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ARCHAIC FOSSIL HUMANS

Dear Editor,

In his detailed consideration of the place of various taxons in human history, Beasley¹ suggests that most of the skeletal markers of the Neanderthals may be due to an active life in cold conditions, along with a naturally delayed maturity consistent with longer life than now experienced. Other than hypervitaminosis in *H. erectus* from East Africa (p. 197), and reduced nutrition in Neanderthals (pp. 197–198), he does not consider the possibility of pathological changes affecting these fossils.

Dequeker² mentions various possibilities of ancient and prehistoric occurrences of Paget's disease (*osteitis deformans*): a parietal bone found on an ancient Egyptian tomb,³ a femur from the Neolithic period,⁴ and the peculiar shape of some Neanderthal skulls.⁵ A consideration of such and other possible pathology would enhance Beasley's study.

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3. Hutchinson, J., 1889. On *osteitis deformans*. *Illustrated Medical News*, 1889(2): 169–179.
4. Pales, L., 1929. Maladie de Paget préhistorique. *Anthropologie*, 39:263–270.
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The Author Replies . . .

Dr Alex Stewart has raised the possibility that some of the morphological characteristics observed in ancient fossil humans may be due to pathologies, including *osteitis deformans* (Paget's disease). In an earlier paper¹ I touched upon a number of pathological disorders that may have afflicted archaic humans, including *osteitis deformans*. Many of these diseases have particular relevance to the Neanderthals of the Near East and Europe. It has been argued by Acton² that the '*simian appearance*' of some fossil humans may have been due to Paget's disease, with the bones of the spine and lower limbs becoming thickened, softer and often curved. A significant reduction in stature can also result from this malady; something which may be reflected in the Neanderthals. However, I would point out that Neanderthal stature is quite variable. Those subjected to colder climatic regimes were, as a rule, shorter than their contemporaries from warmer Mediterranean regions. Furthermore, the incidence and degree of limb bone bowing seems to be greater in individuals deriving from higher latitudes. This suggests that their

'short' stature was at least, in part, due to cold adaptation. It may also have been compounded by dietary deprivation,³ prolonged subjection to degenerative diseases such as *osteitis deformans* and, perhaps, *syphilis*.⁴ The bowing of the limb bones, on the other hand, could be attributed to rickets/*osteomalacia*. I would also argue that the thickening of the limb and cranial bones was due, substantially, to prolonged periosteal apposition.

The fact that the Ice Age adapted Neanderthals — the shortest statured fossil humans — were still taller, on average, than modern-day Inuits and Lapps lends support to the notion that ancient man was generally taller than modern man. This observation runs counter to prevailing transformist theories of human origins.

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3. An instance of how stressful climatic conditions can affect stature is related in a recent article in the journal *Science* (Ref: Fischman, J., 1996. California social climbers: low water prompts high status. *Science*, 272:811). In this article Fischman describes how: '*As water levels dropped, broken skulls, arrow injuries and signs of disease climbed to unprecedented heights.*' He then adds that during a drought around AD 1100 the height of the Chumash Indians decreased.
4. Wright, D. J. M., 1971. Syphilis and Neanderthal man. *Nature*, 229:409. Wright states that: '*The effect of syphilitic osteitis could produce these bone changes and might, in addition, account for the Neanderthal long bones being so short and stout!*'