

The book is the record of popular lectures delivered at Königsberg. Teachers of chemistry will approve the skill and ease with which subjects seemingly difficult to present are made clear to the average reader. Among the topics treated are lighting, food, explosives, glass, soda, photography, paper, dyes, tanning, metallurgy, alloys. This work in the original or in the excellent English translation, should be in every school library and public library, for there is no other popular book giving the same information, while the information is given in an admirable way.

E. RENOUF.

ANTHROPOLOGICAL PUBLICATIONS OF THE
AMERICAN MUSEUM OF NATURAL HIS-
TORY, NEW YORK, IN 1900.

The Thompson River Indians of British Columbia.

By JAMES TEIT, Mem. of the Am. Mus. of Nat. History, Vol. II, and of Anthropology, Part IV, Vol. I. The Jesup North Pacific Expedition. New York, April, 1900. Pp. 163-390. Pls. XIV-XX. Figs. 118-315. Map. 4to.

Basketry Designs of the Salish Indians. By LIVINGSTON FARRAND. Same Series, Part V. April, 1900. Pp. 391-400. Pls. XXI-XXIII. Figs. 316-330. 4to.

Archeology of the Thompson River Region, British Columbia. By HARLAN I. SMITH. Same Series, Part VI. May, 1900. Pp. 401-454. Pls. XXIV-XXVI. Figs. 331-380. 4to.

Symbolism of the Huichol Indians. By CARL LUMHOLTZ. Same series, Part I, Vol. III. May, 1900. Pp. 1-228. Pls. I-IV. Figs. 291. Map. 4to.

Traditions of the Chilcotin Indians. By LIVINGSTON FARRAND. Same Series, Part I, Vol. IV. Pp. 1-54.

The Jesup North Pacific Expedition, organized in 1897, has for its aim the history of man, past and present, dwelling on the coasts of the North Pacific Ocean. Beginning at the Amur River in Asia, the exploration will extend northwestward to Bering Sea and thence south-eastward along the American coast as far as the Columbia River.

The generous patron, whose liberality made possible both the research and the enjoyment of

it by the public through this series of monographs, is Mr. Morris K. Jesup, during the last twenty years President of the American Museum of Natural History, New York City. The execution of the tedious and difficult task is intrusted to the Anthropological Department, of which Professor F. W. Putnam is chief, the responsibility of the exploring and publishing falling on the shoulders of Professor Franz Boas. No pains or expense has been spared in the paper, the printing or the illustrations of the monographs. We do not like the size, 11 x 14 inches, although Berlin, Dresden and Philadelphia have set the bad example.

The Thompson River Indians and the Thompson River region come in for the lion's share of attention. This stream is a branch of the Fraser River, in middle British Columbia, its headwaters almost touching those of the Columbia and Mackenzie. The tribe here studied, better known as the 'Couteau' or 'Knife' Indians, belong to the Salishan family. There are 209 of them, and Dr. Boas finds their number decreasing. Mr. Teit, author of the monograph, is an old resident of the region, conversant with the language, and he has done his work under one of the foremost of ethnologists. His descriptions of dress, food, arts, trade, travel, transportation, warfare, social life, fine art, folk-lore and religion, supplemented by pictures drawn from specimens, and photographs made on the spot, form an ideal contribution to knowledge. From his minute examination it is shown that the Thompson River Indians and their ancestors were an upland people, influenced greatly by tribes farther eastward, little by those on the coast. They are not high in the scale of social organization or religion, and, like other Salishan tribes, have absorbed much and given out little.

Dr. Farrand's paper on basketry patterns is most timely. It not only rounds out Mr. Teit's studies, but it enters a new and inviting field. The basket fever is now raging, in most contagious form. The materials, patterns, stitches, colors and general designs are quite well understood; but no one dreamed until recently that there were mines of folk-lore in the patterns. The reader will find in Mr. Farrand's paper about forty of these from Thompson

River and Quinaíelt baskets deciphered. We have lately heard that Fig. 9, Plate XXIII, for which Dr. Farrand was not able to obtain explanation, stands for the forms assumed in the clear fresh water lakes. This design reaches far to the southward. Dr. Hudson has gathered the meanings of about 80 symbols from the Pomos; Dr. Hough, many from the Mokis; and Mr. Roland B. Dixon understands many in middle California.

