

Genetics and ethics

Ben Carritt

Human Genetics. By Daniel L. Hartl.
Harper & Row: 1983. Pp. 605.
\$33.95, £10.50.

Human Genetics. By John B. Jenkins.
Benjamin-Cummings: 1983.
Pp. 461. \$22.95, £22.05.

How many geneticists would select Man as the material to illustrate the principles of their subject? Many teachers, I would guess, whilst recognizing the enormous public and clinical interest in human genetics, would prefer to treat the subject as a subsidiary option, available only to those who had first mastered the fundamental concepts as exemplified by more lowly organisms. Neither of the authors of these two books would agree with that view. Thus Hartl: "Human genetics [is] an ideal theme for teaching virtually all aspects of genetics".

Both books, therefore, have the difficult task of guiding the student from almost (Hartl) or literally (Jenkins) no knowledge of genetics, biology or chemistry towards an understanding of the complexities of modern human genetics. Each takes a different route, and neither seems illogical as presented by its author. Hartl starts with the cell, leading through mitosis, chromosomes and meiosis to Mendel's laws, before tackling gene structure and function, and population, evolutionary and quantitative genetics. The introductory chapters are clearly written, especially that dealing with recessive inheritance, except for the

unhelpful details on cell fusion. Hartl's account of chromosome abnormalities is particularly well presented (although I could not make out what "Y chromosome monosomy" is), and here, as elsewhere, there are pertinent and interesting case examples. The chapter on immunity and blood groups is also good reading, but that dealing with the regulation of gene expression I found confusing and mostly irrelevant to human genetics. Likewise, the rather sketchy chapter on viruses.

Jenkins's book is pitched at a somewhat lower level, being aimed at the general student with "no knowledge of college level biology or chemistry". Human genetics, says Jenkins, although "fun", is "subject to misinterpretation and abuse. When people cite genetics in support of social ideas we must be quite sure that they know what they are talking about. . .". The avuncular voice and liberal sentiment are used to good effect throughout the book; and while Jenkins's direct and informal style may not find favour in the more austere European establishments, it is one that his younger readers no doubt take for granted. However, the tabloid prose to be found in some of the boxed sections designed to "highlight a variety of subjects" was often too much for me.

Both authors invite us frequently to form opinions on the wider implications of advances in human genetics and, indeed, provide discussion points on ethical points in their set problems at the close of each chapter. Hartl is generally content to pose the moral question without offering his own solution, beyond the reference to literary, Biblical or Chinese texts. I did not find these especially illuminating. Jenkins, on

the other hand, is more forthright, and rarely fails to guide us on these matters in a humanistic way.

Human genetics emerged from its "backwater" (Hartl) largely as a result of the twin technologies of somatic cell genetics and recombinant DNA. The difficulty of doing meaningful genetic studies in Man using traditional approaches, together with the pressing nature of our ignorance in many important areas, were catalytic factors in the development of these two techniques. And yet, the treatment of each is scant and occasionally incorrect in both books. Indeed, Hartl seems unconvinced about the ultimate usefulness or desirability of recombinant DNA research, surely a somewhat idiosyncratic stance.

Both books are well produced, with many helpful illustrations. In both, key words are highlighted in bold type, and in Hartl important sentences are also picked out in italics. Both also provide a summary at the end of each chapter and a glossary at the end of the book. I cannot see the point of this, as it is surely the purpose of the book to make such lists of definitions unnecessary. In any event, definitions such as that for DNA as "the chemical basis of heredity" as found in Jenkins's glossary are not particularly enlightening. □

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Fine fare

Richard Batchelor

Immunogenetics.

By Marek B. Zaleski, Stanislaw
Dubiski, Edward G. Niles and
Roger K. Cunningham.

Pitman: 1983. Pp. 514. £18.75, \$34.95.

AT A recent immunogenetics meeting attended by people from a number of different disciplines, strong criticisms were heard to the effect that the molecular geneticists were only talking to each other. Although there may have been a germ of truth in the complaint, a stroll to the bookshop would have been more productive than berating the geneticists. A few hours spent reading *Immunogenetics* would have provided the necessary background for dialogue.

Dr Zaleski and his colleagues take the reader easily through the basic principles of genetics, including a remarkably clear and up-to-date account of the molecular side of the subject, before turning to the main dishes on their menu. These include

immunoglobulins, blood groups, major histocompatibility systems, and cell surface alloantigens of nucleated cells. Structure and function are covered as well as genetics. The expositions of the different topics are clear and accurate, the illustrations and tables both thoughtful and useful. But what I particularly enjoyed were the well-informed, historical introductions; graduate students preparing the outlines of their theses should find these very useful.

The authors are well aware of the difficulties of writing about rapidly advancing subjects, and of course they have chosen a hornets nest in this respect. For example, within the last couple of months a full molecular map of the HLA region complement genes has been published, and this makes the relevant section of the book appear inadequate. Nevertheless such problems are inherent in the writing of textbooks. We should be grateful that in *Immunogenetics* Marek Zaleski and his co-authors have achieved so much. □

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