

this does not appear to be a legitimate consequence of the earth's rotation. Moreover, Taylor goes on to say that the two rivers least deflected are the Murrumbidgee and the Murray, "which is what one would expect, since their course is practically at right angles to the meridians." But the deflective force being independent of azimuth, and these two rivers being farther from the equator than any other members of the Murray system, they are precisely the two that should show the greatest deflection. Finally, no adequate consideration is given to other possible controls of the river courses in question; yet in view of the fact that the left-hand curving of the rivers leads them toward the lower part of the trunk river, it may well be that their courses are essentially consequent upon the various processes that have in a general way given shape to the Murray basin. It does not, therefore, seem warranted to regard these Australian rivers as having been deflected by the earth's rotation.

W. M. D.

THE WORK OF OUR LARGER MUSEUMS AS SHOWN BY THEIR ANNUAL REPORTS

A NUMBER of museum reports, including those of our largest institutions, have appeared during the past summer, all somewhat belated, though any one acquainted with the work of museums can understand and excuse much of this delay. They comprise the reports of the United States National Museum, American Museum of Natural History, Field Museum of Natural History, Carnegie Museum, Museum of the Brooklyn Institute and the Public Museum of Milwaukee. These are the largest of our museums and it may be well to note what they are doing for the public.

The cramped and crowded condition of the present building of the United States National Museum precludes many changes in or additions to material on exhibition, but the accessions to the collections have been many and valuable. The most important among them were the collection of arms, numbering 569 pieces, deposited by the United States Cart-ridge Company, and the Schaus collection of

Lepidoptera, comprising about 75,000 specimens. That research work has not flagged is shown by the list of papers published in the *Proceedings*, and the liberal policy of allowing others than members of the museum staff to study material or publish the results of their observations. The list includes many names and covers a great range of subjects.

As a forecast of future arrangements in connection with the new museum building, it is noted that this will contain the collections of archeology, ethnology, natural history and geology; that a portion of the Smithsonian building will be given over to art and that the present building will contain the technical collections.

As to art, the gifts of the Freer and Evans collections provide the opportunity for removing the stigma that the United States is the only large nation without a national gallery of art.

The report of the American Museum of Natural History is, as usual, somewhat brief and formal, though presenting a concise view of the year's work.

It seems to be taken for granted that museum reports will only be read by those directly concerned, and, acting on this assumption, little is done to make them interesting, though the illustrations probably appeal to the average man rather than the text.

Two prominent features of the year are the acquisition of a considerable number of skeletons of whales, the commencement of a life-sized reproduction of a sulphurbottom whale and the installation of a number of new and beautiful bird groups. Hitherto cetaceans have been but poorly represented in this museum and it is the evident intention to remedy this defect. The bird groups are an attempt to show certain phases of the bird life of North America in a more realistic and more beautiful manner than has hitherto been done. The methods employed are an adaptation and amplification of those in use, or suggested, and the results far in advance of those previously attained. Groups of animals may be treated from various standpoints, the one most commonly taken being that introduced by the British Museum, in which birds or other ani-

imals are shown as nearly as possible with their exact surroundings. This often results in subordinating the animal to its accessories. Another plan is to either select such animals as are particularly interesting in themselves, or more or less remarkable in habits, or, when commoner animals are shown, to make the surroundings more or less subordinate, to suggest nature rather than imitate it. In the one case the result is a beautiful picture in which the animals are a small part. In the other emphasis is laid on the animal itself. Both methods have their uses and the museum that can will do well to employ both in its exhibition series.

It is sad to note that the first report of the Field Museum of Natural History should be the one to record the death of its founder, Marshall Field, whose portrait forms the frontispiece of the volume. By his liberality this museum came into existence full-fledged and started with greater collections than have fallen to the lot of any other new museum.

The plans for the new museum building, which had been in preparation for some time, called for the expenditure of more than the four millions left by Mr. Field for that purpose, and the plans have accordingly been revised. As soon as the legal obstacles that have for some time stood in the way have been removed, the work of construction will be commenced. This museum is well to the fore in anthropology and is making rapid strides in botany and the principal accessions of the year have been in these departments. In spite of the probable removal of the museum, the work of installation has proceeded steadily.

