Debatt

Stone age man, anemia and iron oxide

As far as we know today, man has walked the earth for some three to four million years. During this period of time he developed quite rapidly, evolving into Neanderthal man about 140 000 years ago and into our own type some 35 000 years ago. Man remained a collector, scavenger, hunter and fisherman until post-glacial times. Agriculture was first practiced in the near East some 9 000 years ago, gradually spreading from there and reaching Britain and Scandinavia in the late 6th millenium.

The human material remains preserved are few indeed, the skeletons or parts of skeletons of less than one hundred individuals representing the three million or more years of "Homo erectus" and about one hundred representing Neanderthal. Even skeletons of "modern" men dating from paleolithic or mesolithic cultures are few and far between. There is one marked difference between the finds of "modern" men and of Neanderthal man on one side and those of Homo erectus on the other: the very great majority of the former remains are those of individuals who have been ceremonially buried, whereas none of the former has been.

In paleolithic and mesolithic burials the dead have very often been sprinkled with powdered red ochre before the grave was filled in. This has usually been taken to be an attempt at restoring the ruddy hue of life and health. This may be true, but might there be another explanation? Was red ochre reserved for the dead only? Probably not, because sometimes "crayons" of iron oxide are found, their tips worn as had they been used for drawing on soft materials, such as human skin. It seems likely that paleolithic and mesolithic man painted himself.

It seems rather likely that Neanderthal man and early modern man, both of whom seem to have been much more muscular than is modern man, and who both led very strenuous lives, needed even more oxygen to function optimally than does modern man—both per unit of body weight and per unit of lung area. As the amount of muscular tissue increases, tissue that has to be supplied with oxygen in order to function, the amount of lung contact surface does not increase correspondingly. It is thus necessary that the lungs of an individual with strongly developed muscles function more efficiently than do the lungs of a less well-developed individual.

When it came to food paleolithic and mesolithic man probably exploited all and every resource available in his environment, his main concern being to obtain sufficient calories to survive the immediate future. Selecting foods for their nutritional-physiological properties was probably a luxury he could but rarely afford. No doubt man soon learned that vegetables are necessary, even though he never heard of vitamin C, and he probably learned how to utilize the stomach contents of reindeer and muskoxen, the contents of the ptarmigans's intestines, raw blood and raw liver, all of them rich in vitamins, as well as raw salmon and raw trout, and he may have found that, sometimes, such fish would kill him, slowly but surely. Still, in winter he probably suffered from vitamin deficiency and iron deficiency.

Paleolithic and mesolithic man probably did not worry too much about personal hygiene nor about keeping his immediate surroundings reasonably clean. Today, as probably also in former times, one of the most common tape-worms is *Dibothriocephalus latus*, which generates a poison causing a very severe type of anemia in man. But also the other kinds of tape worms, round-worms and similar parasites affect the number of red corpuscles and were probably common. In all likelyhood ane-

mia, caused by a lack of vitamins in the food and by tape-worm infection, was a common scourge in Paleolithic and Mesolithic times.

"Anemia, a condition characterized by a subnormal number of red corpuscles per unit of blood volume ... The ordinary symptoms are excessive fatigue, pallor, vertigo, dizziness and headache. The most common reasons for the condition are nutritional deficiences, particularly lack of iron and of certain vitamins ..." (Enc. Brit.)

On Monday, May 22. 1989, the Swedish newspaper Svenska Dagbladet (and possibly other newspapers) carried the following notice:

Vain vulture dyes its plumage. The rare lammergeier has a remarkable habit, unknown to most. It dyes the white feathers of its breast reddish brown with mud containing iron oxide. Why it does so remains a mystery. The phenomenon was first observed in a German zoo, where the birds seemed dispirited and lacked appetite. A pigment manufacturer supplied samples of different iron oxides which were put at the birds' disposal. Now the birds are said once again to thrive, their breasts being brown. It has long been known that nesting cranes deliberately smear mud from bogs on the feathers of their backs, thus acquiring a reddish-brown colour. Also in this case iron oxide is believed to be involved, although the reason for its use remains obscure.

Is it possible that the birds absorb iron through the skin the same way as copper can be absorbed from metallic objects in direct contact with the skin? We all know that direct contact with metals leads to minute amounts being absorbed through the skin.

Did paleolithic man and mesolithic man use an ointment of iron oxide and fat to prevent or, at least, delay winter anemia by iron being directly absorbed? We do not know for certain, but it seems possible.

Is it possible that early man sprayed iron oxide on his dead in the hope that it would help the soul in the next life, just as iron oxide, used as a cosmetic, helped the living in this life? We do not know, we can never know, but I offer this explanation as one among many for the use of iron oxide as a cosmetic.

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