

## Book Reviews

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*Reflections of Our Past: How human history is revealed in our genes.* J. H. RELETHFORD. Westview Press. 2003. 257 pages. ISBN 0 8133 3958 8. Price £19.99 (hardback).

For many years, I worked in two distinct areas of biology: centromere structure and human evolution. When people asked me what I did, and I started to explain how chromosomes segregate, and how important it is to understand this, their eyes would begin to flicker around the room, searching for an escape route. But if I said that I worked on human evolution, they would come up with a question or two of their own. Some areas of science, like astronomy, dinosaurs or our own origins, have enormous appeal. The present book '*Reflections of our past: how human history is revealed in our genes*' thus exemplifies this appeal, and this is both its strength and its weakness. It is a strength because plenty of people would like to know what the fate of the Neanderthals was, or the origins of the first Americans, just two of the topics covered; but it is also a weakness because many other writers have already covered the area for the non-specialist reader. Type 'human evolution' into the Amazon search window and you will (at the time of writing) get 1722 hits, compared with just two for 'centromere'. Books on human evolution tend to emphasise one of two aspects: the fossil discoveries, or, for a substantial minority, the genetics. The authors also fall into two classes: professional scientists presenting their work to the general public, or professional writers turning their attention to human evolution. This book is in the 'genetics by a professional anthropologist-geneticist' category and thus invites direct comparison with those by Luca Cavalli-Sforza, Stephen Oppenheimer, Bryan Sykes and others, as well as accounts by writers like Steve Olson.

Relethford follows a roughly chronological path that includes chapters on the ape-human split, the origins of modern humans, the spread of farming in Europe and the Polynesian expansion in the Pacific, in

addition to the questions about the Neanderthals and first Americans mentioned above. Relethford has a good eye for metaphors, as in his discussion of the basis of classification systems: which of the following is the odd one out: a saw, a knife, a spoon, a shovel or a screwdriver? His answer was the shovel, because it needs two hands, while the other objects only need one; but the expected answer was the knife because it is the only one beginning with 'k'. Which answer is correct? It depends on what the classification system is for. There is little to criticise: each chapter is a good balanced account of its subject, and the subjects are well-chosen. The specialist will always find points to quibble about, and some of mine were the easy acceptance of the 60 000 year-old date for the colonisation of Australia and the Lake Mungo skeleton, and the distinctness of the ancient mitochondrial DNA extracted from it, when many would favour a later date of 40 000 years ago for the skeleton and question the authenticity of the ancient DNA and the reliability of its analysis, authentic or not; another is the assignment of a date of 11 500 years ago to the Clovis culture from North America. It dates to 11 500 *radiocarbon* years ago, but this corresponds to around 13 500 *calendar* years ago. But these are minor points; how does the book measure on a wider scale? It provides a good introduction to an exciting area. The sections that really come alive are those about the multiregional versus out-of-Africa debate, the fate of the Neanderthals, or some questions involving recent genetic history in Ireland. It is not a coincidence that these are the areas where Relethford himself has worked: a personal viewpoint makes all the difference in making a popular account accessible. This book is not inspiring in the way that the writing of Jared Diamond is, but it nevertheless provides an even-handed introduction to a topic that benefits from revisiting frequently as new developments occur and the field develops.

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*Genetics of Apoptosis*. Edited by S. GRIMM. BIOS Scientific Publishers Ltd. 2003. 309 pages. ISBN 1 85996 064 2. Price £90.00 (hardback).

The number of apoptosis-related publications in the scientific literature shows no sign of abating. The attempt to crystallize this enormous amount of information in a printed volume is therefore no mean task, more so, since some of the hot topics being discussed in this area raise a fair amount of controversy among the research community.

Clearly the authors of *Genetics of Apoptosis* feel there is a market for such a publication and undertook the impressive task of condensing a large amount of information in a single volume. Given the in depth analysis provided, it seems this book is targeted to an audience of researchers with a keen interest on the regulation of apoptosis. The main difficulty in this day and age is that electronic media and high-speed communications make life especially difficult for the printed book, more so when up-to-date information is critical.

The book is divided into three main sections, the first deals with the description of the molecules orchestrating the signaling and execution of the apoptotic programs. The second attempts to relate molecules to cell biology and finally, the third devotes itself to model organisms used by researchers to dissect the apoptotic pathways.

Chapters are in general well written and the authors truly attempt to convey the complexity of cell death pathways. The chapter dealing with the role of caspases in apoptosis is particularly well written with the inclusion of a useful section dealing with the effects of caspase mutations and gene knockouts. Across the book, there are, however, significant problems with some of the illustrations summarizing the major implications of the research findings. Specific examples are, for instance, the fact that the chapter dealing with mitochondria provides illustrations that are far too simplistic. In fact, some of the illustrations in Chapter 1, dealing with death receptors, provide more detailed portrait mitochondrial apoptosis-regulatory factors. It is also worth pointing out that figures across chapters vary widely in graphic quality, figures in chapters 5 and 9 are of abysmal quality when compared to other illustrations. In summary, the authors of *Genetics of Apoptosis* were given an arduous task and produced a volume that condenses much of what is being discussed in the cell death research community. I fear this might have been an inglorious effort. In this rapidly evolving field, much of the information available is regularly reviewed in the scientific journals and easily obtainable online.

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