

Reviews

GROWTH, DEVELOPMENT, AND AGEING

The Uniqueness of the Individual. By P. B. Medawar. (Pp. 191. 18s.) London: Methuen and Co. Ltd. 1957.

This book has important things to say to the world of medicine. It is written by a distinguished biologist, in a felicitous style rare among biologists, and entirely free from the intellectual arrogance which commonly infects scientists when they write for the general public. Professor Medawar assembles in this book eight essays written over the last ten years. They are united by one theme: the implications of genetics in the study of growth, development, and ageing. Their relevance to the medical world can be illustrated by reference to the first two essays, which concern ageing. These essays are a masterly piece of reasoning, all the more remarkable because the material they contain is neither recondite nor unfamiliar. The expectation of life of a newborn child has been dramatically lengthened by the application of medical research; the expectation of life of a man of sixty has hardly changed. What are the prospects that medical research will do for the over-seventies what it has done so successfully for the under-fives? Professor Medawar does not attempt to answer this question, but (although he is human enough to hope to live into the seventies himself) he demonstrates that it is of no importance whatever to human evolution that the expectation of life of the over-seventies should be increased. For the destiny of man it is sufficient to conquer the diseases which kill or disable before and during the reproductive period. Once the reproductive period is over a man's health (though it means a great deal to himself and to his relatives) is of no biological importance. One of the consequences of this is that natural selection in man defers until later and later in the reproductive period those deleterious genetic factors which (through bad health or otherwise) impair reproductive capacity; but once the age of reproduction is passed these deleterious genetic characters can manifest themselves undisturbed by natural selection. They constitute the genes for senescence. The ills of the elderly are distressing to the individual who suffers from them, but they are of no importance to the breed; accordingly one expects to find that dangerous diseases in man are "pushed" by natural selection into the racially harmless post-reproductive period. Professor Medawar cites the period of onset of Huntington's chorea as an example that this is indeed happening. Fish, it is commonly believed, never grow old, and it is rare to find a wild animal which is old. This observation confirms Professor Medawar's thesis—that the symptoms of senescence are due to genes whose action is delayed beyond the reproductive phase—for wild animals live so dangerously that few of them survive beyond the reproductive phase, and so they rarely survive into the period when genes become immune from the influence of natural selection. Old age is a condition of domestication.

This is but one aspect of Professor Medawar's theme. He discusses also his own work on tissue-grafting and immunological tolerance, Lamarckism, and (less successfully) the scientific method. The whole book is a model of clarity and relevance. No one who is interested in the scientific basis of medicine should miss it.

E. ASHBY.

GASTRIC PHYSIOLOGY

The Physiology of Gastric Digestion. By A. H. James, D.M., M.D., B.Ch., M.R.C.P. (Pp. 192+xi; illustrated. 28s.) London: Edward Arnold Ltd. 1957.

In this monograph Dr. James has skilfully summarized the large volume of work which has been done on the secretions, the movements, and the sensations of the stomach since the pioneering experiments of Beaumont over a century ago. The problem has proved a difficult one. The

stomach is open at both ends, and it is influenced by a variety of nervous and hormonal stimuli. Moreover, there are three distinct groups of cells in the mucosa—parietal, zymogenic, and mucous, the last almost certainly comprising a number of subgroups. Many of the physiological data have been obtained from the study of isolated pouches in the dog, and they are not necessarily applicable to the intact human stomach. The physiologists speak of the cephalic, gastric, and intestinal phases of secretion, but in normal life they run together like the three phases of a colour print. The book is well produced and clearly written, though a dogmatic summary at the end of each chapter would have helped some readers to see the wood better. It will be of great value to surgeons and gastroenterologists and will prevent them from making the more obvious gaffes in the study of gastric secretion and motility. It leaves one with the feeling that, although acid and pepsin are a *sine qua non* in the genesis of peptic ulcer, they are not of such crucial importance as clinical textbooks and articles would lead one to believe.

L. J. WITTS.

ELECTROCARDIOGRAPHY

New Bases of Electrocardiography. By Demetrio Sodi-Pallares, M.D., with the collaboration of Royall M. Calder, M.D. (Pp. 727; illustrated. £6 15s.) London: Henry Kimpton. 1956.

This book aims at providing a discussion of the scientific foundation upon which electrocardiography is built. It is not merely descriptive, as are so many of the manuals and atlases that just give patterns and pictures. This does more, and does it very well. If the student of the subject has really grasped the underlying laws, then he can "reason out the curve," as Dr. Chavez points out in the preface. Unfortunately, some of the mathematics are likely to be beyond the scope of many readers, but this need not prove an impassable barrier. The foundation on which the writer builds is the work of Einthoven, Lewis, and Wilson. It is interesting to read once more the fundamental work of Lewis that provided the basis of knowledge 35 years ago; the first 130 pages of the book deal with the Einthoven triangle and the electrical axis. To go through all this again in the light of modern ideas is very stimulating. The unipolar limb leads and the precordial leads are then discussed, and the effects of injury of the muscle. At every step there is logical reference to the basic principles which underlie the interpretation. The author concludes that the vectorgram adds but little to the information of the electrocardiogram. There is an interesting section on the effects of variation in potassium and sodium and on the potentials recorded within the cardiac cavities.

This is a remarkable book. It is not easy to read, but it is certainly the best survey of the foundations of modern cardiology that has appeared. The translation is well done. The illustrations are excellent. There are nearly 1,000 references.

TERENCE EAST.

PSYCHIATRIC ESSAYS

Christian Essays in Psychiatry. Edited by Philip Mairet. (Pp. 187. 15s.) London: S.C.M. Press Ltd. 1956.

The ten authors of this small book are agreed on one matter—namely, that life has purpose and meaning. If this be accepted, so runs the argument, it is tantamount to saying that man is naturally religious and that outside man lies a greater power. Various religious systems, of which Christianity is one, describe the supra-individual power of God. The word "Christian" in the title of the book seems to be unnecessary; its scope goes far beyond Christian concepts, and one or two of the essays might well have been written by a believer in any religion. One of the commonest symptoms of neurosis and mild depressive states is that the meaning and purpose of life is lost. And this happens to Christians and non-Christians, to agnostics, and to atheists.