Complementary to Mr. Teit's studies is that of Mr. Harlan I. Smith, a trained archeologist, at Spence's Bridge, Kamloops, and in Nicola Valley, a former paper (III) being devoted to Lytton, at the junction of the Fraser and the Thompson. There is no evidence on the upper Fraser of great antiquity. One interesting discovery of Mr. Smith's was of rock-slide burial. The bodies of the dead were laid at the foot of a talus, at times covered with a framework as of a miniature tent. Rocks and débris were then slid down over all. In this exploration, the resources of the former population, including copper and nephrite, were brought to light, as well as their arts in stone, bone, shell, wood and textile. Not a shadow of pottery was encountered. The ancient people were hunters, fishers and 'diggers,' skin-dressers, stone-workers and makers of basketry; they smoked and gambled. In fact, in all important respects they were the ancestors of the 'Couteaux.' They were not coast people, though they borrowed from the last named; but they had chosen affinities with tribes of Oregon and California, both physically and industrially.

Dr. Farrand's second paper (No. I of Vol. III) is devoted to the traditions of the Chilcotin Indians (Athapascan family), living on the Chilcotin River, a branch of the Fraser, 52° north. This tribe of Athapascans, wedged in between Wakashan and Salishan tribes, offers an extraordinary opportunity of testing the modern fad in ethnology, that of 'independent development.' We are not surprised to find a practiced field hand like the author saying "there is not a very rich, independent mythology, but surprising receptivity to foreign influences. * * * Comparatively few of the traditions exhibit unmixed Athapascan characteristics." Nearly every element of the cul-

ture-hero story is said to be found in one or more of the neighboring tribes, while in no one is there a complete correspondence in the whole myth. Mr. Farrand had a goodly mass of material for comparison in the voluminous writings of Father Morice, Abbe Petitot, Boas, Teit and Rand.

Mr. Lumholtz's generous monograph, of 228 pages, does not belong to the Jesup North Pacific Series, but treats of a little-known tribe of Nahuatlan Indians, called Huichols, numbering 4,000 souls and living in the Sierras, on the Chapalangana River, a branch of the Rio Grande de Santiago, in the northwestern corner of the State of Jalisco, Mexico. These Indians, though conquered by the Spaniards in the 16th century, keep their ancient customs, beliefs, and ceremonies. Mr. Lumholtz devotes a few pages to the Huichols and their arts and then sticks bravely to his text, the patient detail of their symbolism. The four principal male gods are the god of fire, the chief deer god, the sun god, and the god of wind or air (Elder Brother, or Grandfather). The chief female deities are Grandmother Growth, Mother East-Water, Mother West Water, Mother South-Water, and Mother North-Water. Sacrifices are made to these and many others as prescribed.

The interesting cult of hi'kuli, the mescal button (*Anhalonium Lewinii*) is described and illustrated, and the names of cult animals identified. With great care the author sets forth and pictures the ceremonial dress and objects and symbols. Mr. Lumholtz's personal equation has a decided leaning against acculturation. This prejudice reaches its climax on page 206, where he figures a musical bow of African origin and says: "These facts settle beyond doubt the questions recently raised whether or not there is a musical bow indigenous to America. To deny its existence among the Coras and their northern neighbors would be equivalent to denying the originality of the Huichol drum." That is a little too strong. But the notched bones figured on the same page are infinitely more interesting, having a far more puzzling distribution. The concluding chapters, in which symbols and prayers are briefed and indexed, will enable the student to utilize the author's material economically.

