the interested lay reader, which is also a book that will further fascinate serious chronobiologists with the wonders of their subject. It is a reminder of the marvels of nature and of the critical role that endogenous biological timing plays in the life cycle of almost every organism.

References

1. R. Spitzer *et al.*, *Am. J. Psychiatry* **156**, 1392 (1999).
2. R. J. Konopka, S. Benzer, *Proc. Natl. Acad. Sci. U.S.A.* **68**, 2112 (1971).
3. Reviewed in S. Panda, J. B. Hogenesch, S. A. Kay, *Nature* **417**, 329 (2002).
4. S. M. Reppert, D. C. Chang, *Neuron* **29**, 555 (2001).
5. M. W. Young, S. A. Kay, *Nature Rev. Genet.* **2**, 702 (2001).
6. J. D. Palmer, *The Biological Rhythms and Clocks of Intertidal Animals* (Oxford Univ. Press, New York, 1995).

BOOKS: HUMAN GENETICS

Moving and Mixing

Linda Vigilant

Among the first questions one asks a new acquaintance is "Where are you from?" This is not always as simple a question as it may seem. Living in Europe, I have tried to answer with just "the U.S.," but this satisfies nearly no one. "But where in America?" The follow-up gives me pause. Is it New Jersey, where I spent my childhood? California or Pennsylvania, the places I lived as an adult? Which would I rather be linked with: Bruce Springsteen, the entertainment industry, or Three Mile Island? For we tend to use information about a person's place of origin as a shortcut to knowing a whole range of things about them: likely educational background, religion, economic status, political views, and so on. Although I can edit my personal history at will, none of us can choose our ancestors.

The current boom in genealogical research suggests that I am in the minority in finding the history of long-dead ancestors irrelevant. The posting of information on the Internet allows one to ferret out of the names and birth dates of forebears without visits to obscure church registries, and if that information seems a bit dry, genetic analysis can help flesh out the story. There exist labs that are willing, for a fee, to analyze DNA from scraped-off cheek cells, report on the more or less likely geographic origin of the ancestral bearer of a miniscule fragment of the donor's genome, and even provide a matching ancestral legend. Such entrepreneurial geneticists will hope that few read Steve Olson's *Mapping Human History* and discover the truth that, due to the exponential growth in the number of our ancestors, we all are justified in claiming ancestry from say, Julius Caesar, Confucius, or (my personal favorite) Cleopatra.

Why, in an era of increasing mobility and mixture of individuals across traditional class and racial boundaries, are people increasingly fascinated with geographic (read: ethnic) origins? This is a conundrum raised by the book, yet ultimately outside its scope. In all respects, however, Olson does an admirable job of presenting an up-to-date, consensus view of what genetics tells us about who we are and how we got here as a species. The book's central message concerns genetics and race: The classification of humans into racial categories ignores the biological reality of the overwhelming genetic similarity of outwardly different-seeming individuals. Somewhat breathless claims by the dust-jacket commentators notwithstanding, this is not a novel insight derived from the sequence of the human genome. Nonetheless, the author's lucid explication of this theme is noteworthy and valuable, particularly for a general audience. Even some geneticists in the field would benefit from being reminded of the fundamentally misleading nature of population trees, which presuppose a sorting of individuals into neat categories. That populations are composed of individuals who move about is exactly what has made untangling the patterns of human dispersal challenging and interesting.

Mapping Human History
Discovering the Past Through Our Genes
by Steve Olson
Houghton Mifflin, Boston, MA, 2002. 302 pp. $25. ISBN 0-618-09157-2.

Olson duly presents the story of the origin of modern humans in Africa, with subsequent dispersal to the rest of the world. In a particularly effective approach, he then presents a series of chapters that focus on other geographic regions and the particular histories of populations found in each. Other books cover similar ground, but a notable advantage of *Mapping Human History* is the author's background. He is a science writer with a broad knowledge of the literature, rather than a researcher who might have a vested interest in presenting a particular interpretation or even be tempted to engage in a bit of image-polishing.

Researchers' voices are not absent, however, and comments from both major and less-prominent geneticists enliven the presentation. Many express the hope that, among other things, the results of their work will serve to allay racial prejudices. Unfortunately, scientists can also be astonishingly unaware of potential negative implications and misconstructions of their work. This is all too apparent in the debacle of the Human Genome Diversity Project: The seemingly well-intentioned goal of cataloging worldwide variation in humans through a comprehensive genetic survey instead elicited distrust and hostility from the "native" peoples of interest. It remains to be seen how ably researchers interested in studying disease-associated genetic polymorphisms in particular groups of humans will manage similar challenges. Furthermore, while few would contest the justice of returning the remains of contemporary victims of scientific racism for burial in their native lands, other sets of remains—such as the case of the 9500-year-old Kennewick Man found in North America—pose a difficulty. Because we are all connected genetically a few thousand years back, who is entitled to claim ownership of a set of bones, or some artifacts, or a piece of land?

Looking toward the future, Olson is inspired by a visit to Hawaii to imagine "a world in which people are free to choose their ethnicity regardless of their ancestry." Thus, in practical terms race will become divorced from genetics, in people's minds as well as in biological reality. One could argue that it is clear that race has already become less meaningful today, to judge by the depressing extent of recent and ongoing armed conflict between physically indistinguishable groups. To whatever degree it may help, *Mapping Human History* lucidly conveys the utter senselessness of categorizing people in the face of the interconnectedness of all humanity.

A sample of human diversity in Hawaii.

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