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Letters

Neanderthal underachievers

Bruce Bower incorrectly describes us as arguing that Neanderthals did not possess the "intellectual capacity for symbolic thought or logic" ("Talk of Ages," SN: 7/8/89, p.24). This is a common misreading of our article, stemming from a failure to distinguish between the capacity for a behavior and its adoption as a significant part of human adaptation.

In fact, there is good evidence that Neanderthals had symbolic *capacities* equivalent to ours. Neanderthals were apparently responsible for the Chatelperronian, an Upper Paleolithic industry with good evidence of symbolic behavior. However, the use of symbols appears to have played at best a very minor role before the Upper Paleolithic—just as farming was not practiced for tens of millennia after the necessary intellectual capacity had developed. Thus, adaptive dependence upon language seems to have appeared

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200 The Viral Advantage

Cover: Orange, yellow and green strands represent three protein portions that together make the "globular domain" atop a hemagglutinin spike (blue) on the surface of a human influenza virus, as viewed from above. Minor mutations within these protein strands have periodically endowed this virus with novel, immune-avoiding abilities or lethal virulence. Scientists say such viral mutability—in conjunction with uncontrolled human population expansion and global ecological instability—presents the specter of new viral epidemics against which we may have frighteningly few defenses. (Computer image: University of California, San Francisco)



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long after the necessary neurological changes.

This implies that biological and behavioral evolution were mosaic in nature—a fact that should surprise no one but that does have major implications for the character and significance of the debate about the origins of "modern" humans and "modern" behavior.

Philip G. Chase
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Schooled in sadness?

It is interesting that "clinical depression is pretty rare before about age 7" and that "a bout of major depression lasts an average of seven to nine months" ("Growing Up Sad," SN: 8/5/89, p.90). This suggests there might be a correlation between childhood depression and compulsory school attendance.

As director of a statewide organization assisting home schoolers, I am contacted by dozens of parents every year who tell the

same story. Sometime after their children started grade school, these parents noticed that the children began to "lose their spark." Many tell of children who just were not developmentally ready for the academics and who seemed to be living under a constant threat of failure and fear of public humiliation. Others tell of children who were bored and miserable having to sit passively in wooden desks all day, memorizing information with little relevance to their daily lives. They all tell of children who felt helpless and unhappy but were unable to change things. The children were too small and too vulnerable to stand up to the teachers, the class bullies, their parents and the laws that forced them to go to school day after day. The result was depression, anxiety, social withdrawal, low self-esteem and school phobia.

The parents always tell me that improvement was dramatic when they took their children out of school to educate them at

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