

## Re: How Meat Eating CHanged Us – More On "Dental Chaos"/"Evolution Of Cooking"

**Source:** <http://sci.tech–archive.net/Archive/sci.anthropology.paleo/2005–02/0667.html>

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something of a stretch I think – hard if not impossible to prove. A better theory distinguishing gorilla from chimps would rely on differences in basic biochemistry (including brain chemistry) and subsequent nutritional needs ?

Nutritional needs have evolved for all species however.

And everyone knows chimps eat meat because they are "killers just like us" – isn't that how the other theory goes? I say laughing ....

jw

Rich Travsky wrote:

> [http://news.nationalgeographic.com/news/2005/02/0218\\_050218\\_human\\_diet.html](http://news.nationalgeographic.com/news/2005/02/0218_050218_human_diet.html)

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> *Meat-eating has impacted the evolution of the human body, scientists*

> *reported today at the American Association for the Advancement of*

> *Science's annual meeting in Washington, D.C.*

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> *Our fondness for a juicy steak triggered a number of adaptations over*

> *countless generations. For instance, our jaws have gotten smaller, and we*

> *have an improved ability to process cholesterol and fat.*

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> *Our taste for meat has also led us into some trouble—our teeth are too*

> *big for our downsized jaws and most of us need dental work.*

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> *"It's really amazing what we know now that we didn't know 15 or 20 years*

> *ago," said Mark Teaford, a professor at Baltimore's Johns Hopkins*

> *University. Teaford helped organize a panel discussion on human diet from*

> *a number of perspectives:*

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> • *How did the ability to eat meat shape the evolution of humans?*

> • *What can we learn about early humans from tooth shape?*

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> *Carnivorous humans go back a long way. Stone tools for butchering meat,*

> *and animal bones with corresponding cut marks on them, first appear in*

- > *the fossil record about 2.5 million years ago.*
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- > *How Did Meat–Eating Start?*
- >
- > *Some early humans may have started eating meat as a way to survive within*
- > *their own ecological niche.*
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- > *Competition from other species may be a key element of natural selection*
- > *that has molded anatomy and behavior, according to Craig B. Stanford, an*
- > *ecologist at the University of Southern California (USC).*
- >
- > *Stanford has spent years visiting the Bwindi Impenetrable Forest National*
- > *Park in Uganda, Africa, studying the relationship between mountain*
- > *gorillas and chimpanzees.*
- >
- > *"It's the only forest where mountain gorillas and chimps both live," he*
- > *said. "We're trying to understand the ecological relationship—do they*
- > *compete for food, for nesting sites?"*
- >
- > *The key difference between chimps and gorillas ecologically is that chimps*
- > *eat meat and gorillas don't. A total herbivore is able to coexist with an*
- > *omnivore because they have significantly different diets.*
- >
- > *"From there we can extrapolate back to what two species of early humans may*
- > *have done vis-à-vis each other two or three million years ago," Stanford*
- > *said.*
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- > *Better Fat Processors*
- >
- > *When humans switched to meat–eating, they triggered a genetic change that*
- > *enabled better processing of fats, said Stanford, who has worked*
- > *extensively with gerontologist Caleb Finch of USC.*
- >
- > *"We have an obsession today with fat and cholesterol because we can go to*
- > *the market and stuff ourselves with it," Stanford said. "But as a species*
- > *we are relatively immune to the harmful effects of fat and cholesterol.*
- > *Compared to the great apes, we can handle a diet that's high in fat and*
- > *cholesterol, and the great apes cannot.*
- > ...
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- > *Diet and Teeth*
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- > *Tool–use no doubt helped early humans in butchering their dinners. But*
- > *there is evidence that the advance to cooking and using knives and forks is*
- > *leading to crooked teeth and facial dwarfing in humans.*
- >
- > *Today it's relatively rare for someone to have perfectly straight teeth*
- > *(without having been to the orthodontist). Our wisdom teeth don't have room*
- > *to fit in the jaw and sometimes don't form at all, and the propensity to*
- > *develop gum disease is on the increase.*
- >

- > *"Virtually any mammalian jaw in the wild that you look at will be a perfect*
- > *occlusion—a very nice Hollywood–style dentition," said Peter Lucas, the*
- > *author of Dental Functional Morphology and a visiting professor at George*
- > *Washington University in Washington, D.C. "But when it comes to humans, the*
- > *ideal occlusion [the way teeth fit together] is virtually never seen. It's*
- > *really the only body part that regularly needs attention and surgery."*
- >
- > *Lucas argues that the mechanical process of chewing, combined with the physical*
- > *properties of foods in the diet, will drive tooth, jaw, and body size,*
- > *particularly in human evolution.*
- >
- > *Essentially, by cooking our food, thereby making it softer, we no longer need*
- > *teeth big enough to chow down on really tough particles. By using knives and*
- > *forks to cut food into smaller pieces, we no longer need a large enough jaw to*
- > *cram in big hunks of food.*
- > ...