

same titles arranged according to subject, and here the matter of judicious choice of main and subheading, the distribution of titles among them, and cross-referencing, are of especial importance. In some cases, as, for instance, the heading 'Electric spectra,' too little subdivision has been made, while in others, for example, infra-red work, too many and not sufficiently distinct subheadings have been introduced. Cross-references and a list of the subdivisions of the subject index would be a great addition; and the more frequent insertion, as is done in some cases under 'absorption spectra,' of a few words of explanation as to the scope and character of the work would add greatly to the usefulness of this part of the volume.

In spite of these faults, however, and in spite of the fact that Kayser's 'Handbuch' will doubtless contain more references, this bibliography should be of considerable value.

C. E. M.

SCIENTIFIC JOURNALS AND ARTICLES.

The American Naturalist for December, 1903, presents the third of the series of articles on 'Adaptations to Aquatic, Arboreal, Fossorial and Cursorial Habits in Mammals,' the present being by H. W. Shimer on 'Fossorial Adaptations.' These are fewer in number than those for other modes of life, but among them the writer fails to include the use of the tail as a tactile organ, making the mistake of supposing it to be 'a useless appendage.' W. Patten gives a valuable paper 'On the Structure of the Pteraspidae and Cephalaspidae' with the purpose of strengthening his theory on the genetic relationship between the vertebrata and arthropoda, and James G. Needham describes 'An Out-Door Equipment for College Work in Biology.' Unluckily, all colleges are not so well situated as that of Lake Forest. W. McM. Woodworth has a most interesting 'Preliminary Report on the Palvlo Worm of Samoa, *Eunice viridis* (Gray.)' W. E. Ritter gives 'Further Notes on the Habits of *Autodax lugubris*,' including the important information that this species breeds in holes in trees. The concluding paper, by Wilmatte P. Cockerell, de-

scribes 'A Trip to the Truchas Peaks, New Mexico.' The number contains the 'Quarterly Record of Gifts, Appointments, Retirements and Deaths.'

The American Museum Journal commences its fourth volume with the January number; it contains much information as to new exhibits, including notes on 'The Behavior of the Minerals and Gems of the Morgan Collections toward Radium and Other Sources of Light,' 'The Long-tailed Japanese Fowls,' 'The Draught Horse in Action,' 'Extraordinary Ants' and 'The Exhibit of Chuckchee Clothing.' The skeleton of the great Percheron, mounted by S. H. Chubb, is the best mounted skeleton we have ever seen and shows what may be done in this direction. The Supplement, Guide Leaflet No. 13, is an illustrated General Guide to the American Museum of Natural History.

SOCIETIES AND ACADEMIES.

ANTHROPOLOGICAL SOCIETY OF WASHINGTON.

THE twenty-fifth annual meeting was held January 12. The following officers were elected:

President—Dr. D. S. Lamb.

General Secretary—Walter Hough.

Curator—Mrs. Marianna P. Seaman.

Treasurer—P. B. Pierce.

Councilors—Dr. George M. Kober, J. D. McGuire and Dr. J. Walter Fewkes.

The 254th meeting was held January 26. Dr. W J McGee reported progress of the various expeditions to secure examples of interesting tribes for the Louisiana Purchase Exposition. It is intended to have at St. Louis families of Central African pygmies, Tehuelches of Patagonia, and Ainos of Hokkaido, and members of tribes of the United States engaged in ancient industries. A model school for Indians will be another attractive feature.

The first paper was by Professor W. H. Holmes, the title, 'One of the Great Stone Buildings of Yucatan.' The paper was illustrated by a superb model made for exhibition at St. Louis. Professor Holmes said that the architecture of the natives of America is not

well understood, and the subject has received less attention than it deserves. There is, however, a widespread interest in the more noteworthy products of the skill of the aboriginal architect and builder, and for this reason five examples of the great buildings of Mexico have been selected and models prepared. The building described is the largest in Uxmal, and is 320 feet long, 40 wide and 20 high. The walls are of rubble cement and earth faced with limestone, the front wall 4 feet and the back wall 9 feet thick. The remarkable feature of this building is the cornice, of which there is 740 feet, with 10,000 stones set in it. Masks numbering 180, requiring 5,000 stones, meander over the cornice, and at intervals are placed seated figures bearing elaborate head dresses. The building was a residential one, and was the first of a projected group around a square. The paper was further illustrated with diagrams and detail models.

Professor L. S. Rowe, of the University of Pennsylvania, presented a brief communication, entitled 'The Work of the American Academy of Political and Social Science.' Professor Rowe said that there is serious danger that political science will become a mere dogma, and for this reason anthropology should come to its aid, mainly by defining the origin of social relations. To this end he bespoke the good offices of anthropologists in the field of political and social science.

Dr. McGee said, in discussing Professor Rowe's communication, that anthropology and political science are closely related, and that the appreciation of the aid of anthropology is gratifying. The most advanced views are upheld in the Anthropological Society of Washington. In this society there are sections each devoted to an aspect of the science of man. One is sociology, which embraces the relations of man as groups. Political science represents but one aspect of the same object that social science has to deal with. Political science has a narrower field, and deals with only one face of the great diamond.

