Textbook of Human Genetics
3rd edition. By Max Levitan. (Pp 475; £30·00.) Oxford: Oxford University Press. 1988.

Levitan's *Textbook of Human Genetics* is unusual in at least two respects. The three editions have been unusually widely spaced (1971, 1977, 1988). More surprising, this third edition is only half the size of the first. How has it been done?

One explanation, unfortunately, is that the updating is not very thorough. This is apparent in innumerable passages, most obviously in the karyotypes illustrated, few of which are banded. Usually the more up to date material is mentioned in the text, but as an afterthought. For example, the first thing you see on HLA is a table of specificities using the 1975 nomenclature and including the long dead LA and FOUR terminology. Reading the text, you will then find DR, DP, and DQ mentioned. Or again, the main description of the Ph chromosome on p 78 describes the 9;22 translocation and dwells on the mystery of its significance; only on p 408 is the role of the *abl* oncogene mentioned.

In other respects the shrinking has been achieved by intelligent condensation and rearrangement of the earlier material. The book now starts with pedigrees rather than chromosomes so that students are immediately faced with phenomena they can relate to but which demand explanation. A strong point retained from earlier editions is the clear and careful treatment of probability and ascertainment bias in pedigrees, much the best I have seen in an elementary textbook. Non-Mendelian conditions are given a new chapter on polygenic inheritance which expounds the conventional multifactorial threshold model.

Knowledge increases exponentially but the capacity of students remains the same. What is the essential core of human genetics which an introductory textbook should cover? I have a lot of sympathy with the essentially historical approach of this book, but I fear it is becoming increasingly untenable. I would argue that the change from the 1960s to the 1990s is not just an accretion of masses more information on the periphery, but a fundamental shift in the way we understand human genetics. It always used to be about how people differ; now it is about how cells work. For decades, genetics was the odd man out among the clinical sciences. In anatomy, physiology, or biochemistry, students learned how the normal human functioned and then used that as a basis to understand abnormal states. Only in genetics did we start by talking about diseases. Now that we can at last give a description of the normal genome, surely a human genetics textbook should be about the normal genome and how to study it? Of course the medics need to know about genetic diseases, but genetic pathology comes later. Or am I ignoring the realities of how people learn, like a physicist insisting that physics courses should start with relativity?

Overall then, I have to say I am disappointed. I used the first edition a lot when I was first trying to get to grips with human genetics, and I thought it was the best of the books available then. Students will still learn plenty from it, and will not be misled. It is good and reliable for any topic where genes are seen as being either *A* or *a*. But genetics has moved on, and this 1988 edition still has the flavour of 1960s genetics.

ANDREW P READ

The Status of the Human Embryo: Perspectives from Moral Tradition
Edited by G R Dunstan and Mary J Seller. (Pp 119.) London: King Edward's Hospital Fund for London. 1988.

Research into fertilisation, the earliest stages of embryo development, normal gene regulation, and the processes of human organogenesis have been made possible by the parallel developments of in vitro fertilisation and molecular biology. Of immediate practical value are improvements in the success rate of in vitro fertilisation and human fertility treatment generally. However, research is now possible which could identify the mechanisms of many birth defects and genetic disorders and thus potentially allow a marked reduction in the load of human handicap, disease, and premature death.

For these reasons the majority of researchers would agree with the recommendations contained in the report of the Warnock Committee and would be prepared to accept the limit of 14 days as being the point beyond which research should no longer be permitted on the human embryo. Others might argue that more would be gained by allowing research up to the point of organogenesis and point out that many abortions are carried out on fetuses up to 12 weeks of pregnancy and beyond for precisely those fetal abnormalities that embryo research might prevent.

Against this utilitarian philosophy is the strongly held objection from those who argue that the human embryo is absolutely different from any other research material and must be conceded full status as a human individual from conception.

These opposing views are only partly amenable to logical debate because they touch the sensitive nerves of belief and emotion, which are largely immutable relics of our childhood conditioning. Nevertheless, it is essential that compromises be sought which are acceptable to the majority, do not