

SCIENCE

A WEEKLY JOURNAL DEVOTED TO THE ADVANCEMENT OF SCIENCE, PUBLISHING THE
OFFICIAL NOTICES AND PROCEEDINGS OF THE AMERICAN ASSOCIATION
FOR THE ADVANCEMENT OF SCIENCE.

FRIDAY, MARCH 24, 1905.

CONTENTS:

<i>The American Association for the Advancement of Science:</i>	
Section H—Anthropology: GEORGE H. PEPPER	441
Section I—Social and Economic Science: DR. JOHN FRANKLIN CROWELL	446
<i>The Saint Petersburg Conference on the Exploration of the Atmosphere:</i> DR. A. LAWRENCE ROTCH	461
<i>Scientific Books:—</i>	
Leach's Food Inspection and Analysis: DR. WM. FREAR. Angell's Psychology: PROFESSOR EDWARD L. THORNDIKE	465
<i>Scientific Journals and Articles.....</i>	469
<i>Societies and Academies:—</i>	
The New York Academy of Sciences, Section of Anthropology and Psychology: PROFESSOR R. S. WOODWORTH. The Torrey Botanical Club: EDWARD W. BERRY. The Science Club of the University of Wisconsin: F. W. WOLL	469
<i>Discussion and Correspondence:—</i>	
Blunders in the Scientific Record: DR. LEONARD STEJNEGER. The Metric Fallacy: HENRY B. HEDRICK. A Request for Material: PROFESSOR HARRIS HAWTHORNE . WILDER	472
<i>Special Articles:—</i>	
Elliptical Human Erythrocytes: DR. MELVIN DRESBACH	473
<i>Quotations:</i>	
Compulsory Greek at Cambridge	475
Students of the German Universities	476
The Geographical and Geological Survey of Sao Paulo	476
The Program of Studies of Columbia College	476
Scientific Notes and News	477
University and Educational News	480

MSS. intended for publication and books, etc., intended for review should be sent to the Editor of SCIENCE, Garrison-Huison, N. Y.

THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE. SECTION H. ANTHROPOLOGY.

SECTION H of the American Association for the Advancement of Science held its regular sessions at the fifty-fourth meeting of the association, which was in progress in Philadelphia, Pa., during convocation week. The American Anthropological Association and the American Folk Lore Society affiliated with Section H.

The officers for the meeting were as follows:

Vice-President—Walter Hough.

Secretary—George H. Pepper.

Member of Council—C. B. Moore.

Sectional Committee—M. H. Saville, vice-president, 1904; George H. Pepper, secretary, 1904; Walter Hough, vice-president, 1905; George H. Pepper, secretary, 1905-'08; F. W. Hodge, W J McGee, Alice C. Fletcher, George Grant MacCurdy, Ales Hrdlicka.

Member of General Committee—B. T. B. Hyde.

Press Secretary—Secretary of Section.

Officers of the American Anthropological Association—President, W. H. Holmes in the absence of W J McGee. Secretary, George Grant MacCurdy.

Officers of the American Folk Lore Society—President, George A. Dorsey in the absence of George Lyman Kittredge. Secretary, W. W. Newell.

The address of the retiring vice-president of Section H, Marshall H. Saville, entitled 'Mexican and Central American Archeology,' was delivered Friday afternoon.

WEDNESDAY, DECEMBER 28.

The afternoon session began with the paper on 'Anthropometric Work at the St. Louis Exposition: (a) Sense Tests of Vari-

ous Races, (b) Physical Measurements of Philippine Groups,' by R. S. Woodworth and Frank G. Bruner.

Over a thousand individuals, belonging to twenty-two groups and nine races, were measured, and most of these were subjected also to sensory and mental tests. Among the results may be mentioned: the superiority of some groups, especially the Filipino, in eyesight, and the inferiority of others, the Ainu, Negrito and African pigmy; the presence of red-green blindness among Filipinos to about the same extent as among whites; the general inferiority of other races to the white in fineness of color perception, but no special deficiency in perception of the violet end of the spectrum.

A comparison of the height, cephalic, facial and other indices of several Filipino groups was obtained which showed that, on the whole, the population of the islands is remarkably uniform in physical measurements.

After the presentation of Professor Woodworth's paper, the society adjourned to attend the discussion on 'Mutation Theory of Evolution,' in Dental Hall.

