

at the chromosome level. The most trivial difference in the nucleus determines the most profound difference in the organism. But we cannot on this ground regard the nucleus as trivial.

Following the same theme Professor Ephrussi points out that the nucleus offers more opportunities to the experimenter to be tested and examined. This has given the nucleus, as it were, an unfair advantage over the cytoplasm. But to nature also does not the nucleus offer more opportunities to test its capacity? Surely it is to these opportunities for selection and adaptation that the long-term predominance of the nucleus, *i.e.* in heredity and evolution, is due. In development, however, the nucleus interferes, as Ephrussi has explained, in sequences of reciprocal reactions which are bound to be small and delayed if they are not to be disastrous. Importance therefore depends on the time scale. The village priest or policeman may be more important from day to day. But over a period of years the Pope or the President makes his weight felt—and simply by saying yes or no.

Such are a few of the problems raised by this book. It is a most timely and effective little volume. Later we may hope that it will appear in an expanded form.

C. D. D.

CLINICAL GENETICS. By Arnold Sorsby. Butterworth & Co. 1953. Pp. 577. 90s.

Genetical studies of man are now rapidly increasing in importance both for genetics and for medicine. The reactions of the two are reciprocal. This situation is recognised in the present work by its division into two parts. There is an introduction on the theoretical side by twelve authorities, European and American, on the genetic interpretation of man. This is followed by a systematic clinical classification of diseases in over thirty sections.

With so many authors, and of so many nations, co-ordination is difficult and synthesis perhaps impossible. The fundamental account of chemical genetics, largely in fungi, cannot be brought into relation with all its bearings in the other articles without an explanation which it indeed deserves. The account of cancer cytology is not mentioned in the later account of cancer genetics although the connection between the two likewise deserves explanation, being more fundamental than either.

These gaps between different branches of medical genetics are of long standing and have led to a theoretical backwardness which becomes more noticeable as the subject becomes more important. The universal assumption that one-egg twins are genetically identical is adopted as a matter of course in this book. But if twin studies are to be taken seriously the error is a serious one. The assumption made here (on p. 36) that twins derived from the separate fertilisation of the opposite products of the second meiotic division in the egg would be more alike genetically than average sibs, has no serious consequences: it is merely of interest as showing another hiatus between medical genetics and genetics proper.

The deepest impression that one gets from this book is of the great importance that has been attached by both geneticists and clinicians to rare and striking abnormalities and the very slight interest they have taken in the genetics of susceptibility to infectious disease in general, and to the most widespread diseases, such as the common cold and dental decay, in particular.

The chapter dealing with these questions should be the most important in the book. But it is so condensed as almost to miss the point. The deep and general significance of Gowen's experiments is overlooked. And although the author seems to understand how natural selection operates on disease resistance, he does not seem at all anxious to admit the reader into his confidence on this illuminating method of approach.

The book as a whole, however, reveals the change that is taking place. The outstanding contributions from such varied fields as blood groups, psychiatry and ophthalmology show the new attitude towards medicine that genetics is introducing. The words "ætiology" and "congenital", which are pre-genetic, are still used but they are not used here as a screen for ignorance. The authors realise that no study of disease which omits the genetic element can satisfactorily define the environmental element in causation. And this alone is a memorable contribution to medicine.

C. D. D.