

accusations of paternity. It is most unfortunate that so little use is being made of this knowledge. The creaking legal machinery needs complete reconstruction and it is to be hoped that one of the results of the publication of this book and of all the work that lies behind it may be the revival of Lord Methyr's bill, which lapsed owing to the outbreak of war in 1939.

Workers in many fields have reason to be grateful to Race and Sanger for writing this book, and of these not least the geneticists. It is so much a model of what such a book should be that one feels ill-disposed to offer any criticisms (except perhaps to say that the bibliographies would be more convenient if they were arranged alphabetically). Such criticisms could only be trivial. This is a first edition and a new one is sure to be demanded very soon; the authors can be trusted to make better improvements in matters of detail than any that could be suggested by well-meaning critics.

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THE NEW YOU AND HEREDITY. By Amram Scheinfeld. London: Chatto and Windus. 1952. Pp. 618+xv. 25s.

*You and Heredity* requires little introduction. First published in 1939, it achieved a very large circulation in the U.S.A., and besides a separate publication in Great Britain it was translated into several other languages. The new edition has been almost entirely rewritten and has expanded in the process until it is half as large again as its predecessor. For this the author gives two reasons, the growth of human genetics in the past decade and his own increasing knowledge and understanding of the subject. Certainly the coverage is comprehensive enough: there are very few features of man which are not discussed.

The author, very properly, does not set out to give a textbook of genetics. Rather he aims at providing a sufficiency of the basic principles to make possible a discussion of man, in all his aspects, as a product of the joint action of heredity and environment. He covers physical and functional features, disease, deformity, twins, mental capacity, sexual upsets, blood groups, longevity, social behaviour, personality and crime, winding up with chapters on evolution, race, eugenics, population problems, and the future. The treatment is full, with frequent reference to the work and views of specialists, chiefly American, in the various fields. Many of the topics, mental capacity and crime for example, are of course sources of dispute rather than agreement. The author does not shirk these issues; on the contrary he does his best to present the case from all points of view. This must obviously lead to a certain diffuseness in the discussion; but the sooner the lay-reader, for whom the book is intended, realises that in much of human genetics final answers are the exception rather than the rule, the sooner he will appreciate how urgent it is to push on with research. If by his presentation of the problems Mr Scheinfeld helps to dispel some long cherished illusions and arouses a wide interest in achieving true solutions, he will more than repay genetics for the material it has provided him.

On the technical side some criticisms must be made. The book contains certain false statements such as that ". . . genes are highly complex protein molecules, composed chiefly of nucleic acid, which is the basic material of all protoplasm . . ." (p. 57). Some old and popular loosenesses of usage are perpetuated, as when it is said that ". . . Darwin held . . .

that in this struggle for existence, the fittest would survive", so leaving open the question of "Fittest for what?" (p. 481). The survival of the fittest was Spencer's phrase, not Darwin's, and no one reading Darwin could believe that he related natural selection to the mere survival of individuals, or could have any doubts as to what constituted fitness. Nor is the presentation of the technical genetics always clear: it is not, for example, easy to understand the formal inheritance of eye-colour differences from Chapter II, nor can any real understanding of meiosis be gleaned from the figure on p. 14. The style too is irritating at times. "We know at last what a human sperm carries—the precious load that it fights so desperately to deliver . . ." (p. 6), and ". . . the plump Abbot Gregor Mendel, waddling about in the garden . . . resolved to confine his studies to his own little patch and not to wander afield (possibly because he was too fat to travel comfortably) . . ." (p. 52). To say the least, this is an ungracious description of a great scientist, unnecessary even if historically true, which, so far as I am aware, it is not. "Biologists" we are told in the brief historical survey of genetics "were floundering about in confusion" before Morgan (p. 55), while no reference is here made to such men as Johannsen, who was responsible for the clear statement of the relation of phenotype to genotype and environment which provides the theme of the book, and Bateson, who did more than anyone else to establish that "the mechanism of heredity is almost the same in all living things", a principle that Mr Scheinfeld (p. 3) properly describes as one of the amazing, and we might add basic, discoveries of genetics. Surely, if such is his wish, he could do honour to his fellow countryman without failing to give credit to such other great figures of the past.

These comments, however, should be taken more as warnings for the student than discouragements for the general reader. The book should be judged by the standards of its aims. It is not a textbook, even though some may seek to use it as such; but it is very much more than the tittle-tattle which so often passes for popular science. It is a valuable attempt to set before the layman an honest picture of himself as the product of his hereditary endowment and his environmental circumstances. The picture is necessarily neither complete nor always clear—if such were possible human genetics would be at an end—but it provides much information, dispels many myths and sets some of the great social problems of our time in a new and truer light. It could be read with profit by all who seek a better understanding of themselves and the society they live in. Wide appreciation of the knowledge, considerations, problems and issues set out in *You and Heredity* is essential if our society is to prosper. It is not enough that we geneticists should discover these things, formulate these problems and come to these conclusions: they and their implications are basic to our well being and must not remain hidden in learned journals and specialist texts. In setting them out for a wider audience Mr Scheinfeld does a service to us all.

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AN INTRODUCTION TO THE EMBRYOLOGY OF ANGIOSPERMS. By P. Maheshwari. New York, Toronto, London: McGraw-Hill Book Company, Inc. 1950. Pp. 453+x 55s. 6d.

Embryology is concerned with the development of the spores, the germ cells, the embryo and the endosperm in the higher plants. Its description