THURSDAY, DECEMBER 29.

The meeting was opened by the vice-president, Walter Hough. The first paper was, 'The Story of a Shield,' by James Mooney.

Professor Mooney said in part:

In the old days all men between twenty-five and fifty years of age, in the Kiowa tribe, had shields. They were the personal property of the mounted warriors and, on the plains, this object was the most prized possession of the Indians. When a warrior was killed his shield was usually buried with him. Each shield had a distinct origin, although a number might be made of the same form and from the same dream. Out of 300 Kiowa shields there might have

been 50 shield origins. One man might make many shields, which came from a dream, and the wearers would form a small clan-like body. One of the old shields was that of the buffalo. Its origin was from the buffalo and it had buffalo medicine. It was worn by the medicine men who knew how to cure arrow and gun-shot wounds. As shields were used in warfare, they could be made for no other purpose.

The bird shield was of special interest to the speaker, as he had been more closely associated with it than with any other. A story was related of a Kiowa boy who endeavored to get medicine from a water monster formed like a horned alligator. He approached a pool and looked into the water. He heard the voice of a boy who finally invited him to his father's tent. The young man went in. He saw seven men seated against the wall of the tent. These men turned into birds. Each had a shield which was fastened above his head. They told the young man that they had heard his longings and that they would give him medicine. They would give him a shield. They also gave him nine songs. The shrike gave him the song that was to be sung when he went into battle. The call of each bird was to be used in battle in connection with the proper shield and accompanying the song of the particular bird.

A model of the original bird shield was shown. It had a rainbow, the sunlight and dots representing the ashes thrown down by the old men in the sky. These objects were considered to be great medicine. The inside of the shield contained the secret medicine known only to the owner. This was revealed at the moment that the owner made a charge in battle. Each shield had a number of taboos, the breaking of which was a misfortune; there were, however, many ways of propitiation and thereby overcoming the harm that had been done.

Themistology. EDWARD LINDSAY.

An important branch of the study of man is the science of institutions. Of human institutions one of the most important is law. Law has been defined as any restraint of the individual by the group which is backed by physical force. This overlooks the idea of rules for the adjustment between individuals of the rights inhering in them by reason of their status in the social organization, which are the greater part of law. Different terms for these two concepts are needed; the first may be called *Nomos*, the second *Themis*. The science of themistology would investigate that portion of the law of all peoples embraced within the concept *Themis*. Ethnologists have determined that there are various forms of social organization which have existed at different periods and among widely separated groups, and from the study of these have distinguished successive stages in the evolution of society. In the same way we should examine other themal concepts, as marriage in its various forms, contract, etc., and, after collecting all available facts, study them and determine whether there are ideas recurring generally among different groups which pass through a stated course of development. By this use of the scientific method may be obtained a true science of law. This subject is urged on the attention of anthropologists because the facts must be largely collected among primitive peoples. To distinguish between the two different classes of facts included under the term law, however, is essential to an intelligent collecting of material.

Recent Investigations in the Somatic Anthropology of the Brain of Distinguished Persons, of Individuals of Various Races and of Criminals. EDWARD ANTHONY SPITZKA.

A discussion of the doctrine of cerebral localization, of the significance of brain-

weight and of surface morphology in their relations to the intellect and to race, and of the question of brain-heredity: Incidentally the alleged relations of brain structure and crime as maintained by Lombroso and his followers were viewed in the light of recent researches. In the report of the author's studies on the brains of notable men (eleven in all) some interesting results concerning the weight of the brain, the 'concept area,' the cerebro-cerebellar ratio and the redundancy of the callosum were presented in detail.

The Physical Resemblance of Twins. EDWARD L. THORNDIKE.

Measurements were taken of thirty-nine pairs of twins, the results showing that there were always striking resemblances. Various tests were made and tabulated, including physical and mental observations.

The Color Sensibility of the Peripheral Retina. J. W. BAIRD. Read by title.

THURSDAY AFTERNOON, DECEMBER 29.

At the meeting with the American Anthropological Association, Professor W. H. Holmes, vice-president of the affiliating association, presided.

Medical Notes on the Southwestern Indians. ALES HRDLICKA.

The results of five trips to the southwest were presented. These expeditions were made possible through the interest of Dr. F. E. Hyde, B. T. B. Hyde and F. E. Hyde, Jr.

