

## Book Review

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*Reflections of Our Past: How Human History Is Revealed in Our Genes.* By John H. Relethford. Boulder, CO: Westview Press, 2003. Pp. 257. \$26.

*Reflections of Our Past: How Human History Is Revealed in Our Genes* presents a clearly written examination of the relationship between genetics and history. In 10 chapters, documented by 177 references (of which 14 are from his own work since 1982), Relethford considers nine main questions. The book is structured so that the subjects are considered in chronological order, examining events that occurred from as early as 6–7 million years ago (date of the divergence between ourselves and our closest living relatives) to 400 years ago (date used in evaluation of the genetic roots of African Americans). The book's style is direct, and all concepts are explained simply. It is not by chance that the author received the Chancellor's Award for Excellence in Teaching from the State University of New York College at Oneonta.

The subjects discussed include our place in nature, the origin of modern humans, the early colonization of the Americas, demic diffusion in Europe, the peopling of the Pacific area, three aspects of Irish population structure, the usefulness of the image of America as a "melting pot," the genetic distinctiveness of Jews and of one of their groups (the Kohanim), and many more, including evidence on the question whether Thomas Jefferson was the father of two sons of a former slave. Controversies are fairly treated, with clear presentation of the arguments presented by both sides and with stress on the intricacies of human evolution. Nonetheless, Relethford does not avoid presentation of his own views about the matters discussed. For instance, his opinion on the origin of modern humans is that most of our evolution took place in Africa but that replacement of "archaics" was not complete, with some degree of genetic exchange with the modern human populations, including the Neanderthals. On the question of the early colonization of the New World, he favors an entry date of 15,000–20,000 years ago, and, on the question of Polynesian origins, he supports the so-called "slow boat" (instead of "express train") model—namely, that, on their way to Polynesia, Southeast Asians mated with Melanesians, thereby transporting some of their genes to the new environment.

The book, therefore, should be of value to both laypersons and specialists. In particular, contributors to and readers of this *Journal*, who concentrate their efforts in sometimes very small regions of our genome that are related to some kind of rare disease, may enjoy reading the book as a refreshing pause between cloning or sequencing activities, to ponder the

more general aspects of our branch of science. Moreover, as R. Lewontin ("Natural history and formalism in evolutionary genetics." In: R. S. Singh et al. [ed.], *Thinking about Evolution*. Vol. 2. Cambridge University Press, Cambridge, United Kingdom [2001], pp. 7–20) and many others have stressed, history matters. For example, in genetic association studies of human disease, the findings of S. B. Gabriel et al. (see *Science* 296: 2225–2229 [2002]) that the structure of haplotype blocks in Africans are much different from those of Europeans and Asians should be taken into consideration. This structural difference could only have arisen owing to the diverse evolutionary histories that occurred in these three continents. The practical importance of population genetics for the investigation of a wide array of biomedical problems was not considered in this book but should also be emphasized at a time when ideologically committed members of the scientific community and of the media, as well as science detractors, question the value of this research (for details, see F. M. Salzano and A. M. Hurtado, *Lost Paradises and the Ethics of Research and Publication*. Oxford University Press, New York [in press]).

No one is perfect, and there is a sentence of Relethford's with which I strongly disagree. In discussing the scientific and legal controversies related to what had been called the "Kennewick Man remains," Relethford asserts, "The belief of native groups that these bones are sacred and must be reburied needs to be respected" (p. 142). First, which type of religious ideas were those of the group with which this person was affiliated—the group that existed 9,200–9,600 years ago? E. O. Wilson (*On Human Nature*. Harvard University Press, Cambridge, MA [1978]) asserted that humankind created ~100,000 religions, which of course varied widely in relation to what they consider to be sacred. Second, the opinions of religious leaders do not necessarily represent those of a given person. One of my colleagues at the Federal University of Rio Grande do Sul decided many years ago that he would donate his body, after his death, to be used by anatomy students as a learning device. His decision was obeyed, and, for many years, his body was dissected by a large number of these students, to the horror of many religious leaders of our city. Are we going to return to the Middle (Dark) Ages, when science was considered a devil's affair?

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