Dr. Alös Hrdlicka read a paper entitled 'The Indians of Sonora, Mexico.' The paper was illustrated with lantern views of the

people and scenery. Dr. Hrdlicka confined his remarks to the Yaki and Opata, giving a historic account and showing their geographical distribution. The Yaki are a virile tribe, and are not declining, while the Opata are being amalgamated. Dr. Hrdlicka gave an interesting account of these tribes, of which there is so little scientific observation. Numerous slides illustrated the paper which will appear in extenso in the forthcoming *American Anthropologist*.

WALTER HOUGH,
General Secretary.

CLEMSON COLLEGE SCIENCE CLUB.

THE club held its regular monthly meeting on December 18, 1903. Professor C. C. Newman gave a paper entitled 'Notes on Pecan Culture.' The speaker brought out the fact that the pecan grows wild over quite a large extent of territory in the United States. Methods of propagation were described, the fact being brought out that the usual method of planting seed for the production of seedlings is unsatisfactory, since these latter do not come true to seed. The high price at which the nuts are sold for seed was mentioned in passing. The only satisfactory method of propagation is by grafting. The speaker, by means of a number of specimens, illustrated in detail the different methods of grafting used. In closing, the possibilities of pecan culture on a commercial scale in the south and, especially South Carolina, were pointed out. Quite a large amount of interesting illustrative material was used by the speaker who gave this paper.

Professor J. Volney Lewis gave a paper entitled 'Notes on the Physiographic Development of the Rocky Mountains.' The author prefaced his paper with an outline of the leading events in the development of the Rocky Mountains in their relations to other portions of the continent. Some account was then given of observations made in the summit region of the Rockies between the North Platte valley in Wyoming and the canyon of the Arkansas in Colorado, in connection with the work of the U. S. Geological Survey in the Encampment region during the summer of 1902. The closely folded and faulted pre-

Cambrian rocks of the Encampment region, with east-west axes, were reduced to a peneplain at a time as yet undetermined, and the warping of this old surface by post-Mesozoic disturbances produced the arches of the present mountains, with their axes north and south. This peneplain is recognizable on the continental divide and the long spurs and parallel ranges to the east and west in the Encampment region. The sedimentary strata occupying the flanks of the mountains and valleys and 'parks' of this region doubtless once covered most, if not all, of the peneplain, but it has been laid bare over large areas of higher ground by subsequent denudation and more or less deeply incised by the streams. Brief reference was made to the dissection of the floors of some of the 'parks' by the streams draining them; to the systems of terraces occurring along nearly all the larger streams of the region and the diverse hypotheses accounting for their origin, and to the minor glacial phenomena. The paper was illustrated by a considerable number of lantern slides and maps.

F. S. SHIVER,
Secretary.

DISCUSSION AND CORRESPONDENCE.

CONVOCATION WEEK.

TO THE EDITOR OF SCIENCE: I heartily agree with the views expressed in your editorial of January 8 in regard to the affiliation of the various national scientific societies. If scientific men in this country are to exercise the influence they ought to exercise in educational matters; if they are to influence legislative action when it concerns scientific work; if they are to hold the place in the country which is due to them and their work, they must come together; they must learn to know each other and to act as a unit. It seems to me that it is very important to bring the scientific bodies together at least once a year. The American Association for the Advancement of Science has taken the initiative because it is the largest of all of the scientific societies. Its policy has been to hold a meeting during convocation week and invite the other scientific societies to meet at the same time and at the

same place. The greatest freedom has been granted these bodies, and all the privileges which the large membership of the American Association for the Advancement of Science secures have been granted to them. There seems to be a feeling on the part of some of the societies, however, that the large association is trying to influence their action and force them into affiliation with it. I am confident that the only desire of the American Association is to bring the scientific men together for the good of all.

I would suggest that each national scientific society be asked to send a representative to a meeting to be held at some central point before next summer, where this whole question can be discussed in all of its bearings, and see whether it is not possible to arrange for meetings of all of the societies at the same time and place once each year or at other stated intervals. Such a committee could discuss the advantages and disadvantages of such gatherings, the influence which could be brought to bear upon scientific education and research and many other matters which would naturally suggest themselves. I believe that SCIENCE might take the initiative and request the various scientific societies to send representatives to such a meeting.

CHARLES S. HOWE.

CASE SCHOOL OF APPLIED SCIENCE.

As the editor of SCIENCE has pointed out, the advantages of the winter meetings of the American Association and of its affiliated societies are evident, and they certainly are desirable for those who can afford to attend them. The council, it is to be presumed, would be glad, however, to hear and to consider objections. Those of us who live on the Pacific slope have some that are peculiarly our own.

1. In order to attend a winter meeting we are obliged to rush off at the beginning of our very short Christmas vacation, and to spend a large part of that vacation crossing and recrossing the continent.

2. The trip is one of several thousand miles that requires from six to ten days on trains.

3. For this long trip we are unable to obtain