

with references to the principal literature. No general bibliography is given, on the ground that it would necessarily discourage rather than stimulate the student, but the writer has found in reading the book that a larger number of references to special papers and to general works would have been helpful and desirable. The references given are not always definite nor exact.

Now and again throughout the book a kind of teleology appears, which in the present state of biological science it is best to avoid, although it is often difficult to do so; *e. g.*, on page 102, it is said that "muscle must be developed wherever needed," again, on page 142, "heat production is stimulated by its need," etc.

The terms employed are sometimes open to criticism; thus on page 174 "perception" is given as a function of the nerve cell where only irritability or sensitivity is meant; sometimes the style and grammar used are not above suspicion, and in places the malevolence of the printer's "devil" is manifest, as on page 233, where a discovery of the brothers Sarasin is attributed to the Saracens.

However, in view of the many excellences of the work it seems almost ungenerous to call attention to these minor defects; they are slips which we may expect to see corrected in future editions of the book.

When one considers the narrow, technical training which students in histology usually receive, whether they be medical students or not, one can not but wish that a course similar to that outlined in this book might be given in every college and university.

E. G. CONKLIN

ANTHROPOLOGICAL PUBLICATIONS OF THE AMERICAN MUSEUM OF NATURAL HISTORY
FOR 1907-1908

THE anthropological publications of the American Museum of Natural History, during 1907 and 1908, comprise Volume I., and Part I. of Volume II., beginning a new series entitled *Anthropological Papers of the American Museum of Natural History*; the closing sections of Volumes XV., XVIII. and XVIII. of the Museum *Bulletin*; and the last part of

Volume III. of the Museum *Memoirs*: eleven papers with an aggregate of 1,099 pages, 82 plates and 373 text figures. Formerly minor anthropological papers were published in the annual *Bulletin*, primarily designed for biological publications. By the segregation of these papers and their issue under a distinct title the Museum has made a change for the better.

Volume I. of the Anthropological Papers opens with Mr. Charles W. Mead's "Technique of some South American Featherwork" (pp. 1-18, pls. I.-IV., 14 figs.). In two distinct sections, the author describes the feather-technique of the ancient Peruvians and of the modern natives of South America. The most striking difference between the two is found in the mode of attaching feathers: the Peruvians employing knots while the modern Indians substitute a loop or simple turn about the shaft.

In Part II. (pp. 19-54, pls. V.-VII., 26 figs.) Dr. Clark Wissler discusses, "Some Protective Designs of the Dakota." The shields or shield-covers of the Dakota were formerly painted with designs, derived from supernatural experiences which imparted to them supernatural efficacy. On modern shields, the thunder, lightning and spider symbols play an important part; but there is evidence for the greater prominence in the old days of simple circular designs representing the heavenly bodies. The designs on supposedly bullet-proof shirts, worn in the ghost-dance, are characterized by a tendency to represent animals, such as turtles, believed to be proof against missiles. While the use of these garments is modern, the author insists on the aboriginal character of protective designs, long antedating, as they do, the outbreak of 1890. In his conclusion the author explains the animistic basis on which interpretations of designs rest, notes the psychologically interesting predominance of animal motives, and mentions the coalescence of apparently incongruous power-symbols as representations of the same natural forces.

Parts III. (pp. 55-139) and IV. (pp. 141-282, pls. VIII.-XIII., 44 figs.) embody Dr. A. L. Kroeber's fairly representative collection

of "Gros Ventre Myths and Tales," and his "Ethnology of the Gros Ventre." In the latter paper the author gives an historical account of the tribe, followed by brief notes on the material culture and an extended treatment of decorative art and ceremonial life. While their ceremonial organization is in many respects similar to that of the Arapaho, the Gros Ventre seem to be unique among Plains tribes in having the same ceremony performed by *several* distinct companies of men of approximately the same age, each of these societies bearing a nickname independent of the character of its dance. Perhaps the chief interest of the paper centers in its comparative analysis of the decorative styles of Northern Plains tribes. In their embroidery designs, the Blackfoot prove to be the most clearly differentiated tribe—distinct alike from the Sioux-Assiniboine and the Arapaho-Ute-Shoshone groups; while neither Gros Ventre nor Cheyenne seem to have developed an individual style. In *parfleche* painting, the author distinguishes three types of decoration, basing his classification on the relative prevalence of square and triangular units. The employment of coordinate square and triangular elements is noted as a diagnostic peculiarity of Shoshone *parfleches*, the subordination of triangular to square forms occurs rarely, though, in all these tribes, while in all but the Shoshone an exclusively triangular style predominates.

"The Hard Palate in Normal and Feeble-Minded Individuals" (Part V., pp. 283-350, pls. XIV.-XXII., 8 figs.) sums up the results of a comparative anthropometric study by Drs. Walter Channing and Clark Wissler, based on large series of casts of the palates of mentally normal and abnormal individuals. The most important result is that the general type of palate, as determined by average measurements, is the same for feeble-minded and normal individuals; while the palates of feeble-minded individuals are somewhat more variable. The significance of this difference is, however, negated by absence of clear differences in the correlation of dimensions for the two groups.

Volume I. closes with Mr. M. R. Harring-

ton's "Iroquois Silverwork" (pp. 351-370, pls. XXIII.-XXIX., 2 figs.). Silver ornaments of Iroquois make date back as far as the end of the seventeenth century, apparently superseding those of copper and brass. The author describes silver ornaments still found, silversmith's tools, and the process of manufacturing several classes of objects. While admitting European influence, he is disposed to regard many of the ornamental patterns as of native origin.

