Mirage of Health. Utopias, progress, and biological change. Rene Dubos. Harper, New York, 1959. xv + 236 pp. $4.

This book is one in a series, called "World Perspectives," designed to interpret creative forces in modern civilization. Each volume will be written by an outstanding thinker; the list of authors already announced begins with Konrad Adenauer and includes such names as Niels Bohr, Walter Gropius, Lewis Mumford, and Sarvepalli Radhakrishnan.

For this volume Rene Dubos has written a series of essays discussing various aspects of health. The essays present an amazing number of delightful and often historical glimpses, interpreted and connected by the author's ranging comments.

The first chapter, "The gardens of Eden," tells rather whimsically what man does when he is convinced that he will be healthy as long as he stays close to nature. Thus, Western man is described as believing in the holiness of seminudism and raw vegetable juice. In the next section, on biological and social adaptation, there is further discussion of the relationship of society to nature. Dubos says: "In a wise society leisure . . . should play a role similar to that of national parks and wild life reservations, where plants and animals retain some chance to practice the mechanisms which have permitted evolutionary adaptation.

"Struggle and partnership in the living world" tells how man early achieved mastery over ferocious animals but not over microbes; the latter are still generally thought of as bad, though it is pointed out that this is an anthropocentric judgment and that in fact some microbes are good, even for man. When man meddles with nature, whether with animal predators or with bacteria in the intestine, it is risky. Even from the microbe's standpoint, partnership is desirable, for when a parasite's host is killed the parasite's own survival is jeopardized.

Under "Environment and disease" and "Hygeia and Asclepius," the recurring theme is the fallacy of trying to determine specific causes. The partial conquest of tuberculosis, cholera, syphilis, and many other infectious diseases is easily ascribed to new drugs, but better sanitation, better nutrition, and the like are of greater significance. Dubos says, "The introduction of inexpensive cotton undergarments easy to launder and of transparent glass that brought light into the most humble dwelling, contributed more to the control of infection than did all drugs and medical practices."

There is a general impression that diseases remain more or less unchanged in character over long periods of time, but, in fact, they are constantly changing, especially in a population not previously exposed. Also, when one disease is rooted out, another is likely to take its place. Some of the most stimulating passages in the book appear in the section on social patterns of health and disease. The highly organized social structures of today are set up to provide security from birth to death, but "this security is often bought at the price of boredom." Danger, real or imaginary, used to provide the exhilarating unexpected. Man needs strife and adventure, for he cannot escape his biological past. These thoughts carry the reader on to the chapter on the effects of disease on populations and civilization, where it is epigrammatically stated that "to save people from death by measures of public health is . . . easy, but no solution is in sight for the problems created by their survival." A sidelight on the vital problem of population shows the political implications. In former times the majority of the population was youthful and eager for economic expansion; now, suddenly, the average age has risen and continues to rise, and the concern of the majority is with problems of security and retirement.

The final section, on utopias and human goals, suggests that we may rediscover merit in Plato's philosophy when the world becomes crowded with the aged, the ill, and the defective. In the past the scientist has been happily occupied with his discoveries, descriptions, classifications, and inventions, but now he is being called to account for the long-term consequences of his acts. This calls for a new alertness and ability to predict oblique courses, for man will not revert to an arrested, antlike society. Certain men will always have goals which transcend simple biological purpose. They are not looking for paradise, because paradise would be static. Man requires adventure.

This book will be a treat for readers, and it will make them think.

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Southeastern Indians, Life Portraits. A catalogue of pictures, 1564–1860. Emma Lila Fundaburk, Ed. The Editor, Luverne, Ala., 1958. 136 pp. Illus. $7.50.

This book, a companion volume to the earlier *Sun Circles and Human Hands,* brings together 354 pictures. Many are portraits of noted individuals, while others depict the modes of life, customs, and clothing of the historic Indians of the southeastern United States. The illustrations were judiciously selected from the drawings and paintings of many European, colonial, and American artists and from later lithographs and engravings. The pictures are carefully identified and are arranged chronologically by artist. They are discussed in extensive notes, in which pertinent historical information is presented, together with observations about the life and works of the various artists. The sources of the pictures are listed; there is an index of artists, engravers, and authors, as well as a subject index.

Emma Fundaburk has made a valuable contribution to ethnography in making available in one volume so many pictures that are a basic source of information for students and others interested in the southeastern Indians. In addition to many of the better known ones, she presents a number of pictures that previously had been seen by only a few ethnologists.

This book and the preceding volume, about the prehistoric Indians, give all the material that is essential for a good understanding of the aboriginal Americans in the southeastern United States.

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Fishes of the Great Lakes Region. Bull. No. 26. Carl L. Hubbs and Karl F. Lagler. Cranbrook Institute of Science, Bloomfield Hills, Mich., rev. ed., 1958. xi + 213 pp. Illus. + plates. $5.

This compact and accurate book gives descriptive keys and illustrations of the various fishes, now known to total 234 species and subspecies, in the Great Lakes and their tributaries. The introductory pages give pertinent accounts of zoogeography, glaciation, anatomy, and methods of study related to fishes of this region. Comments about distri-

bution of many of the fishes form an important part of the book.