The physical work was reviewed and tables presented showing pulse averages, respiration and temperature. The following tribes were visited and representative individuals measured: The Navajos, Lagunas, Zunis, Hopis, Majaves, Papagos, Pimas, Maricopas, Yumas, Yaquis, Apaches, Tarahumaris, Huicholes, Otomis, Tarascans and Aztecs.

A Tale of the Hudson River Mohican Language. J. DYNLEY PRINCE. Read by title.

The Settlement and Transfer of Upper Louisiana. PAUL BECKWITH. Read by title.

The Use of Study of Anthropology in School. AMOS W. FARNHAM. Read by title.

After the reading of the foregoing titles the meeting was turned over to the American Folk-Lore Society, the paper by Will S. Monroe having been placed on their list.

Dr. George A. Dorsey presided at the meeting.

A 'Report of the Committee on Officers' was read by W. W. Newell. The following officers were elected for 1905:

President—Alice C. Fletcher, Washington, D. C.
First Vice-President—Roland B. Dixon, Harvard University.

Second Vice-President—William A. Neilson, Columbia University.

Councilors—Franz Boas, New York; J. W. Fewkes, Washington; James Mooney, Washington; A. N. Tozzer, Harvard University.

Disenchantment by Decapitation. Address of the retiring president, GEORGE LYMAN KITTREDGE. Read by W. W. Newell.

Influence of European Contact on Aboriginal Institutions. ALEXANDER F. CHAMBERLAIN. Read by title.

The Kiowa Supernatural. JAMES MOONEY.

A very instructive paper concerning the interrelation between the known and the unknown. The making of medicine and its importance to the tribe. One case cited of the Ute Indians killing a Kiowa who was a medicine man. They saw by the painted design on his body that he was a great man. They took his medicine and hoped to profit by it. The Kiowas learned later that the house in which it was kept was struck by

lightning. The new owners then disposed of the medicine.

Mr. W. W. Newell called attention to the presence of Miss Mary Speers, a lady who had collected negro songs. He asked that she be allowed to sing some of these southern melodies. In preparing these songs she demonstrated the need of studying the tone of the singer as well as the notes of the song. Four selections were rendered.

Superstitions of School Children. WILL S. MONROE.

Mr. Monroe has been collecting the superstitions and games of children for several years. One thousand children were questioned concerning good and bad luck. The predominating good luck charm among the girls was a pin; among the boys, a horseshoe. The number of superstitions among the members of both sexes at different ages were noted and tabulated. These consisted of arrival of company superstitions of which there were twenty-three; those concerning the weather, love and marriage, sickness and death, and the number thirteen. He found that the thirteen superstition does not figure to any extent and was not found in children under ten years of age.

The Tale of Three Wishes. WILLIAM W. NEWELL.

A negro story of a man who had three wishes. One should have been for salvation. Other wishes are made and he is given to the devil. When he is being carried away he begs the devil to pick a pear for him. He is so insistent that the devil finally climbs the tree to obtain the fruit. One of the wishes that the man had made was to the effect that any one caught stealing his fruit would have to stay in the tree; thus he had the devil in his power. A second time he gets the devil into his purse

in the form of a ten-cent piece. In thus using his wishes the man succeeded in keeping out of hell.

This tale was compared with other wish-stories in which similar details appear.

Influence of the Sun on the People of the Hopi Pueblos. J. WALTER FEWKES.

The epitome of the history of the Pueblos is shown by their ruins.

The earliest forms were on the plains. The second period brought them to the base of the mesas, the third and last to the level tops of the table lands.

The inclination of the house groups on the mesa tops is in two directions—toward the highest point, to obtain the greatest security possible, and on exposures where the maximum sunlight may be obtained. The houses oftentimes form two lines, the direction being northeast and southwest. This peculiarity was first noted by Cosmos Mindeleff. The reason for this uniformity was not estheticism but the position of the sun. This occurs in all of the Hopi Pueblos but two. There are three specific causes for this: (1) the growth of the family, (2) the growth of the house group, (3) the position of the sun.

Among the Pueblos there are only two places where additions to the paternal home can be made, that is on the northeast and southwest of the nucleus or home group. The reason for this is that the additions must not cut off the sun from the house already built. These additions to the home continue as daughters are born and marry.

