Letters

Publicizing Prehistory

On the recent article by Constance Holden headed "The politics of paleoanthropology" (News and Comment, 14 Aug., p. 737), I would comment:

In the Middle Ages when Kings waged careless war
For cross, or land, or treasures, new schisms then to found,
They carried gilded reliques of saints' bones to the fore.
Across the trampled landscape their war-cry would resound:
"To me! To Me, the faithful! Death to the less renowned!"

Now bones of shady forebears are raised up from their beds;
And pithecine and pongid are used by puisne men;
The luckless *afarensis* is hoist above our heads.
Brandished in a fracas that's pure ad hominem
They fright the gentle student of how we all began.

Let princeling, priest, and journalist vanish from our field,
We'd walk the ground as fellows in courteous debate,
Crypts and sanctuaries flee for laboratories that yield
Data perhaps contentious but not a cause for hate.
Science that fosters bitterness is never, never great.

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Note

1. Chaucer was particularly aware of the use of human—and other—bones to beguile the layman (*Canterbury Tales*, Prologue, lines 691–714).

While Holden's comments are interesting, it would be a mistake to believe that the tone set by a few of the more vocal discoverers of early human remains represents all of, or even a significant portion of, paleoanthropology. There is much more to this discipline than the race to find the earliest human remains. Other recent discoveries not involving the earliest humans such as the European Neanderthals found to be associated with Upper Paleolithic tools, or the fairly complete ramapithecine remains coming from the renewed efforts in the People's Republic of China are every bit as critical and revolutionary. They differ only in that they were not brought before the public eye by their discoverers. Further, other early human discoveries simply not brought to the attention of reporters have had equal scientific importance. Finally, the bulk of our growing knowledge of human ancestry and evolution comes from the interpretations of data, and from the hypotheses that these interpretations help maintain or reject. This aspect of the discipline has also not received the attention of the press. While none of the above affects the development of the field, it seems to result in an inaccurate public perception of it. The "colorful personalities" Holden discusses are the exceptions, not the rule, in a discipline generally characterized by communication, cooperation, and data sharing between the participant scientists. It is this more accurate description of the tenor of the field that accounts for the dramatic progress made in it over the last few decades. "The politics of paleoanthropology" characterizes a minority who, whatever reporters and commentators may say, speak for no others than themselves.

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Holden writes that Jerold Lowenstein "has been able to establish that the Tasmanian wolf was more closely related to an Australian marsupial wolf, despite close morphological correspondences with a South American hyena." This is muddled. The so-called Tasmanian "wolf" is itself a marsupial—one that in prehistoric times also lived on the Australian mainland and in New Guinea. Tasmania is part of Australia. The animals that the Tasmanian "wolf" was found to be related to were not "Australian marsupial wolves" but certain of the remaining Australasian polyprotodont marsupials sometimes called the "Australasian marsupicarnivora"—animals which are also found in Tasmania. Hyenas from South America are unknown. The animals in question are the so-called "borhyaenids" (also marsupials)—extinct creatures that have no more to do with hyenas than opossums do.

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Defining Human Life

Science has limitations in dealing with public policy, and the issues raised in the abortion controversy dramatize certain of the limitations. However, Brian G. Zack (Editorial, 17 July, p. 291) far overstates the matter when he says, "To ask science to define human life in scientific terms for use by the law in moral terms is a travesty of both honorable traditions." Not only is it not a travesty, it is precisely what science should do to assist any public decision-making that involves substantive scientific content. Understanding of what it means to be either alive or human, or both alive *and* human, is substantially enhanced by scientific knowledge. Scientifically, a zygote is both alive and human, as are the gametes that give rise to it and the cells that result from its division. What is new about a zygote is not that it is alive or human but that it has a new genetic constitution. What is not yet present, however, is a new individual, in the sense of a person—as defined by common usage and carried over into our concept of human rights.

Zack is right in saying that the issue is "at what stage of development shall the entity destined to acquire the attributes of a human being be vested with the rights and protections accorded that status." The key word is "attributes." If the attributes are expressed in terms to which science can be applied, then science can assist the law in establishing the appropriate developing stage. Our problem at the moment is that there is no consensus on the essential attributes and, with respect to some candidate-attributes, we do not have enough knowledge to be precise about the appropriate stage. What is clear, however, is that one widely, though not universally, accepted attribute is wholeness in the sense of indivisibility. Scientifically, we know that this attribute is not present in