For the series here described, the American Museum and Mr. Jesup, the Maecenas of American ethnology, deserve hearty praise. It is now in order for others of our great museums to wake up and let us hear from them.

O. T. MASON.

BOOKS RECEIVED.

Geometrical Optics. R. A. HERMAN. Cambridge University Press. New York, The Macmillan Co. Pp. x + 344. \$3.

Photographic Optics. OTTO LUMMER. Translated and augmented by SYLVANUS P. THOMPSON. London and New York, The Macmillan Co. 1900. Pp. xi + 135. \$1.90.

The Elements of Hydrostatics. S. L. LONEY. Cambridge University Press. New York, The Macmillan Co. 1900. Pp. x + 248 + xii. \$1.00.

Botany. L. H. BAILEY. New York and London, The Macmillan Co. 1900. Pp. xiv + 355. \$1.10.

A Text-book of Important Minerals and Rocks. S. E. TILLMAN. New York, John Wiley & Sons; London, Chapman & Hall (Ltd). 1900. Pp. 186. \$2.00.

SCIENTIFIC JOURNALS AND ARTICLES.

THE *Bulletin of the American Geographical Society* for October 31, 1900, contains an excellent picture of the late president of the Society, the Hon. Charles P. Daly, which forms the frontispiece of this number. Judge Daly was the honored president of this, the oldest Geographical Society in America, and the portrait painted by Harper Pennington forms a fitting memorial of the thirty-five years of active service to the Society. The number contains a larger series than usual of what might be called new articles. First among these is an article upon the 'Ethnology of Madagascar,' by the Hon. W. H. Hunt, of Tamatave, dealing largely with the tribal names and the early immigrations, showing that there must have been a series of migrations from an Asiatic source. The second section of the paper discusses the early maps of the island, and then takes up the geography and cartography of Madagascar as developed between 1897 and 1899. This new work is due largely to the initiative of General Gallieni. This is followed by an article descriptive of the 'Heaths and Hollows of Holland,' by Dr. W. E. Griffiths, a

bright and entertaining tale of this 'water-logged' country and its people. 'Korea's Geographical Significance' is discussed by H. B. Hulbert, of Seoul, in a scholarly paper showing the relations brought about by this stepping stone from Asia to Japan, giving the results produced as a link between two widely separated branches of the Turanian stock; and then again when serving as a barrier between active Japan and ambitious Russia. Mr. Henry Gannett, of Washington, gives a careful *résumé* of the recent census of Porto Rico. This new addition to our domain has a population of 963,243, thus showing a very dense population of its 3,600 square miles. An outline sketch of the geography of British Honduras is given by Hon. W. L. Avery, of Belize. This is followed by an account of a trip through the silk and tea districts of Kiangnan and Chepiang, by E. S. Fischer. The portion of the *Bulletin* devoted to notes in this number is particularly full, and covers the departments of physiography, map notices, climatology, geographical education and the general geographical record. Cosmos Mindeleff gives a full account of the use and manufacture of geographical relief maps, and M. Henri Froideveaux gives a sketch of geography at the Paris Exposition. At the end of the number there is a picture of the new home of the Society, Manhattan Square on 81st street, giving a view of the front of the building and plans of the grounds and library floors. The enterprise of the Council in constructing this building as a repository for its fine library and a commodious place for the intercourse of the Fellows of the Society, is deserving of the highest praise.

The *Plant World* for October opens with 'Notes for the Beginner in the Study of Mosses,' by F. H. Knowlton, the first of a series on the lower plants. A. S. Hitchcock describes 'Collecting Sets of Plants for Exchange'; E. J. Hill has 'An Observation on the Water-Shield (*Brasenia peltata*), dealing with the dissemination of its seed; Charles Newton Gould describes the 'Radiate Structure of the Wild Gourd' (*Cucurbita foetidissima*), and Joseph Crawford has some 'Notes on Ophioglossum.' In the supplement devoted to 'The Families of Flowering Plants,' Charles Louis Pollard deals