

be less closed than they were meant to be. The facts of social mobility where we have them are such as to require an amount of gene flow that would rapidly lead to equal gene frequencies unless that gene flow is selective, as it is at present in industrial countries with respect to genes affecting I.Q. and stature. This latter condition ensures that classes will differ in gene frequencies at some loci. But it is doubtful whether the differences will be of the magnitude or kind Darlington seems to assume. Mourant's evidence on Jewish blood groups strongly suggests that they won't be even for contiguous ethnic groups, still less for classes, which, though they sometimes arise as immigrant groups, surely are less isolated from one another.

But none of this means that Darlington is not right. The question is rather whether he has established his case, and whether it is an adequate case. I do not think he has established his case and I doubt whether it will prove an adequate case when we have adequate knowledge. Nevertheless, I think he has made a case, and that it is a case that will prove to be an important part of the truth when we know more. I would therefore regard this book as a most important contribution presenting a point of view on history that needed presenting and which I think only Darlington could have presented. It certainly establishes the case that genetic variation must not be ignored in history.

It should not, of course, be read as a definitive history, but rather as an account of great heuristic value, suggesting ideas or explanations of general importance that need chewing over and discussing for years to come, and need testing and testing again against facts past and present. If historians, geneticists and social scientists read it from this point of view, nothing but good can ensue. If they treat it as intended to be a *definitive* explanatory history the consequence is likely to be sterile polemic. Those who are touched to violent emotion by any suggestion that genetics is relevant to the social affairs of humans, or for that matter those who seek support for irrational racist prejudices, had better beware, for no established conclusion in this book or anywhere else justifies either attitude. But unemotional, critical, reading of the book can only bring enlightenment. It is also a fascinating experience.

In the appendix to Darlington's *Recent Advances in Cytology* on Interpretation, he expresses the view that "Hypothesis based on (comparative inference) has often proved more reliable than the 'facts' of direct observation". I think the same philosophy lies behind the present book. Read it with that in mind and enjoy a book of amazing breadth and insight, fascinating as a study of history with a point of view. It should have a wide, if critical, audience for a long time to come.

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ESSENTIALS OF MEDICAL GENETICS. Charles G. Crispens, Jr. Harper & Row, 1971. Pp. 202. \$9.95.

Books on medical genetics fall fairly easily into those which start with man and work back to explain his variations in terms derived from other organisms, as in Fraser Roberts' book, which still retains its viability after thirty years, and those which start with basic mechanisms and extrapolate to man.

As might be expected, the former are largely written by, and for, clinicians; the latter by geneticists such as Crispens without clinical training.

This is a balanced introduction well suited to medical students who wish to know the basic landmarks without undue effort at understanding why they are there, or how they were found to be there.

In a few cases ignorance of some rather elementary matters comes out in the questions, and even the answers. Mutation rate computations for thalassaemia, a racially restricted haemoglobinopathy, are made on incidence figures in an American city. A whole table of dubious mutation rates feature on page 106 without references. Retinoblastoma is assumed to be necessarily of the dominant variety. It is implied XXX women may be proved to have children with extra Xs, a reasonable but unrealised expectation. These women are also said to be mentally deficient; the XYY male is also rather savagely portrayed.

The population genetics is very erratically handled, and rather casual recommendations are made about confirming hypotheses with tests of significance.

The book is written in the rather colloquial style of American lecturing with some casual inaccuracies. Garrod was not a paediatrician, and Langdon Down, unlike his son, had the names separated by an initial.

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BOOKS RECEIVED

- ADVANCES IN PLANT BREEDING, supplement 1 (Genetische Untersuchungen an der Speisewiebel). Gerd Kobabe. Verlag Paul Parey, Berlin, 1971. Pp. 65. DM. 21-60.
- CHROMOSOMAL EVOLUTION IN HIGHER PLANTS. G. Ledyard Stebbins. Arnold, March 1971. Pp. 216. £4.
- ESSENTIALS OF MEDICAL GENETICS. Charles G. Crispens, Jr. Harper & Row, New York, February 1971. Pp. 213. \$9-95.
- UNDERSTANDING EVOLUTION, 2nd edition. E. Peter Volpe. Wm. C. Brown, Iowa, 1970. Pp. 175. \$2-75.
- THE ONGOING EVOLUTION OF LATIN AMERICAN POPULATIONS. Francisco M. Salzano (ed.). Charles C. Thomas, Illinois, February 1971. Pp. 717. \$25-25.
- BARLEY GENETICS II—Proceedings of 2nd International Barley Genetics Symposium. (622 pages) Robert A. Nilan (ed.). Washington State University Press, 1971. Pp. 622. Price not quoted.