

Re: Diet and Evolution

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- *From:* "Ron O" <rokimoto@xxxxxxx>
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Malcolm wrote:

"camelopard" <camelopard@xxxxxxx> wrote

I am puzzled by the statements of some dietary supplement advocates, which I take to be true statements, that certain vitamins, minerals, amino acids, etc. are not present sufficiently in foods to meet the daily needs of the human body, even if we eat an enormous amount of the providing foods, and thus we have to take supplements.

This doesn't seem to make evolutionary sense. It seems that the human body should receive ample nutrients from the foods it is able to digest.

How would one answer this? Is the same true for other species, or just for humans?

Are some foods adapted not just for humans, but for the diet of other animals? So does the human body just get more or less of what it needs?

Perhaps the human body is adapted to a diet followed by early humans and monkey-like ancestors, and perhaps for most of its evolutionary history the human or pre-human body was much smaller, and perhaps more metabolically adjusted to its food, and did not require supplements.

Or maybe the human diet has always been deficient. Does that mean the human body is unnatural? Or maybe the original foods have been destroyed, and we have only nutritionally imperfect substitutes, that fall short of what is required.

Oh, well. This is getting complicated. I wonder what the question was?

There is an awful lot of pseudo-science and debased science in the nutrition business.

Re: Diet and Evolution

Basically a statement such as "vitamins are good for you" might be given a scientific dressing, but it conceals a fundamentally magical, non-scientific way of thinking, dragging in all sorts of concepts about "the natural" and what it means to be a healthy person.

Your central proposition that we are evolved to eat a fairly normal diet of meat and fruit, without supplements, is correct. Humans are actually very versatile eaters and can live on a huge range of foods, from the predominantly meat-based diet of the Inuit to the wholly vegetarian one of the Hindus. What is controversial is where there are alleged minor long-term effects for certain types of diets.

Generally there is a big advantage in going from a serious deficiency to a mild deficiency, a small advantage in going from a mild deficiency to an optimal amount, and the benefit of going from an excess to an optimal amount is smaller still. A Westerner is unlikely to have a serious deficiency of anything. However he may well have some excesses, for instance of fats or salt.

Vitamins and other supplements are largely a waste of money. There might be a few individuals they help, but basically if we want to improve modern diets we do it by reducing rather than increasing intake.

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Health food industry is pretty ripe with pseudo science and bogus claims.

There are some facts. We lack the ability to make vitamin C. In our evolutionary history, some of our ancestors lost the ability to make vitamin C, but they got enough in their diets so that this defect was likely fixed by genetic drift.

For vitamin C there is an adequate dose that most people can get from what they eat, but more may be better in some respects. Natural selection is sort of based on the concept of good enough to get by. Something may make the organism better in some respect, but if you are dealing with a threshold trait, it might not matter if you can run 42 miles an hour when 40 miles an hour is good enough to get the job done. Can you see as well as a hawk?

You might be able to get adequate amounts of vitamins from what you eat, but everyone in the population is stuck with basically the same diet (in the wild, and not dependent on what you can afford or choose to buy in the supermarket). This does not mean that more of some vitamins may have no further benefits, it just means that, that is all the animal has been able to get, and that is all that natural selection has had to work on.

Ron Okimoto

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