

The Future of Man. The BBC Reith Lectures, 1959. P. B. Medawar. Basic Books, New York, 1960, 128 pp. \$3,

Book Reviews

Oasis and Casbah: Algerian Culture and Personality in Change. Anthropological Papers, Museum of Anthropology, University of Michigan, No. 15. Horace M. Miner and George De Vos. University of Michigan, Ann Arbor, 1960. vi + 236 pp. \$2.50.

This book is an important landmark, for it is the first modern personality study of a Saharan community yet published. It deals with the sedentary Arabic-speakers of Sidi Khaled (a small oasis in the northwestern desert), including those who have remained and others who have become economic refugees in Algiers.

An excellent historical sketch and a detailed anthropological study by Miner are followed by a searching analysis of personality made by De Vos in consultation with Miner. The analysis is based mainly on Rorschach protocols of a random sample of 64 adult males.

Two main objectives were to test Kardiner's theory that institutions can be predicted from knowledge of basic personality and to discover at about what age personality really becomes set. "Blind" Rorschach analysis proved valid for cross-cultural personality rating, even with the intervention of interpreters, but inadequate for predicting relationships between psychological and cultural variables.

Compared with "normal" Americans, the total sample shows high levels of rigidity and maladjustment, which are correlated in the urban group but not in the oasis. Thought processes tend to be stereotypic and illogical as opposed to systematic, and a strong "obsessive-compulsive" quality is apparent; associative blocking is relatively high; and personality in general is "inner-directed" and individualistic. Anxiety and tension, and awareness of them, are higher in Sidi Khaled than in America, and higher in Algiers than in the oasis. Women are passive, "sexual objects" rather than "social beings"; yet they seem more "easy-going" and better adjusted to their lot than men. During

childhood "There is little room for logical discussion, and recourse to objective fact is not often used as a way of settling issues." A man does not take for granted the loyalty or integrity of either his wife or his children. In short, Saharan Arabs are less matter-of-fact rationally than we are, even after intense urban exposure to Western thought and ways: they just don't think as we do.

I have had many years of both professional and casually social relations with the kind of people Miner and De Vos describe, and I agree wholeheartedly with their interpretations. But, in addition, I am inclined to draw from their material further conclusions which probably occurred to them but which are not stated specifically in their book. Chiefly, I seem to see in the personality of the Arab undergoing acculturation in Algeria a phenomenon which is painfully apparent elsewhere: an emotional compulsion to adopt the superficial culture traits (clothing, eating habits, public comportment, and so forth) of alien rulers, while at the same time intensifying those occult native culture concepts and systems of perception which are most antagonistic to the culture of the dominant alien community. Miner's case history No. 26 is particularly revealing in this respect, for here we see a typical intellectual "grass-roots nationalist" stripped to his naked soul.

To sum up, *Oasis and Casbah* is an enormously important book, even though it is too technical to be entertaining reading for any except specialists. Its importance lies in the fact that it is a searching "soil analysis," so to speak, of the ground in which the Algerian rebellion has its roots. Anyone interested in the march of events in North Africa today should read it without delay, as should anyone interested in the much broader problem of why Western governments so often fail to "make friends and influence people."

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There was a time when the conflict between the hereditarians and the environmentalists seemed almost irreconcilable; the low point of this era was, perhaps, about 1897 when the sociologist C. H. Cooley published his essay "Genius, fame and the comparison of races."

Since that time we have progressed, for protagonists on both sides of the fence have found merit in the criticisms of the opposition and have corrected and enlarged their views. In recent years there have been several books that have gone a long way toward bringing together the conflicting lines of evidence. Among the best of these is this little book of Medawar's. With a fine eclecticism he describes a great variety of facts, in writing which is concise and clear but which is yet part of an overall structure that is surprisingly complex for so small a book. Why the complexity? I will return to this question after first describing the contents.

While making the greatest use of genetic knowledge, the author strongly inveighs against *geneticism*, which he defines (page 61) as "the application to human affairs . . . of a genetic knowledge or understanding which is assumed to be very much greater than it really is." Some of the errors that geneticism (or perhaps better, *biologism*) leads to he identifies as follows (page 99): "That competition between one man and another is a necessary part of the texture of society; that societies are organisms which grow and must inevitably die; that division of labour within a society is akin to what we can see in colonies of insects; that the laws of genetics have an overriding authority; that social evolution has a direction forcibly imposed upon it by agencies beyond man's control—all these are biological judgments; but, I do assure you, bad judgments based upon a bad biology." Similarly (page 34), the labeling of a family stock as degenerate because it has produced an unfortunate double recessive phenotype is bad biology. "People who brandish naturalistic principles at us," says Medawar (page 103) "are usually up to mischief. Think only of what we have suffered from a belief in the existence and overriding authority of a fighting instinct; from the doctrines of racial superiority and the metaphysics of blood and soil; from the belief that warfare between men or classes of men or na-

tions represents a fulfillment of historical laws. These are all excuses of one kind or another, and pretty thin excuses."

