

does not obtain, however, and our western civilization is particularly noted for rapid transformations. When empires fall, or when ruling classes are overthrown, woe befalls their members unless they change their behavior speedily. A consistent genetic trend may, therefore, be expected in the evolution of human psychic traits, namely, that genotypes will be selected which permit more and more plasticity, and less and less fixity, in personality characteristics. The end result of this trend will be that the genotypic differences in personality traits will become quite unimportant compared to their phenotypic plasticity. This should not be construed to mean that mankind tends to become genetically uniform; the trend is not toward genotypic uniformity but toward phenotypic plasticity. Natural selection favors above all else the ability to become rapidly adjusted to circumstances which change not only from day to day but, in a modern society, from minute to minute. Genetic differences may be retained, provided that they permit themselves to be eclipsed by the phenotypic plasticity. Whether or not this trend has already run its full course must be settled by investigation and not by speculation. All that we can be reasonably sure of is that the evolutionary pattern of the human species is so different from those of the higher animals (not to speak of the lower ones) that judgments by analogy with respect to the psychic traits have little value. It may be that the non-pathological hereditary differences in behavior found among men are merely the uneroded remnants of genotypic specializations that were moulded by natural selection to fit the conditions of ages long past. Genotypes now emerging will perhaps predispose every individual to respond to every challenge that his environment may offer as a social rather than a solitary being.

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COSMIC RAYS

What Are Cosmic Rays? Revised and enlarged American edition. By PIERRE AUGER. Translated from the French by Maurice M. Shapiro. vii + 128 pp. 22 plates. Chicago: University of Chicago Press. 1945. \$2.00.

THIS book, as stated in the translator's preface, is written "primarily for the reader who lacks a technical knowledge of physics, but who wants to keep in touch with current developments in science." It represents a revised and extended presentation of a book entitled "Rayons Cosmiques," published by the Presses Universitaires de France, Paris, 1941.

The first chapter, "Story of Discovery," introduces briefly the fundamental concepts associated with ionization and allied phenomena, together with their

measurement, and leads up to the problem of an extra-terrestrial radiation. The second chapter, "The Heroic Epoch," traces the main steps which have been concerned with unravelling the general nature of the cosmic radiation. The third chapter, "Showers, Pairs, Bursts, Stars," enters into greater detail concerning the phenomena covered in its title. The fourth chapter, "Time Takes Its Toll of Cosmic Rays," discusses in further detail the nature of the particles which are associated with cosmic ray phenomena and the energies encountered in these particles. The last chapter, "The Sky's the Limit," deals further with cosmic-ray energies, particularly in relation to the evidence provided by "extensive showers," and further discussion is given of the extra-terrestrial origin of the primary cosmic ray particles and of the origin of the particles formed in the atmosphere, together with the interrelationships of the various particles.

While the book is written in elementary style, very easy of comprehension by a person with a limited knowledge of physics, it will not be so readily understood by the layman, to whom such expressions as "field," "electron volt energies," etc., represent an unfamiliar language. The style is vivacious and entertaining. Naturally, there are lacunae. In a small book of 128 pages one can hardly expect an approach to completeness of citation of the various experiments and ideas which have played a part in our present understanding of cosmic rays.

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