

ON HUMAN NATURE

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T. L. Solien, *Victim of Doubt*, 1983

Cuisine Sauvage

In 1972, when I left the Kalahari Desert, and the !Kung San bands that reside there, I had a vastly enriched comprehension of hunter-gatherer cultures, enough data for a doctoral dissertation, and a very enlightening sense of embarrassment. I had gone to Africa to pursue not only specific scientific goals but also some personal philosophic ones, among them the confirmation of a naïve, almost Rousseauian vision of a rather noble savage. On the plains of Botswana, I expected to find the beauty of the human spirit in “pure” form, unadulterated by the corrupting influences of civilization. The not-so-noble savages I in fact encountered—and came to know so well and, in some instances, to love—proved capable of selfishness, greed, jealousy, envy, adultery, wife abuse, and frequent conflict ranging from petty squabbles to homicidal violence. Not that they were any worse than we are; they just weren’t evidently better. Thus I learned a lesson that

sooner or later impresses itself on almost every anthropologist: it is a risky business, at best, to project human ideals onto our evolutionary past. The noble savage does not exist—and never did.

It was with a sense of irony, then, that I read an editorial in *The New York Times* this past June suggesting that a paper I had recently written with a colleague perpetuated “the myth of the Noble Savage.” Perhaps my surprise was unjustified; by then I should have been inured to odd and unflattering characterizations of the paper. The preceding months had seen a flurry of publicity about it. It had been billed in the popular press as espousing a “caveman diet,” and *The Washington Post* had ventured the tongue-in-cheek prediction that my co-author and I would soon publish a best-selling book with such a title. Meanwhile, *The New England Journal of Medicine*, which published the paper, had received letters of more serious intent, questioning on scientific

grounds the merit of our argument.

The episode had begun innocently enough. During the summer of 1983, I got a call from S. Boyd Eaton, an Atlanta radiologist and advocate of preventive medicine who wanted to collaborate on a study of hunter-gatherer societies. Eaton, I soon discovered, believed that in the study of such societies were to be found critical insights into the human condition as well as, perhaps, the key to a comprehensive theory of human biology and behavior. That is not to say that he believed the myth of the noble savage. Rather, he simply subscribed to what anthropologists call the hunter-gatherer party line: regardless of whether ancient hunter-gatherer societies were in any sense noble, their genetic endowment was very similar to ours. This belief rests on the considerable body of evidence suggesting that 95 or 98 or 99 percent of human evolution—depending on what you want to call human—took place in

societies sustained by hunting and gathering. Inasmuch as genetic change in the mere ten thousand years since the advent of agriculture has probably been trivial, the argument goes, we are in essence hunter-gatherers transplanted out of skins and huts into three-piece suits and high-rise condominiums.

My once faithful adherence to that party line had been shaken in an oblique way by my experience in Africa. The trip to the Kalahari, after all, had been motivated by both my belief in the existence of the noble savage and my commitment to the hunter-gatherer hypothesis; the ensuing disillusionment had somewhat indiscriminately diluted both. But as I talked with Eaton, I regained some respect for the party line—enough, certainly, to proceed with our collaboration.

We set out to study the diet of ancient hunter-gatherer societies against the backdrop of recent research on nutrition. Using anthropological data on the few extant groups (including the !Kung San) as well as paleontological and archaeological findings about various hunter-gatherer societies that flourished between two million and ten thousand years ago, we proposed a model of what human beings ate during the better part of their evolution. Broadly similar studies had been conducted before, but we enjoyed the benefit of quite good numbers—credible data amassed over decades of modern research. Moreover, we added what proved to be a provocative comparison between our hypothesized paleolithic diet and two other diets: that of the average American today, on the one hand, and that recommended by physicians and scientists, on the other.

The results were mostly predictable but no less impressive for it. The paleolithic diet consistently met or exceeded the standards being proposed for shifting the American diet toward a more healthful pattern. For example, the ratio of polyunsaturated to saturated fat consumed by the typical American is 0.44. It is now recommended that this ratio be moved closer to 1.00 to protect against atherosclerosis—the epidemic illness underlying most heart disease and strokes. In the paleolithic age, we estimated, this ratio was even higher—around 1.41. Sodium, a suspected cause of high blood pressure, is consumed by the average American at the rate of 2,300 to 6,900 milligrams per day, despite recommendations that the rate be cut to between 1,100 and 3,300. Our hunter-gatherer ancestors, it appears, consumed only about 690 milligrams of sodium per day. For fiber, which may protect against several diseases of the bowel, including cancer, the figures were 19.7 grams per

day for Americans, 30 to 60 grams recommended, and 45.7 grams estimated for paleolithic man. The high level of fiber intake among hunter-gatherers also implies a low intake of sugars and other simple carbohydrates widely considered too common in the American diet. Once complex carbohydrates, such as those found in fruits and vegetables, are added, the percentage of daily calories derived from carbohydrates in the late Paleolithic period amounts to about the same as it does today. But the percentage of protein was much higher and the percentage of fat markedly lower. (Large quantities of fat are thought to contribute to cancer of the colon, breast, uterus, and prostate.)

The paleolithic estimate corresponds to the typical American diet rather than to the nutritional ideal in one respect: cholesterol intake. Like the high paleolithic protein level, this is due to heavy reliance on meat; cholesterol, being the major constituent of animal cell membranes, is abundant even in lean meats. Nonetheless, contemporary hunter-gatherers have extremely low levels of serum cholesterol, which reinforces the recent finding that the major dietary determinant of serum cholesterol is not, paradoxically, cholesterol, but saturated fat.

