Book Review

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What it Means to Be 98% Chimpanzee: Apes, People, and Their Genes. By Jonathan Marks. Berkeley: University of California Press. Pp. 312. $27.50.

This is a book that I recommend, without any reservation, to the readers of *The American Journal of Human Genetics*. The book, which is perhaps not very clearly titled, deals with issues of recent human evolution, human variation, nature versus nurture, and the role of scientists in the wider society. As such, the book will interest human biologists, biological anthropologists, human geneticists, and medical doctors, as well as anybody else who deals with human variation. It is also a book I plan to suggest that my students recommend to their families, since it is accessible to the general public.

Marks presents an excellent historical background to the study of human variation by Western scientists, from the early work of Linnaeus up to present-day efforts. I, for one, will include in my classes his review of the history of anthropological attempts to study human variation. Anthropology, as the discipline that attempted to understand human variation from its foundation, has much to do with the understanding of—and misunderstandings about—human variation. However, I think all readers of *The Journal* should be interested in learning about how human variation has been researched during the past 200 years and about the mistakes that have been made by scientists. Given that biomedical researchers are constantly confronted with epidemiological data collected in "Afro-Americans," "Whites," "Hispanics," etc., we all need to be reminded of the actual data on human genetic variation and the importance of culture in the designation of such categories. In my own case, I have encountered ignorance at the bone-marrow transplant center in my own city about the fact that most human variation is found within (not between) the "races." Such ignorance, stemming from a major clinical center and conveyed to the media, only perpetuates folk misunderstandings about the distribution of human variation.

Though Marks's prose is engaging, he would have benefited from an editor who could have cut down on repetition; Marks makes the same point one too many times. Perhaps this is good for the general public, but it is detrimental to his colleagues. I also think that such an editor would have noticed that sometimes Marks refers to "a distinguished professor from X University," but, in other instances, he mentions the specific names of authors. Perhaps the general public does not need to know the names of researchers, but I felt that Marks should have either named all the characters in the book or none.

One of the best parts of the book concerns the issue of nature versus nurture, as it relates to human abilities and human differences. Marks tackles issues such as sports abilities, school performance, and other aspects of behavior. His discussion of the synergism of nature and culture, in traits such as human body shape and even menstrual cycles, was particularly gratifying.

My assessment of the book is not all positive, however—not with regard to the content but to the manner in which some of the content is delivered. I agree with Marks that much harm has been done to society in the name of science. I agree with him that the role of many geneticists, biologists, and anthropologists in the eugenics movement in this country and in Europe was shameful. I agree with him that American anthropologists were callous, at best, when taking skeletal materials from Amerindian communities. If I agree with all the points in his book, how is it that my assessment is not all positive? Well, not all scientists think that the scientific view of the world is superior to others, as he claims (p. 272). Not all scientists think that the general public is less worthy than they are, as he says (p. 276). Not all scientists think that science is being rejected by the public because of the public's failing (p. 281); some of us think that it is science education that has failed. Not all scientists think that evolution is enough to give meaning and beauty and reason to our lives (p. 281); many of us find joy and solace in religion. Certainly, not all scientists say that we have explained the universe and that life has no meaning (p. 283). And, most surely, not all scientists say to the general public that we are right and they are wrong (p. 285). In fact, I don't know anybody like these scientists that Marks describes.

There are two reasons why I must raise these points: (1) By saying that "creationists are entitled to a degree of sympathy they don't often encounter in the scientific community" (p. 255), Marks has opened a Pandora's box that will allow them to misuse his book and reputation. I predict that Marks will be cited, by numerous Web sites and books, as providing evidence that creationism should be taught in biology classes. Marks forgets that it is creationists who attack us; it is they who do not understand that science and religion are not in conflict. I am sorry, but creationists do not deserve my sympathy. (2) I was so excited about *finally* finding a source for the general public that would clearly explain that most human variation is found within races, a scientific fact that has been verified over and over. And yet, at the end of the book, Marks puts down scientists as arrogant individuals and portrays the scientific endeavor in a very negative light. How can Marks tell the readers that there are no scientific bases for the folk taxonomy with which they classify humans and then attack the scientific endeavor so viciously? On the one hand, he de-

fends the scientific facts that most variation is found within races and that most "racial" differences are culturally derived, and, on the other, he attacks science. Why should the public give up the folk taxonomy of humans, shown to be inaccurate by science, when Marks himself dismisses the science that produced those facts?

Regardless of these objections, I still strongly recommend the book to the readers of *The Journal*. Whether you are a clinician, an evolutionary biologist, a population geneticist, or a teacher at a large university or small college, you will find this book to be exciting, engaging, and valuable.

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