

Book review

The Seven Daughters of Eve

Bryan Sykes

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This book is clearly aimed at the punter. It may also interest students of the public understanding of science, particularly human genetics and evolution, as it deals with the types of questions about human origins and human history that fascinate the general public. Where do we come from? How are we related to each other? Are we descended from the Neanderthals? Are we connected genetically to some king or queen or other notable person? The style is lively and the book contains many anecdotes of the author's exploits in the field of human genetics, which could appeal to lay people mystified or alienated by some of the activities of geneticists currently portrayed in the news media.

Bryan Sykes, professor of human genetics at the University of Oxford, writes in an accessible manner about an important subject, human evolution. Most of us know very little about our ancestry, perhaps going back only three or four generations before the trail vanishes. DNA analysis can throw light on our past in a way unimaginable before the advent of modern molecular biology techniques. While much of his career was spent in research on rare inherited human diseases such as osteogenesis imperfecta, in the past 15 years Sykes has been involved in the study of the genetic affinities of ancient and modern humans, a glamorous field sometimes known as molecular anthropology. He describes many notable projects, like the recovery of DNA from the Iceman of the Tyrol found in 1991, the study of European genetic lineages, the identification of the remains of the last tsar of Russia, the colonization of the Pacific, and the recovery of DNA from Neanderthal bones. The stories are personal and give the impression that Sykes developed the field almost single-handedly, even in the face of a hostile scientific

establishment. The tone of boyish heroism will entertain some readers at a time when scientific research is characterized by large consortia, interdisciplinary centres of excellence, and multi-author papers.

The title of the book refers to its last section, which draws on recent research in various universities using the maternally transmitted mitochondrial DNA, on the classification of living humans into maternal lineages characterized by specific shared mutations. In a paper published several years ago, Sykes and his coauthors postulated the existence of seven major mitochondrial lineages, or haplotypes, in Europe, although the number has been revised several times. Sykes seeks to bring this work to life by giving a name and biography to each of the presumed 'clan mothers' of these lineages, or seven daughters of Eve. Thus we have chapters on Ursula, Xenia, Helena, Velda, Tara, Katrine, and Jasmine, with sentimental descriptions of their imagined lives. His presentation gives no hint of the complex and fascinating debate currently raging about the calibration of the so-called mitochondrial DNA molecular clock, a debate with important implications for our ideas about the time and place of major events in human history, including the very origin of our species.

It may seem churlish to criticize a personal story of research in human evolutionary genetics designed to appeal to the public, but the tedious narrations of the lives of the clan mothers, lack of bibliography, and casual treatment of facts, rules the book out of the category of serious popular science. In the context of Sykes's commercial venture, Oxford Ancestors, which markets DNA-based genealogical information to people hungry for roots, the book makes sense as an advertising tool. However, for an accurate account of an inspiring field of science, readers should look elsewhere.

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