A part of the report of the Carnegie Museum is couched in apologetic language, and expresses the dissatisfaction of the director at seeing the doors thrown open to the public before the museum was in proper condition to receive them. As the director says:

What has been accomplished only represents the partial fulfilment of his ideals, and it undoubtedly will be several years before the museum will begin to assume proper shape and the various collections which it is destined to contain will

have been brought into thoroughly systematic order.

But we fear if museum directors waited until they were prepared for the public, the doors of the museums would never be opened, and in answer to Dr. Holland we quote as follows from the report of the Brooklyn Institute Museum:

The outlook at times too may seem most discouraging, there are so many things planned and so few completed. Work of all kinds remains unfinished, important specimens are needed in all departments, labels are lacking, cases disarranged and many things conspire to render the lot of an energetic curator an unhappy one. Moreover, a museum is generally the resultant of many forces and consequently a compromise of what the director would like to have it and what he is compelled to do.

Finally, no apologies are necessary from Dr. Holland, but congratulations for what has been accomplished. For in spite of the obstacles which may have interfered with its activities, but have not stopped its growth, work has steadily gone on, especially in the section of paleontology, which has become so important and striking a feature of this institution; and valuable material has been collected from the Fort Benton Cretaceous, and the mounting of the great *Diplodocus* skeleton completed. This institution also ranks high in the number and character of its publications, the most important for the year being a memoir on the crayfishes of Pennsylvania, which is a good example of work that may be done near home.

The Museum of the Brooklyn Institute is the most recent of any under consideration, having been opened in June, 1897. It differs from the others in being a museum of art as well as of science, thus differing from most other institutions in the United States, for while the Carnegie Institute includes museums of art and science, these have each their own director, their common bond being through the board of trustees. It differs also in distinctly providing for children and teachers by its Children's Museum, whose exhibits and lectures are directly planned to interest the one and aid the other. Various institutions,

notably the American Museum and the Carnegie Museum, provide lecture courses for teachers and children, the initiative having been taken by Professor Bickmore more than twenty-five years ago. The Carnegie Museum, American and Milwaukee Museums also issue loan collections, the commencement having been made by the Milwaukee Museum.

The chief accessions of the year in the line of natural history were the Ward collections of sponges and corals, the first numbering over 800 species, the latter over 200. They provide for an unusually full exhibit in these branches of zoology, as the specimens were originally brought together with a view to exhibition and not for study. Work was continued among the Indians of the southwest, in order to round out the important collections of that region, but especial attention was directed to the Pomo tribe of California. The approaching completion of the new wing of this museum will finish the north front and provide for future growth.

Perhaps the most important deduction to be drawn from a perusal of these reports is that a great amount of attention is being paid to the educational side of museum work and large expenditures of thought and money are made to render them not simply instructive, but attractive to the public. And there are many weighty reasons for believing this to be the correct view of the duty of the museum.

These institutions are largely supported by public funds and the public has a right to expect a due return for its investment. Dr. Boas may be, undoubtedly is, wrong in some of his views regarding the principles of museum administration, but he is entirely correct in his assumption that the majority of visitors to a museum do not seek anything beyond entertainment. If he errs at all, it is in placing the proportion of such visitors too low. Therefore, in the exhibition of specimens, the aim should be not merely to furnish information to the man who is looking for it, though this should assuredly be done, but to attract and interest the chance or indifferent visitor and to arouse in him a desire for further knowledge.

The particular attention given to the collec-

tion, study, and display of fossil vertebrates is a direct outcome of the extensive deposits of fossils in the western states. These afforded an opportunity that was embraced by American men of science and the art of collecting and mounting this class of material has reached a higher point here than in any other country, skeletons of gigantic dinosaurs and tiny mammals being mounted as if they were the skeletons of modern animals. Thus the life of the past, once considered as a mysterious branch of research, has been brought within the grasp of the average museum visitor.

The American Museum has in this line of work literally carried the war into Africa and despatched an expedition to the Fayum in search of examples of the primitive elephants and other interesting animals discovered by Beadnell and Andrews.

We are accustomed to regard the number of visitors to a museum as a measure of its importance and public usefulness, but it may more properly be looked upon as an indication of its interest for the public and to some extent of the state of the weather. If it is of interest to the public, there is small doubt but what it will prove to be useful.

