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THE INDIVIDUAL: UNIQUE BUT IMPERFECT

The Uniqueness of the Individual

By Professor P. B. Medawar. Pp. 191. (London: Methuen and Co., Ltd., 1957.) 18s. net.

ARTICLES and lectures published by Prof. Medawar over the past twelve years are here collected together and presided over by an essay on the wider implications of skin grafting specially written for the volume. That Prof. Medawar should exhibit an easy command over his material is to be expected; his equal command over the English language will give great pleasure to his readers, whose close attention he constantly rewards by a turn of phrase or a felicity of expression which enlightens as it entertains.

The eight essays range widely, but Prof. Medawar threads them together upon the topical theme of evolution. To this end he devotes his introduction to a defence of natural selection, which prepares the way for the first two essays. These start by formulating the evasive phenomena collectively recognized as 'growing old'; and then develop Medawar's idea that ageing is a consequence of the declining impact of natural selection upon those members of a population who have lived longest and who, owing to the mere hazards of time, contribute least to succeeding generations. That adaptation may proceed faster during the earlier phases of an animal's life-history than later on has important consequences for the comparative zoologist as well as for the actuary.

It is perhaps particularly in "A Commentary on Lamarckism" that Prof. Medawar's interest and skill in the careful definition of terms and the orderly unfolding of an argument are made apparent. Lamarckism takes a 'weak' and a 'strong' form: the weak form asserts that some types of inheritance could be interpreted in a Lamarckian fashion; the strong form asserts that these are correctly so interpreted—an assertion which Medawar finds unproved among the Metazoa and meaningless among the microbes.

Helmholtz's somewhat insensitive strictures upon the human eye were provoked by the perfectionist school of evolution, which may not be vocal to-day. But adaptation is still too often regarded as a condition rather than as a process, an arrival rather than an optimistic journey, and it is against this error that the essay on "The Imperfections of Man" is directed. As a newly evolved organism, man may perhaps be unusually imperfect, but this is hard to assess since he has kicked over the scales, shaping rather than being shaped by the environment, doctoring his ailments and supplementing genetic inheritance by tradition. This is the subject of a short essay on "Tradition: The Evidence of Biology", in which the reader is spared the too obvious and humiliating undertones of a theme which earlier generations of Darwinists would have developed with robust confidence.

"The Uniqueness of the Individual"—the title of the last and longest of these essays—lies at the heart of evolution theory. It is not, however, with the evolutionary aspects of uniqueness that Prof. Medawar is here primarily concerned, but with a new manifestation of uniqueness and the light which this throws on the organization of the individual. The preliminary facts are provided by modern surgery: skin can be transplanted from one part of an individual to another, but not from one individual to another. But there are significant exceptions to this rule: transference is possible between identical twins, members of very pure strains, embryos, or individuals whose blood-streams have been naturally or artificially confluent during embryonic life. Prof. Medawar gives an account of the reasoning and the series of critical experiments by which he and his colleagues, among others, have explored these phenomena.

There are two questions. First, what is the unique substance or group of substances apparently produced by all the tissues of an individual? Secondly when a tissue is transplanted into another member of the same species, what is the mechanism activated by this substance causing the host to treat the graft as a foreign body and destroy it? To these two questions it is to be expected that Prof. Medawar, as a zoologist, should add and discuss the answer to a third: What are the normal functions of these processes which have been almost accidentally brought to light through surgical practice and experiment? He suggests, only to reject, the idea that the tissue exudate is a sort of queen-substance which regulates the growth of the body. But is not the alternative suggestion—that, having passed from the nucleus to perform its function in the cytoplasm, it emerges from the cell as a mere excretion—too great an anticlimax? Excretion is a favourite disguise for elusive physiological processes. Many of these investigations have been reported in specialized medical journals, but they are of great consequence for biology in its widest sense, and biologists of many sorts will be most indebted to Prof. Medawar for publishing this masterly survey of a challenging field of research.

D. A. PARRY

THE FACE-CULT

The Eye Goddess

By Dr. O. G. S. Crawford. Pp. 168+48 plates. (London: Phoenix House, Ltd., 1957.) 50s. net.

THOSE acquainted with the services which Dr. O. G. S. Crawford rendered to prehistoric archaeology will read this interesting, speculative book with mingled feelings of gratitude and regret, since its publication was followed immediately by the author's lamented death (*Nature*, January 18, p. 156). If his chief contribution to the science has