When a new clan comes to a pueblo it is given a new position which will not conflict with the sun supply of the first group. The growth of these clan houses is a cellular one in which the family is the initial cell. This explains the form of most of the modern pueblos. Some of these are rectangular, which is the form of many of

the old ones. This may be explained by the fact that a number of clans participated in the work of building—both in planning and in carrying out the details of construction, in which case the form of the town was probably prearranged. Even in this form of pueblo the terraces and door entrances were usually toward the sun.

The clans have been a great factor in the formation of the house groups. They are responsible for whatever peculiar features may be in evidence in both the ancient and the modern pueblos. The clan problem is a most interesting one. Its solution can be accomplished in no way save by a thorough study of the migrations of each, and its relationship to the pueblo. It is one of the most interesting phases of anthro-geography or psycho-geography in the southwest.

The Work of the University of California.

ALFRED L. KROEBER.

A general résumé of the anthropological work done by the university was given. Results of former expeditions were pointed out and the present policy of the department outlined. Work is being carried on in Peru by Dr. Uhle; in California, especially among the Hupa, by Dr. Goddard, and linguistic and general ethnological work in the same state by Dr. Kroeber. These investigations are under the direction of the departmental head, Professor F. W. Putnam.

FRIDAY, DECEMBER 30.

Historic and Prehistoric Ruins of the Southwest. EDGAR L. HEWETT.

Professor Hewett has devoted several years to the study of the remains of the old sedentary tribes of the southwest. He has mapped large groups and presented data to the department of the interior in an endeavor to have certain areas containing ruins set aside as national parks.

His latest work has been the preparation of changes in and amendments to the bills that have been drawn up for the protection of remains on the public domain. This work enabled Professor Hewett to handle the subject in a very comprehensible way.

The groups of ruins were described, the labor expended in each, and what should be done in the way of preserving them for future scientific work. The various bills for the preservation of ruins were explained, and the objectionable features of each pointed out. Reports of the commissioner of the general land office, and a monograph by the speaker were given to members of the section in order that a better comprehension of existing conditions might be obtained.

The Election at Jemez Pueblo. ALBERT B. REAGAN. Read by title.

Prehistoric Surgery: A Neolithic Survival.
GEORGE GRANT MACCURDY.

This paper dealt with a certain type of neolithic surgery having certain points in common with trepanning, and which has been brought to light during the past decade. The type occurs in France over a limited area lying to the north of Paris between the Seine and the Oise. The cicatrice is usually in the shape of a T, the antero-posterior branch following the line of the sagittal suture; and the transverse branch, encountered in the region of the obelion, descending on either side to a point back of the parietal protuberances. In addition to the T-shaped lesion, one skull was marked by two oval perforations, one quite large, and two pits large enough to lodge the tip of the finger. The eight or nine specimens already described are all from prehistoric sepultures known as dolmens. In the opinion of Professor Manouvrier the lesions were produced by cauterization, an opinion which was recently

confirmed by the discovery of quotations from ancient texts describing the treatment for melancholia, hypochondria, epilepsy, etc., as prescribed by the surgeons of the Dark Ages. The paper will appear in the *American Anthropologist*.

FRIDAY AFTERNOON, DECEMBER 30.

Mexican and Central American Archeology. Address of Vice-President SAVILLE.

The Bat-eared God of the Zapotecs. H. N. WARDLE.

The paper presented a résumé of the knowledge of this god from the pottery urns that have been found and from representations in the old codices.

Officers of Section H for the ensuing year:

Vice-President—George Grant MacCurdy.
Secretary—George H. Pepper.

GEORGE H. PEPPER,
Secretary.

AMERICAN MUSEUM OF NATURAL HISTORY.

SECTION I, SOCIAL AND ECONOMIC SCIENCE.

SECTION I is in some respects ideally constituted. It has a smaller body of experts in its membership who plan its programs and work out its policy. The larger number of members represent business experience and practical social effort. It thus combines in its programs the scientific discussion and methods of the expert with the results of well-considered experience in social and economic affairs. This year's program was well supplied with papers representing both phases of interest.

Two joint sessions were held, one with Section D for hearing a paper by Professor A. E. Outerbridge, Jr., on 'Specialization in Manufactures,' and one with the Society for the Promotion of Agricultural Science, to hear the memorial by Professor W. R. Lazenby on the life of the late Major H. E.