damage to this part of the brain. Memory, speech, elaboration of action, and purposive planning require a great quantity of cortex. It becomes clear why larger brains have been favored in the course of evolution, and why a chimpanzee, even with the best environment, remains an ape.

These books by von Bonin, Fulton, and Penfield and Rasmussen offer much which is of importance to anthropology. But they were not written for the social scientist and need to be supplemented by such books as those by W. C. Halstead (Brain and Intelligence. University of Chicago Press, 1947) and S. Cobb (Emotions and Clinical Medicine. Norton and Co., New York, 1950), before their full implication for the science of man can be appreciated. The surgeon is now, as Fulton puts it, dissecting the "matrix of the mind." The anatomical basis for certain abilities and mental states can be removed, and in this way psycho-surgery offers a final proof of the biological basis of parts of personality. Perhaps a first stage in a more successful science of human behavior will be built on the integration of anatomy, psychology, and physiology which is now taking place. A task of first importance for the physical anthropologist is to make the meaning of these developments clear to his students and colleagues.

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Genetics in the 20th Century is a mature book about a young, successful and popular subject. The book contains papers read at the Genetic Society of America's Golden Jubilee of Genetics held at Ohio State University, September, 1950. The youth of genetics as a science was emphasized when some who made pioneer genetical studies soon after 1900 reported to the Jubilee in person. The success and popularity of genetics is shown by the accomplished or prospective syntheses of genetic theory and methods in all major branches of the life sciences (excepting certain quarters in physiology), large areas of the behavior sciences, and some parts of the social sciences.

Authors and titles (in part, shortened) of the 26 chapters are: Goldschmidt—Impact of Genetics upon Science; Ittis—Mendel's Life and Heritage; Zirkle—Knowledge of Heredity before 1900; Castle—Beginnings of Mendelism in America; Muller—Development of the Gene Theory; Sturtevant—Relation of Genes and Chromosomes; Mather—Biometrical Genetics; Mirsky—Chemical Aspects of Cell Nucleus; Caspersson & Schultz—Cytochemical Measurements; Irwin—Genetics and Immunology; Beadle—Chemical Genetics; Ephrussi—Cell Heredity; Lederberg—Bacterial Genetics; Sonneborn—Genes and Cytoplasmic Inheritance; Darlington—Mendel and the Determinants; White—Cytogenetic Mechanisms; Snyder—Human Genetics; Penrose—Genetics of the Human Race; Gowen—Genetics and Disease; Little—Genetics and Cancer; Müntzing—Plant Breeding; Lush—Animal Breeding; Walker—Genetics and Plant Pathology; Manglesdorf—Hybrid Corn; Dobzhansky—Mendelian Populations; Huxley—Genetics, Evolution, and Human Destiny.

All of the essays have material generally fundamental for understanding of human biology, physical anthropology, and some parts of cultural anthropology. Nineteen
of the 26 chapters discuss specifically human topics. Anthropologists will find particularly pertinent the papers by Goldschmidt, Mather, Irwin, Snyder, Penrose, Lush, Manglesdorf, Dobzhansky, and Huxley.

With minor exceptions the exposition is sufficiently clear and elementary to be informative for the beginner in genetics. Considerable background in genetics and cognate subjects is required for full comprehension.

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Linguistics


There will be little disagreement among linguists that this book is the most important contribution to descriptive linguistics since the publication of Bloomfield's Language in 1933. Its major significance lies in the fact that it makes explicit the direction in which linguistics has been moving. It unambiguously carries the individuality of Harris' rigorous and consistent logic, the bold originality of his thinking, and the mathematical pattern of his approach to linguistic analysis. But in a broader sense, to use a mathematical image, it defines the course of the more promising linguistic methods employed during the past generation and projects an inevitable curve into the future.

There are some novel formulations and many new points of emphasis in Harris' presentation. Its main value to linguists, however, will consist in its coherently reasoned and clearly formulated sequence of operational procedures for analyzing linguistic data. Essentially, the procedures are based upon two steps: identifying the phonological and morphological elements, and describing the distribution of these elements relative to each other. With the exception of the introductory and final chapters, each chapter deals with a single procedure. The first procedure, for example, takes up the method of dividing utterances into arbitrarily segmented elements of sound; the second describes the techniques for determining whether or not a segment is equivalent to (i.e., can be substituted for) another segment; and the remaining phonological procedures present methods of analysis leading to a description of the total phonological structure of a language. There is a smoother transition from phonology to morphology in Harris' approach than in the more traditional treatment: he identifies the morpheme, not as a unit of form that carries meaning, but as a restricted sequence of phonemes showing the distributional character of a unit in being replaceable, within utterances, by other phoneme sequences. The morphological procedures themselves deal with the methods of describing morphemic segments, morpheme alternants, morphophonemes, morpheme classes and sequences, morphemic long components, constructions, and, finally, the total morphological structure.

Most of the chapters follow a uniform plan of organization. An introductory paragraph in each chapter gives a concise statement of the procedure to be discussed; this is followed by an explanation of the purpose of the procedure; the methods to be used in applying the procedure are then described and illustrated; and finally the results of the procedure are set forth. Discussions of related points and special complications, arguments justifying the methods, and longer illustrations of a procedure are