Book reviews

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Issues and Reviews in Teratology

There is a great deal in this volume for those interested in the history of embryology, both concerning the way the science has evolved and its major contributors. Half of the book is taken up by three long chapters. The first is a fascinating autobiography by Josef Warkany, which underlines how recent is the study of malformations and syndromes in humans; Warkany modestly describes his contribution to the science as “sowing a few seeds”. The second chapter is a review of 100 years of human embryology and the third describes the past and present contribution of the Central Laboratory for Human Embryology in Seattle to the work of research projects in many disciplines.

The remainder of the book is taken up with chapters on specific topics, including the liability to cleft lip and palate, the teratogenic effects of alcohol in human pregnancy and experimentally, diabetic embryopathy, and a lengthy review of the developmental toxicology of caffeine, which concludes with the opinion that there is no proven risk to pregnant women and their embryos.

This is a volume which is likely to be borrowed from a large university library rather than purchased for individual or departmental use.

Dian Donnai

The Foundations of Human Genetics

Dronamraju’s history of human genetics covers developments in the main areas of the subject which have occurred since the early 1900s: natural selection, mutation, biochemical genetics, medical genetics, cytogentic, and human gene mapping. Predictably, since the author was once a student of Haldane, the section on natural selection is the most rewarding. It is well referenced with an extensive bibliography and includes photographs of many illustrious geneticists. However, the approach to historical events is somewhat idiosyncratic, for the author chooses to view developments largely through Kuhn’s philosophical ideas. Kuhn has argued that what he calls ‘extraordinary’ (or revolutionary) science, which is the driving force behind scientific advancement, eventually gives way to ‘normal’ or routine science, which often becomes repetitive and dull. Thus, the extraordinary cytogenetic discoveries of the late 1950s and early 1960s gradually gave way to routine laboratory studies. The author also devotes almost a third of the text to an involved discussion of the idea of what he refers to as paradigms. The term is never very clearly defined but is used either for a body of knowledge and ideas held at any one time, or for the members of a group who share such knowledge. But neither the distinction between ‘extraordinary’ science and ‘normal’ science, nor the concept of paradigms seems to be particularly enlightening. Furthermore, though the author is clearly versed in his subject, he all too often avoids in depth analysis of developments and fails to relate them to social and political events occurring at the time. This is a missed opportunity in a book which deals with the history of one of the most exciting areas of modern science.

Alan E H Emery

Choices, Not Chances—An Essential Guide to your Heredity and Health

This book is an enlargement and update of the author’s Know Your Genes published in 1977. This new book provides a comprehensive (nearly 500 pages) guide to basic genetic principles, genetically determined disorders (both single gene and multifactorial), teratology, recombinant DNA technology and its applications, and the new techniques for ‘assisted reproduction’.

There are sections on the ethical and legal aspects of the new developments and one on the treatment of genetic disorders, which ranges from insulin dependent diabetes to galactosaemia.

The emphasis throughout is to encourage couples to seek advice about their family tree and racial origins and to ascertain before a pregnancy what risks they run and what tests they need. The constant refrain is “not knowing removes your choices not your chances” (of abnormality in a child). With this we would all concur.
However, there is little mention of the unpala-
table fact that the majority of those whose child is
handicapped could have taken no steps to avoid the
tragedy and that this can happen to those who do
everything possible before pregnancy.

In general, the author’s enthusiasm to promote
genetic knowledge is admirable but there are
cases when it becomes misleading. A table lists
diseases to which recombinant DNA techniques can
now be applied. This includes Charcot-Marie-Tooth
disease and spinal muscular atrophy. The table
correctly specifies that this applies only to the X
linked varieties of these diseases but could cause
frustration and disappointment for the families
affected with the enormously more common auto-
somal varieties where there is as yet nothing on
offer. More inexplicable, however, is a sentence in
the section on indications for amniocentesis which
states that if a woman is carrying twins there is a 1 in
6 risk that one will have a chromosomal abnormality.
Presumably some qualifying phrase has got lost, but
this needs clarifying in a future edition.

Overall, however, the book gives a fair and
accurate account of the current scene. It is aimed at
the literate, non-medical, potential parent and does
provide a readily understandable and readable
description of these complex subjects. In the UK
there are probably few parents who want so much
background information but the book’s scope is
likely to be appreciated by nurse counsellors,
interested laboratory workers, and general practi-
tioners who want an easily digested update of this
fast moving field.

A C BERRY

Medical Genetics: Principles and Practice
(Pp 399; £21-69.) Philadelphia, London: Lea and

This is a well established book which occupies
the ground between the primers of medical genetics
and larger textbooks. In the third edition the authors
have taken the opportunity to reorganise and
expand the material on molecular genetics into a
separate chapter, thus providing a clear and up to
date introduction to a fast changing field. Other
material has been revised and less relevant material
omitted, so that, overall, the volume maintains its
former length.

In the first section, the principles of human
heredity are discussed in terms of genetic disorders
at the chromosomal, biochemical, and DNA levels.

There then follow descriptions of 100 or so selected
Mendelian disorders, often chosen to illustrate a
particular principle. This first section of the book
also contains chapters on population genetics, the
genetics of development and maldevelopment, and
multifactorial inheritance.

The second section deals with selected topics such
as prenatal diagnosis, teratology, immunogenetics,
somatic cell genetics, cancer genetics, and behaviour
genetics. As one might expect from these authors,
the chapter on cardiovascular disease is compre-
hensive and the genetic aspects of ischaemic heart
disease and the hyperlipidaemias are particularly
well covered. Throughout, the authors draw
attention to the ethical, legal, and moral issues
inherent in the practice of medical genetics,
summarising them in the excellent final chapter on
genetic counselling.

The text is clear and concise and contains much
factual information. Aspects such as molecular
genetics are illustrated with clear line drawings, and
the book contains a wealth of clinical photographs
which are well chosen, although occasionally there is
loss of clarity in the reproduction. The main strength
of the book, in my view, is the authors’ use of their
extensive practical experience to bring to life the
basic science so that the result is a textbook which is
both stimulating and enjoyable to read.

The book is intended for medical and other
students in the health sciences, and as an accom-
paniment to courses in human genetics for both
graduate and postgraduate students. Paediatricians
and other clinicians wishing to learn more about the
subject will find it useful. It would be a valuable
addition to every genetic clinic, particularly where
there are geneticists and health workers in training.

CHRISTINE GARRETT

Annual Review of Genetics
Volume 22. Edited by A Campbell, B Baker, and
I Herskovitz. (Pp 704; $38-00.) Palo Alto: Annual
Reviews Inc. 1988.

I have come to expect quality and value for money
from Annual Reviews, and this volume certainly
delivers both. There are 32 chapters averaging
30 pages and 100 references each, and as usual the
topics range over the whole of genetics, from maize
developmental genetics to insulin dependent dia-
betes. Six or eight of the reviews are directly
relevant to clinical genetics.

If I wanted to be critical I would complain that the
contents are a little predictable and the authors are
all American. The predictability is no doubt the