Such an argument from consequences might lead the unwary to suppose that the author would be on the environmental side of every argument; but this is not so. To begin with, he says (page 58) "It is extremely difficult to think of any social habit or act of legislation that has *no* genetic consequences. Penal, fiscal, social, moral, medical, political, or educational laws, schemes, treatments, habits or observances will all make *some* mark on our genetic structure." Medawar gives many illustrations of this fundamental axiom of eugenics. Building on the argument presented in the first two chapters of his earlier book, *The Uniqueness of the Individual* (Methuen, 1957; Basic Books, 1958), he points out that the continued development of the present tendency toward early completion of families will ultimately bring about the earlier appearance of the hereditary pathologies of the latter half of life—Huntington's chorea, some manic depressive psychoses, and some kinds of cancer. Good intentions alone cannot save us from the unwanted consequences of our acts.

The treatment of the inheritance of intelligence is thorough and courageous. "Some people speak with angry contempt of 'so-called intelligence tests'; having satisfied themselves of the absurdity of claims which psychologists no longer make for them (and which the better psychologists never did make), they dismiss the entire subject from their minds. Others profess to attach no meaning to the word 'intelligence'—but try calling them *unintelligent* and see how they react. At the risk of being peremptory . . . I shall take the view that intelligence tests measure intellectual aptitudes which are important, though very far from all-important; and that these aptitudes make up a significant fraction of what we all of us call 'intelligence' in everyday life" (pages 74–75). He discusses in detail the meaning of the extensive surveys of Scottish children made in 1932 and 1947, which showed a slight increase in 'intelligence' for boys and a considerable one for girls. Antieugenicists have cited these results as a refutation of genetic fears. Medawar points to two environmental factors that could easily account for the apparent rise. First, there was an even greater increase in the physical development of the 11-year olds surveyed at the later period; since "mental" and

"physical" are not really independent variables, this fact indicates that the chronological 11-year olds tested in 1947 were biologically older than the same nominal age group in 1932. Second, since our intelligence tests lean heavily on verbal ability the children tested in 1947, by virtue of radio and television, were more experienced in verbal techniques than the children of the preceding generation.

As I mentioned earlier, Medawar's book is remarkable in combining exceptionally clear exposition on a fine scale with an over-all complex structure. I would like to try to explain the reasons for the complexity, proceeding from relatively certain points to the relatively more controversial. First, we should note that these essays were originally given as lectures on the BBC. In spite of their difficulty (it would be inconceivable that an American broadcasting company would initiate such a series), they have a certain loose-jointed conversational way of "beating around the bush." This is certainly good for a lecture, and not bad for a book.

Second, in preparing the lectures for publication Medawar understandably felt obliged to add notes—documenting, justifying, and qualifying his spoken words. The result is a volume in which 19 percent of the content is in the form of notes. For the usual economic reasons the notes are not literally *footnotes*—that is, notes at the foot of the page—but are rather "tailnotes"—that is, notes placed at the end of the book. The argument is thus dispersed by the bibliographic machinery. The serious reader will find [as W. E. K. Middleton remarked in *Isis* 51, 338 (1960)] that reading such a book "involves two bookmarks and about fourteen fingers, nineteen if he decides to make an index card of the reference."

The third (and most controversial) reason for the complexity is related to the "sensitiveness" of the topics discussed—eugenics, intelligence, value-bound individual differences, racial differences, and freedom in a population-harassed world. Whatever may be the best answers to the questions, we can assume a priori that these answers threaten every traditional political position, "conservative," "liberal," or what have you. A scholar, like all men, is a social animal, and he cannot entirely avoid being "other-directed," to use Riesman's phrase. As a result, when the scholar presents the heresies implied by new knowledge, his exposition may sometimes border on the ambivalent.

(In the present instance, see Medawar's remarks on race, pages 60–63.)

To say *The Future of Man* is complex is not to damn it. It is one of the powers of an artist that he turns the necessities of time and medium to good use, and Medawar is a real artist with words, in the great English traditions of the Huxleys and Haldane. Like them, he shows by example that a love of scientific precision and a strong aesthetic sense are not mutually exclusive.

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Theory of Elementary Particles. Paul Roman. North-Holland, Amsterdam; Interscience, New York, 1960. xii + 575 pp. Illus. \$12.

An examination of any volume of *Physics Abstracts* would indicate that the theory of elementary particles is one of the major subjects of investigation in contemporary physics. In spite of this, there is an absence of useful textbooks in the field, with the result that the beginning student must study the original literature, often without a reliable guide to the relevant papers. Roman's book is an attempt to provide such students with an introduction to the main theoretical principles which are used in elementary particle physics, with particular emphasis on the symmetry properties of the interactions of particles. Regrettably, his book is only partly successful in fulfilling this aim.

The most valuable parts of the book are the first two chapters, which present the elements of group theory, the representations of the four-dimensional orthogonal group, and the algebraic aspects of the Dirac, Klein-Gordan, and Fierz-Pauli equations. The discussion here is clear and the writing style interesting.

In the next section of the book, the symmetries of space reflection, time reversal, and charge conjugation are discussed, and the implications of recent theoretical and experimental work on weak interactions are presented. The presentation here, while on the whole useful, is marred by several misstatements, and any student reading the book must exercise care. For example, this chapter includes a "proof" of the false theorem that if charge conjugation invariance holds, the effect of parity nonconservation cannot be detected if the final state is weakly interacting.