

BOOKS OF THE TIMES

Why Are Humans Different From All Other Apes? It's the Cooking, Stupid

BY DWIGHT GARNER

MAY 26, 2009

CATCHING FIRE

How Cooking Made Us Human
By Richard Wrangham

309 pages. Basic Books. \$26.95.

Human beings are not obviously equipped to be nature's gladiators. We have no claws, no armor. That we eat meat seems surprising, because we are not made for chewing it uncooked in the wild. Our jaws are weak; our teeth are blunt; our mouths are small. That thing below our noses? It truly is a pie hole.

To attend to these facts, for some people, is to plead for vegetarianism or for a raw-food diet. We should forage and eat the way our long-ago ancestors surely did. For Richard Wrangham, a professor of biological anthropology at Harvard and the author of "Catching Fire," however, these facts and others demonstrate something quite different. They help prove that we are, as he vividly puts it, "the cooking apes, the creatures of the flame."

The title of Mr. Wrangham's new book — "Catching Fire: How Cooking Made Us Human" — sounds a bit touchy-feely. Perhaps, you think, he has



Richard Wrangham (Tim Laman)

written a meditation on hearth and fellow feeling and s'mores. He has not. "Catching Fire" is a plain-spoken and thoroughly gripping scientific essay that presents nothing less than a new theory of human evolution, one he calls "the cooking hypothesis," one that Darwin (among others) simply missed.

Apes began to morph into humans, and the species *Homo erectus* emerged some two million years ago, Mr. Wrangham argues, for one fundamental reason: We learned to tame fire and heat our food.

"Cooked food does many fa-

miliar things," he observes. "It makes our food safer, creates rich and delicious tastes and reduces spoilage. Heating can allow us to open, cut or mash tough foods. But none of these advantages is as important as a little-appreciated aspect: cooking increases the amount of energy our bodies obtain from food."

He continues: "The extra energy gave the first cooks biological advantages. They survived and reproduced better than before. Their genes spread. Their bodies responded by biologically adapting to cooked food, shaped by natural selection to take maximum advantage of the new diet. There were changes in anatomy, physiology, ecology, life history, psychology and society." Put simply, Mr. Wrangham writes that eating cooked food — whether meat or plants or both — made digestion easier, and thus our guts could grow smaller. The energy that we formerly spent on digestion (and digestion requires far more energy than you might imagine) was freed up, enabling our brains, which also consume enormous amounts of energy, to grow larger. The warmth provided by fire enabled us to shed our body hair, so we could run

farther and hunt more without overheating. Because we stopped eating on the spot as we foraged and instead gathered around a fire, we had to learn to socialize, and our temperaments grew calmer.

There were other benefits for humanity's ancestors. He writes: "The protection fire provided at night enabled them to sleep on the ground and lose their climbing ability, and females likely began cooking for males, whose time was increasingly free to search for more meat and honey. While other habilines" — tool-using prehumans — "elsewhere in Africa continued for several hundred thousand years to eat their food raw, one lucky group became *Homo erectus* — and humanity began."

You read all this and think: Is it really possible that this is an original bit of news? Mr. Wrangham seems as surprised as we are. "What is extraordinary about this simple claim," he writes, "is that it is new."

Mr. Wrangham arrives at his theory by first walking us through the work of other anthropologists and naturalists, including Claude Lévi-Strauss and Darwin, who did not pay much attention to cooking, assuming that humans could have done pretty well without it.

He then delivers a thorough, delightfully brutal takedown of

the raw-food movement and its pieties. He cites studies showing that a strict raw-foods diet cannot guarantee an adequate energy supply, and notes that, in one survey, 50 percent of the women on such a diet stopped menstruating. There is no way our human ancestors survived, much less reproduced, on it. He seems pleased to be able to report that raw diets make you urinate too often, and cause back and hip problems.

Even castaways, he writes, have needed to cook their food to survive: "I have not been able to find any reports of people living long term on raw wild food." Thor Heyerdahl, traveling by primitive raft across the Pacific, took along a small stove and a cook. Alexander Selkirk, the model for Robinson Crusoe, built fires and cooked on them.

Mr. Wrangham also dismisses, for complicated social and economic reasons, the popular Man-the-Hunter hypothesis about evolution, which posits that meat-eating alone was responsible. Meat eating "has had less impact on our bodies than cooked food," he writes. "Even vegetarians thrive on cooked diets. We are cooks more than carnivores."

Among the most provocative passages in "Catching Fire" are those that probe the evolution of gender roles. Cooking made women more vulnerable, Mr.

Wrangham ruefully observes, to male authority.

"Relying on cooked food creates opportunities for cooperation, but just as important, it exposes cooks to being exploited," he writes. "Cooking takes time, so lone cooks cannot easily guard their wares from determined thieves such as hungry males without their own food." Women needed male protection.

Marriage, or what Mr. Wrangham calls "a primitive protection racket," was a solution. Mr. Wrangham's nuanced ideas can-

Less energy for digestion meant more to power brains.

not be given their full due here, but he is not happy to note that cooking "trapped women into a newly subservient role enforced by male-dominated culture."

"Cooking," he writes, "created and perpetuated a novel system of male cultural superiority. It is not a pretty picture." As a student, Mr. Wrangham studied with the primatologist [Jane Goodall](#) in Gombe, Tanzania, and he is the author, with Dale Peterson, of a previous book called "Demonic Males: Apes and the Origins of Human Violence." In "Catching Fire" he

has delivered a rare thing: a slim book — the text itself is a mere 207 pages — that contains serious science yet is related in direct, no-nonsense prose. It is toothsome, skillfully prepared brain food.

“Zoologists often try to capture the essence of our species with such phrases as the naked, bipedal or big-brained ape,” Mr. Wrangham writes. He adds, in a sentence that posits [Mick Jagger](#) as an anomaly and boils down much of his impressive erudition: “They could equally well call us the small-mouthed ape.” ■