The Milwaukee Museum is so arranged that the attendance can not well be taken; the Carnegie Museum has been closed for the past year; attendance at the others was as follows: U. S. National Museum and Smithsonian

Institution	360,547
American Museum of Natural History ..	476,133
Field Museum of Natural History	254,516
Brooklyn Institute Museum, including	
Children's Museum	229,028

A total of 1,320,224

The visitors at the U. S. National Museum are largely from out of town, but the great majority of those at other institutions are residents, and it speaks well to those who know how inconvenient of access is the Field Museum that a quarter of a million of people should have found their way to it. When this museum is transferred to the Lake front, the attendance will be vastly increased just as the number of visitors at the American Museum nearly doubled the year after the establish-

ment of the elevated station at 82d Street. This museum now enjoys the best location of any in the country, so far as ease of access is concerned and not unnaturally stands first in the number of its visitors.

Museum attendance, as shown by the report of the U. S. National Museum, is subject to great fluctuation and, like sun-spots, has its maximum and minimum periods. After each inaugural year there is a drop to below the normal and in the years 1905 and 1906 attendance was less than in any previous year. There is a curious correlation between the loss here and the great falling off in attendance at the British Museum, where the Bloomsbury Square institution reports a loss of 122,000 and the Museum of Natural History of 95,000 visitors. It can not be said that this is due to any fault or deterioration of the exhibits or administration of these or other museums.

The American and Field Museums both offer extended series of lectures on topics akin to the work of the museums and these are fairly well attended. The Field Museum has arranged to have its lectures during the coming year given in the Hall of the Art Institute, in which it will not be handicapped by its location.

After all, the amount of real good effected by lectures is somewhat of a problem. Formerly lectures were given because the speaker had something to impart, but not unnaturally the pictures have come to be regarded as more important than the words, or at least more desired by the public. This is not wholly to be wondered at or deplored, for pictures often give a clearer idea of facts and things than descriptions, illustrations being the equivalent of the objects on exhibition in a museum.

It is very evident from the lists of material received and papers published that the scientific side of museum work is not receiving any less attention than heretofore, simply the public is very properly getting more.

F. A. LUCAS

THE GENERAL MEETING OF THE AMERICAN PHILOSOPHICAL SOCIETY

A COMMITTEE of the general society has been formed to arrange for a meeting to be held on

April 23, 24 and 25, 1908. The committee consists of George F. Barker, Philadelphia; John A. Brashear, Pittsburg; William Keith Brooks, Baltimore; Ernest W. Brown, New Haven; Thomas C. Chamberlin, Chicago; Charles F. Chandler, New York; Edwin Grant Conklin, Philadelphia; Henry H. Donaldson, Philadelphia; Charles L. Doolittle, Upper Darby, Pa.; Arthur W. Goodspeed, Philadelphia; I. Minis Hays, Philadelphia; Morris Jastrow, Jr., Philadelphia; David Starr Jordan, Stanford University, Cal.; Charles R. Lanman, Cambridge; Marion D. Learned, Philadelphia; Simon Newcomb, Washington; Edward L. Nichols, Ithaca; Henry F. Osborn, New York; Edward C. Pickering, Cambridge; Henry A. Pilsbry, Philadelphia; Ira Remsen, Baltimore; William B. Scott, Princeton; Thomas Day Seymour, New Haven; Edgar F. Smith, Philadelphia; Edward B. Titchener, Ithaca; William Trelease, St. Louis, Charles D. Walcott, Washington; Woodrow Wilson, Princeton; William H. Welch, Baltimore; Robert S. Woodward, Washington.

This committee has sent out the following letter:

The American Philosophical Society has satisfactorily shown that the interests of useful knowledge in the United States may be greatly promoted by the annual general meetings of the society. Such meetings have proved attractive to its members in all parts of the country, not only because of the general interest in the scientific communications offered, but also because of the opportunities afforded of renewing and extending acquaintanceship among workers in the various fields of knowledge, and they have markedly broadened the field of usefulness of this, the oldest scientific society in America.

The general meeting of 1908 will be held on April 23 to 25, beginning at 2 P.M. on Thursday, April 23, and the above committee has been appointed to make the necessary arrangements.

Members desiring to present papers, either for themselves or others, are requested to send to the secretaries, at as early a date as practicable, and not later than March 25, 1908, the titles of these papers, so that they may be announced on the program which will be issued immediately thereafter, and which will give in detail the arrangements for the meeting.

Papers in any department of science come within the scope of the society, which, as its name indi-