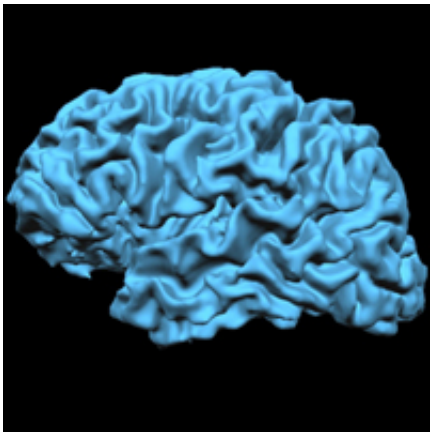
Researchers suggest eating cooked food led to larger human brains

October 23 2012, by Bob Yirka



MRI brain scan

(Medical Xpress)—Brazilian researchers Karina Fonseca-Azevedo and Suzana Herculano-Houzel suggest humans evolved bigger brains because they learned to cook their food. In a paper published in the *Proceedings of the National Academy of Sciences*, the two outline research they've conducted that involved counting the number of neurons in the brains of various primates, the results of which showed that the only way early humans could have evolved bigger brains was to find a way to get more energy from the food they ate, i.e. cooking it.

Cooking food causes it to break down in ways similar to digestion. Thus, animals that eat cooked food don't have to expend as much energy digesting it as do those that eat their meals raw. Because of this, the

researchers in this new study proposed that learning to cook food allowed early humans more time to engage in other pursuits that eventually led to the development of larger brains. To prove their idea sound, they compared the amount and types of food various primates consume and compared it with the amount of energy necessary to fuel their brains which they calculated by counting neural cells.

They began by counting the neurons in the brains of several species of modern primates and then calculated how much time each would have to invest in eating, based on their diet, to maintain their brain sizes. They found that humans would need to eat almost nine and a half hours every day if they didn't cook their food, that gorillas use on average 8.8 hours a day eating, orangutans 7.8 and chimps 7.3. They also found that the size of an animal's brain is directly linked to the amount of neurons it has and that the number of neurons it has is directly proportional to the number of calories needed to keep the brain fed.

Applying their results to early humans: *Paranthropus boise*, Homo habilis and Australopithecus *afarensis*, the researchers calculated that each would have had to spend approximately seven hours a day eating just to maintain their brain size. They suggest that instead, early man learned to cook, which resulted in far less time devoted to foraging and eating, and more to socializing and engaging in other activities that over time led to larger brain sizes, fueled by cooked food.