

ing.) The theoretical picture is beautifully elaborated by the geneticists and trends are treated by the paleontologists. Racialization and speciation are considered successfully and in detail, but little emphasis is placed on genera and families, and it is at this level that modern comparative anatomy should be providing the connecting links between genetics and paleontology.

The discussions which ultimately culminated in "Genetics, Paleontology, and Evolution" were commenced at the meetings of the Geological Society of America in 1941. They were continued at Columbia University in 1942, and as a result the Committee on Common Problems of Genetics, Paleontology, and Systematics of the National Research Council was established in 1943. The activities of the Committee led to the founding of the Society for the Study of Evolution and the journal *EVOLUTION*. The present volume contains statements by committee members, and some others, which allow us to share in the deliberations and conclusions of the committee. The twenty-three contributors are an unusually able group. They had the benefit of several conferences, a mimeographed bulletin, and some years for deliberation before the papers for this volume were written. Finally, the contributions were revised after the Princeton Conference. The great value of "Genetics, Paleontology, and Evolution" arises from these very facts. It contains the considered statements of leaders in paleontology, genetics, and systematics on the most critical problems of evolution.

S. L. WASHBURN
University of Chicago

ANTHROPOLOGICAL PAPERS OF FRANZ WEIDENREICH, 1939-1948. A Memorial Volume. Compiled by S. L. Washburn and Davida Wolfson. The Viking Fund, Inc., New York. viii + 268 pp. 1949.

A compilation of some of the extremely important short papers of Dr. Franz Weidenreich, written during the last 10 years of his life, have been brought together into a Memorial Volume. The Viking Fund and the editors, S. L. Washburn and Davida Wolfson, have done physical anthropologists a distinct service in making these contributions readily available. The editors may also be congratulated for selecting representative articles from the wide range of Dr. Weidenreich's interests.

The volume includes thirteen papers, an account of Weidenreich's life written by Dr. W. K. Gregory and a complete bibliography. The papers are organized into three general groups. The first deals with

evolution in general. Included there is the stimulating late paper of Weidenreich's on the trend of human evolution in which he views the path of change as being orthogenetic toward specialization of posture and brain and finds himself unable to credit either chance mutations or general climatic environment for guiding the direction of this change. Other papers deal with the brachycephalization of recent mankind, the development of the human brain and the classification value of certain human characteristics.

A second group of papers includes general accounts of fossil man and emphasizes Weidenreich's opinions concerning the relationship of Neanderthal to modern man and of the anthropoids to man. A third category treats of specific fossil materials, particularly the Keilor skull and the child from Teshik-Tash Cave in Southern Uzbekistan.

One study on the relationship of form to function, a subject on which Weidenreich was deeply interested, is included. It is concerned with the formation of the external tubercle of the human tuber calcanei in response to the requirements of erect posture.

This useful volume, attractively lithoprinted, serves as a memorial to the activities of an outstanding figure in anthropology. Even though the contents are restricted to recent work of Dr. Weidenreich, it will serve as a constant reminder of the extent of his research and the quality of his achievements.

FREDERICK P. THIEME
University of Michigan



MAN AND ENVIRONMENT.—In presenting these few examples of problems relating to possible genetic factors which may determine adaptation to local climates in human races, I want to draw attention to our astonishing ignorance of what may be termed "racial physiology," and to the practical importance of its study. The need to pursue this field of study, indeed, is now leading to a radical change in the orientation of the subject of physical anthropology. This re-orientation of physical anthropology seems to me to be of the greatest

importance for the study of Man's relations to his environment. But it is only slowly being recognized, and has not yet found full expression in the teaching and practice of the subject. Physical anthropology is, of course, a historical subject in so far as it is concerned with the study of the organic relationship of the human species to lower animals, its evolutionary origin, and its evolutionary differentiation into races and sub-races. But it should also concern itself with actualities by the comparative study of living races and their geographical distribution, with special reference to problems of growth, physique and physiological efficiency in relation to the environment. Only quite recently, however, has it begun to take full cognizance of the environmental factors, and to make its own contribution to what is sometimes called "human ecology." Now, it is not easy to give a concise definition of this term "ecology," but broadly speaking it refers to the study of a particular situation as a whole, by attempting to integrate all the various factors upon which it depends so as to observe how they react to one another. It has been well said that only when the ecological viewpoint is developed does it become possible, by assessing all the factors concerned in a changing situation, to exert some controlling influence over them; the biological investigator, instead of being a sort of passive spectator recording and analysing what he sees, becomes in a sense an active participant in the scene. Compared with some other biological sciences, the subject of physical anthropology seems to have been rather late in entering on the ecological phase of its natural development, perhaps because, dealing with such a highly organized animal as Man, its problems have been vastly more complicated . . .

The importance and magnitude of these problems are such as to suggest the desirability of a Central Research Institute of Racial Physiology of commensurate size, and the training of physical anthropologists to carry out the preliminary field-work. So far as the colonies are concerned, it should be possible, through the Colonial Office, to effect contacts with administrative officials and the personnel of Government Medical Departments to arrange for co-operation in organising the field surveys and also to ascertain what, from their point of view, may be the most urgent problems on which the surveys might be able to contribute information. Each colony might have its own resident physical anthropologist as a Government official, maintaining a liaison with the Central Institute for the purpose of coordinating field surveys and in order to ensure uniformity of technique. An organisation of this kind would of course require careful

planning, but it seems to me that the urgency of the present situation demands its serious consideration as soon as possible.—W. E. Le Gros Clark. *Fitting Man to his Environment*. Thirty-first Earl Grey Memorial Lecture, 1949.