phenylpyruvic acid should be regarded as the intermediate involved in the uptake of the first oxygen atom. With this compound substituted for the amino acid and with α-ketoglutaric acid omitted, the same enzyme preparations cause the oxidation of the tyrosine keto acid, provided that sufficient ascorbic acid is added to the system. Without the vitamin insignificant oxidation is obtained. Thus it may be argued that ascorbic acid plays its part in tyrosine metabolism by acting as a coenzyme in the oxidation of the deaminated amino acid.

The exact mechanism of this chemical reaction is unknown, but an attractive working hypothesis may be presented, based upon the reversible enediol oxidation reduction center of the vitamin. The enzyme would be regarded as removing hydrogen from the tyrosine keto acid by means of the dehydroascorbic acid form of the vitamin, with subsequent transfer to oxygen and regeneration of dehydroascorbic acid. Specific experiments testing this hypothesis and more detailed discussion will appear in a subsequent communication.

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Manuscript received July 13, 1951.

Book Reviews

Principles of Human Geography (Huntington's). 6th ed. Revised by Earl B. Shaw. New York: Wiley; London: Chapman & Hall, 1951. 805 pp. $6.25.

The late Ellsworth Huntington's *Principles of Human Geography,* in its several earlier editions, has been one of the major texts in the field of geography for many years, and the able editing and revision of the sixth edition by Dr. Shaw should continue its use. Shaw has injected many of his own viewpoints and the results of some of his own research into the book, combining them skillfully with Huntington's forceful ideas and writing.

The *Principles* of Huntington and Shaw is in the tradition of the French masters of human geography, Vidal de la Blache and Brunhes, in its search for universals. Man's relationships with the several physical or natural elements of the environment are the center of attention; intercultural relationships are distinctly subordinate. Subject matter is categorized in terms of elements such as climate, landforms, and soils, and relationships are primarily the natural influences upon man rather than the effects of man. The role of the physical environment is presented in a distinctly positive manner, although man is by no means relegated to complete subservience in this environment. Environmental determinism as such is categorically denied.

Huntington's theses concerning the close relations between climates and the energy of peoples and their civilizations receive ample presentation as the most extreme form of man's dependence upon nature. It is regrettable that this form of environmental determinism, actually a highly debatable issue on which little solid agreement exists at present, should have been discussed in such a positive manner. Direct effects of climate in such areas as the Congo basin have as yet been insufficiently isolated from other influences on the health of man, both related and unrelated to climate.

Although the natural elements of our environment as causative factors in world geography get the lion's share of attention compared to the treatment of the cultural elements (cf. *Culture Worlds,* by R. J. Russell and F. B. Kniffen, SCIENCE, **114**, 400 [1951]), this book is in no sense a text on physical geography, as nature is discussed only insofar as it relates significantly to man. But relationships rather than areas form the organizational framework, and, in a concluding section, where major countries are discussed on a regional or areal basis, brevity results in rather unsatisfactory discussion. Vivifying presentation of facts and ideas, which highlight many pages elsewhere, are here absent.

The book is helped by a handsome format, well-chosen photographs, and a minimum of typographical error. With a few exceptions, the mapping is adequate.

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The Mountain of Giants: A Racial and Cultural Study of the North Albanian Mountain Ghegs. Carleton S. Coon. Cambridge, Mass.: Peabody Museum of American Archaeology and Ethnology, Harvard University, 1950. 105 pp., 16 plates. $4.75.

In the author's words, "This is not a work of ethnography, but one of somatology" (p. 5) that perhaps too narrowly announces merely an attack upon "the Dinaric problem." In fact, Dr. Coon's long-delayed publication of field work done 20 years before should interest many specialists variously concerned

with broadly conceived problems of human development.

Here is a rich mass of detailed evidence regarding what seem to be "the most Dinaric people in the world" (p. 99)—the Gheg mountaineers. Nearly, 1,100 adult males were measured in 1929–30, representing anthropometric coverage of 10 tribes and about 1 per cent of the mature male population of Ghegnia.

This unusual "laboratory"—a rugged land about the size of Connecticut—includes several strikingly different geological regions within an ancient "refuge area" that was a kind of "genetic capsule" even so recently as this study's "ethnographic present." That was the period 1890–1910, when most of the anthropometric subjects of 1929–30 were being born or were maturing, when Albania was part of the Turkish Empire, and the Ghegs were "still living in the Hallstatt Iron Age." Heredity, as well as the natural and social environments, remained relatively unchanged, and subregional environmental differences significant for physical growth also persisted. Gheg culture in general was characterized by a bare-subsistence, family-centered economy, a marriage system maintaining close genetic lines despite exogamy, a centuries-old excess of emigration, an active tradition of blood feud, high death and birth rates, and a high sex ratio.

The author presents the physical anthropology of his Albanians in terms of problems involving age, function, environment, and heredity, projecting these against their broad cultural setting. Nearly half the work is concerned with the land and the people, technology and occupation, family system, "politics and feuding," ritual life, and history. In addition, the natural and social environments receive continued attention in discussing tribal variations, aging, bite (mechanics of dental occlusion and effects of eating and aging), the significance of mineral soil content as against religious dietary habits in connection with nutrition and growth, and the possible consequences of the Albanian cradling technique upon head deformation (occasional bathyocephaly, asymmetry, and the more common occipital and lambdoid flattening) in a population of "the same basic genetic stock, disseminated widely in the Iron Age, from which most northern and western European peoples came" (p. 100).

Supporting evidence on cradling and deformation comes from a small sample of Tosks in Greater Boston in 1946. This provides a suggestive contrast between the immigrants from Albania who were cradled in infancy and have pronounced head flattening, and the American-born, uncradled, and unflattened offspring. A special cradling technique may therefore have as much or more influence on cranial formation as genetic factors.

For Dr. Coon, "geography, technology, sociology, history, and physical anthropology all play their parts" in the resolution of the problem, "What is a Dinaric, and how does he come to be one?" In brief, his conclusions are: (1) The classic type of Dinaric is, as expected, well exemplified in the Mountain Gheg (although wide variations occur in characters most easily influenced by environment), but this type "has been shown to be partly the product of age and artifice" (middle age bringing "the gaunt face and hawk-like nose," cradling the planoccipital head, hard work and little food the lean body). (2) In a generation or so, any representative group of Mountain Ghegs would probably become indistinguishable from any urbanized northern or western European peoples, or ordinary Americans, provided they came down from their hills to share the same social environment. "Only an expert on race" would then notice their slightly more than average brachycephaly, but this too might "fade away."

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Scientific Book Register

Mexican Birds. First impressions based upon an ornithological expedition to Tamaulipas, Nuevo León, and Coahuila with an appendix briefly describing all Mexican birds. George Miksch Sutton. Norman: Univ. Oklahoma Press, 1951. 282 pp. and 16 plates. $10.00.

The Molds and Man: An Introduction to the Fungi. Clyde M. Christensen. Minneapolis: Univ. Minnesota Press, 1951. 244 pp. $4.00.

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Faune de France: Plécoptères, Vol. 55. Raymond Despax. Paris: Paul Lechevalier, 1951. 280 pp. 2,200 fr.

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Calculus and Analytic Geometry. George B. Thomas, Jr. Cambridge, Mass.: Addison-Wesley, 1951. 685 pp. $6.00.

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