Our paper concluded that there was an impressive convergence between the paleolithic diet—the diet that evolution designed us to eat—and the generally healthful diet prescribed by modern nutritional science. “The diet of our remote ancestors,” we wrote, “may be a reference standard for modern human nutrition and a model for defense against certain ‘diseases of civilization.’”

In a burst of optimism, we sent the paper to *The New England Journal of Medicine*, arguably the most prestigious medical periodical in the world. To our pleasant surprise, the journal accepted the paper and published it on January 31 of this year, under the title “Paleolithic Nutrition: A Consideration of Its Nature and Current Implications.” I knew that the health and medicine sections of many newspapers regularly report the journal’s more arresting findings. Still, I was not prepared for the reaction that our rather offbeat paper (offbeat, at least, by the journal’s standards) generated.

Days before we even saw the published paper, Eaton and I began to receive telephone calls from an array of newspaper and broadcast journalists ranging from science reporters to food editors. Several reporters adopted the phrase “caveman diet” and went on to use it despite our insistence that it was not only misleading but it was also insulting to contemporary hunting-and-gathering peoples. A few representative headlines: “Cavemen Cooked Up a Healthy Diet” (*USA Today*); “Cave Man Takes a Healthy Bite Out of

Today’s ‘Civilized’ Diet” (*The Atlanta Journal*); “Check Ads for Specials on Saber-toothed Tigers (*The Atlanta Constitution*). There were many amusing cartoons and drawings, but the graphics award surely must go to *The Fort Lauderdale News/Sun-Sentinel*, which ran a series of “paleolithic” recipes accompanied by a color photograph of an actor grotesquely made up as a caveman—skins, club, tooth necklace, and all. Even distinguished journalistic institutions were not above this sort of humor. *The Washington Post*, after predicting the appearance of our book-to-be on the best-sellers’ list, added, “Some day in the near future you’ll look out at daybreak and see people all up and down your street come loping out of their homes wearing designer skins and wielding L.L. Bean stoneaxes while every dog, cat and squirrel in the neighborhood runs for cover.”

Ellen Goodman, the much loved syndicated columnist based at *The Boston Globe*, ridiculed us in an uncharacteristically harsh tone. Her piece was accompanied by an etching of savages dancing, captioned “Make mine mastodon.” The column seemed marred by resentment—the resentment of a non-compliant patient sermonized yet again by high-minded, pesky physicians. “But I am convinced,” she concluded, “that the average Paleolithic person was the very role model of good health when he died at the ripe old age of 32.”

By and large, though, I got a good laugh out of the copy. I am enough of a writer to realize what a superb target our article made. Most of the jokes and cartoons were presented side by side with fairly serious summaries of the paper, and the pieces generally got the message across—and to a much larger audience than we could have reached without such help. (Fellow physicians and scientists had sent us scores of letters, the majority of them positive.) As Eaton pointed out after we had stopped laughing and finished licking our wounds, the attention to our ideas was what counted, and we had now become one more small force for preventive medicine in a sea of cultural forces aligned against it.

Needless to say, the critiques that appeared in the journal itself were more serious in intent than was the popular commentary. One reader pointed out that paleolithic hunter-gatherers would likely have eaten a lot of honey—a challenge to our contention that their consumption of simple carbohydrates was meager. (In fact, the Pygmies of Zaire have recently been found to gorge themselves on caches of honey.) But we countered that there was no way our ancient ancestors could have consumed anywhere near the 108 pounds of sugar a year now

eaten by the average American child, and that the archaeological record shows a massive increase in tooth decay accompanying the rising consumption of refined carbohydrates. Another critic questioned one of our basic premises—that there has been little genetic change since the hunting-gathering era. This is an important issue and it calls for further research; but all studies of modern hunter-gatherers suggest an overwhelming genetic continuity between them and us.

For the present, then, our model of paleolithic nutrition seems to have some claim on the truth. Still, the criticisms published by the journal were serious enough to lend weight to the barb thrown by *The New York Times*: "Did people of the early Stone Age eat more healthily than their urban successors? The issue is being vigorously chewed in the *New England Journal of Medicine*, and it tastes like the myth of the Noble Savage."

Had we indeed projected today's medical ideals onto our evolutionary past? I won't speak for Eaton, but I know myself well enough to concede that possibility; I don't purport to be conscious of all my motivations, and it may well be that I was inspired to accept Eaton's invitation to collaborate by the same naïveté that drew me to the Kalahari as a graduate student. But whatever the inspiration for our study, we took pains to conduct it by the rules. We spent months examining and re-examining our premises and our data, and we were very hard on any interpretation that even hinted at romanticism. But a solid core of good data survived our harshest scrutiny, and the burden of proof now rests with those who doubt that the diet of hunter-gatherers, whether recent or ancient, was qualitatively better than the average American's.

A scientific hypothesis, after all, should be evaluated not on the basis of its authors' motives but on the basis of its merits. It does not find its way into a respectable journal because it was nobly conceived or because it is guaranteed to be right, but because it is sufficiently interesting and sufficiently supported by facts to warrant admission, at least temporarily, into the stream of scientific discourse. Scientists' motivations must come from somewhere, and the realities of research are such that the pure pursuit of truth is often asked to coexist with a certain amount of advocacy. The best we can hope is that the resulting discourse resembles the contending thoughts in a single, rather superior mind—contradiction progressing toward synthesis. ●

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