed small molars relatively earlier which are not associated with changes to head and jaw size. The shrinking of the molar size is associated to our ancestors having discovered the art of cooking, as they no longer needed large back teeth to chew tough food nor had to spend extra time chewing to gain more calories.

A key problem that researchers have encountered with Homo erectus anatomy was the small size of their teeth and jaws which were ill-fitted for eating the tough raw meat of game animals.

Guardian reported that the researchers compared the feeding time of monkey, apes and modern humans. Modern humans spend about 5 percent of their waking hour feeding while great apes the size of humans spend about 48 percent of the day feeding. Thus the present day primates grew larger and have bigger molars.

The first discoveries of Homo erectus were made in Java, late in the nineteenth century. Since then, many more fossils have come to light, in Africa as well as Asia, and a great deal of effort has been put toward studying the bones and obtaining contextual information from the more important sites. Homo erectus seems to have evolved in Africa, before spreading to other regions of the Old World. This occurred over a long period of time, during which the populations changed relatively little. Only towards the close of the middle Pleistocene are there signs of change in evolutionary tempo, leading to the appearance of more advanced humans.

Since dietary adaptations are central to the understanding species evolution, cooking appears to have been a key feature of the environment of human evolutionary adaptedness.

In the book titled *Catching Fire: How Cooking Made Us Human* Richard Wrangham explains: "Meat eating accounts smoothly for the first transition, jump-starting evolution toward humans by shifting chimpanzee like australopithecines into knife-wielding, bigger-brained habilines, while still leaving them with apelike bodies capable of collecting and digesting vegetable foods as efficiently as did australopithecines."

However, the meat eating prognosis fails to explain the second transition from habilines to Homo erectus. It is this caveat which can be explained through fire control observation.

Cultural anthropologist Claude Levi Strauss states in his book *The Raw and the Cooked*: "Not only does cooking mark the transition from nature to culture but through it and by means of it, the human state can be defined with all its attributes."

Most of the anthropologists followed Darwin's assumption that cooking was a late addition to human skill, as Darwin implied that we could survive without fire if need be and thus cooking had little biological significance.

However, since cooking increases the amount of energy our bodies obtain, the extra energy gave the first cooks biological advantages. They survived and reproduced better and their bodies adapted to cooked food. Changes were seen in anatomy, physiology and psychology of *Homo erectus*. Fossil evidence suggests that the cooked food transition was pivotal to the evolution from *habiline* to *Homo erectus*.