Volume II. opens with Dr. Clark Wissler and Mr. D. C. Duvall's "Mythology of the Blackfoot Indians" (pp. 1-162). The tales are grouped under five headings: tales of the Old Man; star myths; ritualistic origins; cultural and other origins; and miscellaneous tales. In his introduction, the senior author shows by comparison with Central Algonkin mythology that, irrespective of the present conception of Old Man as a trickster pure and simple, the cycle probably represents the basic beliefs of the Blackfoot. The ritualistic myths exhibit a somewhat puzzling variability as compared with the rigid inflexibility of the correlated ceremonial practises. While in a majority of these stories the relation of myth and ritual is fundamental, there are others in which the origin of a ceremony is only episodically interwoven with the body of the tale. Dr. Wissler notes that, in the latter case, the plot is, as a rule, common to several other Plains tribes; while ritualistic tales proper are almost all confined to the Blackfoot. The primarily ritualistic myths are apparently older; and it seems as though in accordance with a wide-spread psychological tendency, rituals of relatively recent introduction from without had become secondarily associated with tales, usually also of foreign origin, which thus came ostensibly to account for the origin of the ceremonies. From a comparative point of view, the author calls attention to special points of contact with the western Cree and the Crow, as well as to the occurrence of significant resemblances to tales of the Arapaho and Gros Ventre.

During the year 1907 the final papers in three volumes of the *Bulletin* and one volume of the *Memoirs* were issued. Professor Franz

Boas's "The Eskimo of Baffin Land and Hudson Bay" is concluded in Part II. (pp. 371-570, pls. V.-X., figs. 173-269) of Volume XV. of the *Bulletin*. Material gathered by a number of independent observers is shown to yield corroborative evidence for the author's previously expressed conviction that Eskimo culture from Alaska to Greenland formed originally a firm unit; and that differentiations are due to local causes, such as the influence of the coast and Yukon River Indians on the Alaskan Eskimo.

Part V. (pp. 381-498, pls. LIX.-LXXII., figs. 68-118) of Volume XVII. of the *Bulletin* consists of Dr. Roland B. Dixon's monograph, "The Shasta," closely patterned in general mode of treatment on his description of the Northern Maidu. The Shasta are found to share part of their material culture with the tribes of northwestern California, but are fundamentally distinct in religious and social life. A relatively close connection with Oregonian culture is hypothetically advanced.

In Part IV. (pp. 279-454, pls. LVII.-LXXXVIII., figs. 103-180) of Volume XVII. of the *Bulletin* Dr. Kroeber discusses the religious life of the Arapaho. The sun-dance of the northern Arapaho of Wyoming is compared and found essentially identical with that of their southern congeners in Oklahoma, and there is a brief account of old tribal customs. This is followed by a detailed treatment of modern ceremonial objects with descriptions of the crow-dance and the peyote cult, which have superseded the ancient ceremonial organization. After discussing number and color symbolism, the author concludes with a sketch of individual relationship to the supernatural.

Part IV. (pp. 327-401, pls. XXIV.-XXVII., figs. 536-592) Volume III. of the *Memoirs* contains two papers—Lieutenant George T. Emmons's "The Chilkat Blanket" and Professor Franz Boas's "Notes on the Blanket Designs." Emmons describes in detail the process of weaving the ceremonial robe, once characteristic of all the North Pacific coast tribes, but now confined to the Chilkat, a branch of the Tlingit. Boas describes the disposition of design units in the Chilkat

blanket, showing that the ornamentation is not influenced by the technique of weaving, but is bodily derived from the decorative surfaces of painted pattern-boards.

ROBERT H. LOWIE

BOTANICAL NOTES

PAPERS ON ARCHEGONIATES

PROFESSOR DOCTOR D. H. CAMPBELL describes in a recent number of *Torreya* some of his experiences in collecting liverworts in Java, "perhaps the most interesting region in the world for the botanical student." On account of the heavy rainfall, and the great range in elevation, from sea-level to an altitude of more than ten thousand feet, the flora is very rich in species as well as individuals. "It is said that there are over fifteen hundred species of trees in the island" which botanists will remember is about double the number we have in North America. In this region Dr. Campbell found the greatest abundance of liverworts, some of remarkable interest.

The same author's paper, "Studies on the Ophioglossaceae" in the *Annales du Jardin Botanique de Buitenzorg* (Vol. VI.) adds materially to our knowledge of the round of life of these low ferns. The prothallia of the two species studied (*Ophioglossum molluscanum* and *O. pendulum*) are "subterranean and normally destitute of chlorophyll." That of the first species is short-lived, while in the second it is "apparently capable of unlimited reproduction by means of detached buds." As to relationship the author says "the nearest affinity of *Ophioglossum* is probably with the *Marattiaceae*, but it is probable that there is also a remote affinity with the *Equisetineae*."

In a later paper on "The Prothallium of *Kaulfussia* and *Gleichenia*, in the same journal (Vol. VIII.), Dr. Campbell describes and figures the prothallium, antheridium, archegonium and embryo of *Kaulfussia aesculifolia* a somewhat rare fern of the *Marattiaceae* found in the Indo-Malayan region. The prothallium is fleshy and more than one cell in thickness except at the extreme margin, and looks much like the game-