The first edition was used in many colleges and universities, and by fishery biologists; this has enabled the authors to produce a nearly perfect second edition, in which great confidence may be placed. However, in the section on "Methods of counting fin rays," one is led to believe that the definitions given for (i) "principal and branched rays" and (ii) "last ray of dorsal and anal fins" are generally accepted. That is not the case, however, for many prominent ichthyologists (i) do not distinguish the "principal ray" but record separately each simple and branched ray and (ii) count and record each fin ray that has a separate base for both the dorsal and anal fins. In a few places in the key one still finds vaguely defined contrasting characters, such as "mouth more oblique, making an angle of decidedly less than 60 degrees . . ." and "mouth less oblique, making an angle of little less than 60 degrees . . ." Of course, in a fauna as complicated as the minnows of the Great Lakes, perhaps some vagueness is unavoidable and I do note that much of the vagueness of the earler version has been removed.

This book is a must in every biological laboratory where there is interest in the zoology of the Great Lakes region. It is an excellent contribution to ichthyology.

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Nationalism in Colonial Africa. Thomas Hodgkin. New York University Press, New York, 1957. 216 pp. $3.75.

There is mounting evidence to support the proposition that the fundamental political issue of the 20th century will not necessarily turn out to be the cold war and all it stands for. The fundamental issue may well be found in the problem of whether the more advanced, industrial societies, at present still the masters of science and technology, will succeed in associating in mutually beneficial partnership with the less developed but rapidly evolving new societies of Asia and Africa. That the ideological struggle and its associated power politics are likely to have a very direct bearing upon the ultimate nature of any such association makes our need for a more precise understanding of that process of evolution all the more urgent.

Over the years, Western scholarship in the social and cultural sciences has built up an impressive body of findings on Asia. Especially in this country, there has been until very recently no comparable concern with studies of Africa. This was largely due to the fact that, virtually until World War II, Africa's social and political problems were seen primarily from the point of view of the colonial powers and their holdings. With the passing of the old order in Africa, American policy makers and American scholarship have become aware of the African challenge. At an incredible pace, a new African society is coming to life, amid explosive political upheavals, with the advent of newly self-governing communities and with the growing realization, both in Africa and elsewhere, that peoples in widely separated areas of the continent are developing a sense of interdependence and kinship—a process that is stimulating the growth of a new and vigorous African leadership, of which Kwame Nkrumah of Ghana is a good example.

Hodgkin's book, a sample of British scholarship in this field, is a searching study of the new nationalism found throughout colonial and recently colonial Africa. The author does not fail to recognize the problems of terminology in this context—(what *is* an African nation?) and concludes that for his purpose nationalism can be suitably defined as the explicit assertion by any group "of the rights, claim or aspiration of a given African society . . . in opposition to European authority, whatever its institutional form and objective." Equipped with a broad grasp of realities, the author starts out by presenting a significant comparative analysis of the policies of the three principal colonial systems which have largely fashioned the matrix of modern Africa. Despite the characteristic differences between the several colonial environments, the national movements throughout Africa have, in Hodgkin's view, a great deal in common. His examination of certain focal aspects of contemporary African life very effectively demonstrates the value of his hypothesis. His analysis of the new urban communities brings out their function as the cradle of a new African middle class. The formation of a broad variety of new African organizations is shown to be a way of blending new experiences with the older traditions. Attention is given to the role of Christian sects, illustrative of the general religious life, and to the connection of these sects with nationalist attitudes, as well as to the generally moderating influence of trade unionism and the growth of political organizations among Africans. Specialists and general readers alike will be stimulated by a chapter devoted to the search for effective myths and symbols with which the new nationalists, like their Western precursors, seek to invest themselves.

Hodgkin concludes that the rapid tempo which has marked the growth of African nationalism is unlikely to diminish, since the factors responsible for this growth (urbanization, educational advances, and so forth) continue to operate. Whether these movements will employ violence or nonviolence—revolutionary or constitutional methods—will, in his opinion, largely depend on "the attitudes of the colonial regimes, the flexibility of their policies, their willingness to make substantial political concessions." The book, originally published in England in 1956, has lost nothing of its value in the interim. It impresses me as being one of the most balanced and most illuminating studies yet made of this complex political process and its social setting. It may even persuade the skeptic of the possibility of meaningful generalization in this area.

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Plant Nematodes. Their bionomics and control. Jesse R. Christie. Agricultural Experiment Stations, University of Florida, Gainesville, 1959. xi + 256 pp. $3.75.

Among the subdivisions of modern biology, plant nematology casts a feeble, though increasingly strong, light. Although nematodes have been known to zoologists for some years—especially to parasitologists, who have studied nematodes of man and domestic animals—most zoologists neglect the study of marine and soil nematodes. Prior to 1940 a handful of workers had succeeded in convincing only a few agriculturists of the importance of these pests. But once a practical method of killing eelworms in field soil had been developed and it had been demonstrated that remarkable increments of crop growth follow such