

Dr. E. S. Riggs bases this interesting memoir was found in the Grand River Valley, near Fruita, Colorado, in 1900. As illustrating the enormous labor connected with the preparation of such a specimen it may be mentioned that three skilled men were employed for more than eighteen months in mounting it.

The author adopts the term *Opisthocœlia* as having priority over either *Cetiosauria* or *Sauropoda*. Of still greater novelty is his identification of *Brontosaurus* with *Apata-saurus*, the type of which is that of a young animal differing from the subsequently described *Brontosaurus* in juvenile characters only.

The material includes the last cervical vertebra and the entire dorsal, sacral and caudal series as far back as the twenty-fourth caudal. We thus for the first time come into possession of the exact characters of the dorsals and of the full series of anterior caudals. These are very accurately figured and described by the author. The formula, like that of *Diplodocus* and *Morosaurus*, is, dorsals, 10, sacrals, 5, caudals, 24 +. The writer shows that Marsh placed too many vertebræ in the back in his restoration, while Osborn also erred in placing too many in the anterior portion of the tail.

The morphology of the sacral region of the *Opisthocœlia* in general is very accurately described, the only error being in the diagrammatic representation of the rib of the caudo-sacral, which should be like that of the primary sacrals and unlike that of the dorso-sacral as shown by reference to the Permian ancestors of the Dinosaurs. The author's theory (p. 185) of the early formation of the sacral vertebræ is also probably incorrect, because the primitive *Diaptosauria* (*Palæohatteria*) show very early a marked separation of the anterior sacral ribs from the posterior dorsal ribs.

The restoration of *Brontosaurus* is by far the most correct we have ever had. It illustrates especially the extreme shortness of the back and the marked elevation of the sacral spines.

H. F. O.

#### THE MILWAUKEE MUSEUM.

THE Report of the Board of Trustees of the Public Museum of the city of Milwaukee may well be read in conjunction with Mr. Bather's article in *Popular Science Monthly* on 'The Functions of Museums,' as in it the custodian explains what has been done and what, with proper facilities, may be done for the public and for students. Mr. Ward's desire to give a proper representation of the animals of Wisconsin and of North America, before 'dabbling in foreign specimens' is a step in the right direction; the Milwaukee Museum is one of our larger municipal museums and yet much smaller institutions waste much time and effort in the endeavor to duplicate the work of the large museums, the result being a small ill-balanced display of heterogeneous objects with nothing properly represented.

Few realize how extensive is the fauna and flora of any given locality and how interesting and instructive is a properly arranged and well-labeled local collection. The importance and efficiency of a museum does not depend merely upon its size, but upon the manner in which its collections are cared for and utilized. Mr. Ward shows great courage in discussing the question of gifts to museums, and treats the matter much as did Mr. Bather. In the earlier stages of growth of a museum collections are often accepted with the proviso that they are to be kept by themselves, and later on these gifts prove so many millstones around the neck of the institution, seriously hampering the progress of the museum. The way out of the difficulty is pointed out by both Mr. Ward and Mr. Bather; either let the gift be confined to desirable specimens or exhibits that may form part of an orderly whole, or let them be declined. Those who really have the good of a museum, or for that matter, other institutions at heart, will appreciate and accept the proviso and contribute to its growth and progress.

The Milwaukee Museum has added to its exhibition series cases containing the birds of the region about Milwaukee and a case comprising the birds found at various periods of the year, the contents of this being changed according to the season; also a number of

living animals of the lower forms, and an exhibit of such wild flowers as may be in bloom.

The Nunnemacher collection of arms has been extended and it is noted that this probably contains the best series of firearms exhibited in any museum in the country.

There is the usual plea for more room and it is to be hoped that this plea may meet with a favorable response and the fine building extended to meet the exigencies of the case.

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#### THE SMITHSONIAN INSTITUTION.

WE reproduce from the Washington papers the accounts of the meeting of the regents of the Smithsonian Institution, held in Washington on January 27, which it is understood are given out by the secretary. As an adjourned meeting was held in the evening, for the first time in recent years at least, it may be assumed that the general policy and administration of the institution were under discussion.

The annual meeting of the board of regents of the Smithsonian Institution was held at the institution at ten o'clock on the morning of January 27. Of the members of the board those present were: Mr. Chief Justice Fuller, the chancellor of the institution, who presided; Senator S. M. Cullom, Senator O. H. Platt, Senator F. M. Cockrell, Representative R. R. Hitt, Representative Robert Adams, Jr., Representative Hugh A. Dinsmore, ex-Senator John B. Henderson, Dr. A. Graham Bell, Dr. James B. Angell, ex-Secretary of State Richard Olney and the secretary of the institution, Dr. S. P. Langley. Senator William P. Frye, president *pro tempore* of the Senate; Judge George Gray and Dr. Andrew D. White were unable to be present. It was announced that Representatives Hitt, Adams and Dinsmore had been reappointed regents on the part of the House for a term of two years, and that Mr. John B. Henderson and Professor A. Graham Bell had been elected regents from the District of Columbia for a period of six years.

The secretary presented his annual report reviewing the work of the year ending June 30, 1903. The total permanent fund now stands at \$937,000, deposited in the treasury. Certain railroad bonds forming a part of the Hodgkins fund make the total fund of the institution about \$1,000,000.

The institution in addition was charged with the disbursement of congressional appropriations for the United States National Museum, the Bureau of American Ethnology, the international exchanges, the Astrophysical Observatory and the National Zoological Park, amounting in all to \$472,400.

Under the Hodgkins fund a memoir has been issued by Dr. Barus, entitled 'The Structure of the Nucleus,' and grants have been made to Professor M. W. Travers, of University College, London, for researches 'on the attainment of very low temperatures'; to Dr. Victor Schumann, of Leipsic, for work on vacuum spectroscopy, and to Professor E. W. Scripture, of Yale University, for the construction of a 'vowel machine.'

The subscription to the Smithsonian table at the Naples Zoological Station has been renewed. During the year this table was occupied by eight American biologists, all of whom conducted special researches of value.

In the series of 'Contributions to Knowledge' two valuable publications have been issued, those of Dr. Barus and Dr. Schumann, while a memoir by Dr. Frederick W. True, entitled 'The Whalebone Whales of the Western North Atlantic, compared with those occurring in European Waters, with some Observations on the Species of the North Pacific,' and a work by Professor N. S. Shaler, of Harvard University, entitled 'A Comparison of the Features of the Earth and the Moon,' are in course of publication. A number of papers have been issued in the series of 'Miscellaneous Collections,' and a work by the late Dr. G. Brown Goode, 'What Has been Done in America for Science,' is now being prepared for the press.

The usual reports have been issued and greatly sought after. The library has received valuable additions from Gen. John Watts De Peyster, in Napoleoniana, and on gypsies. The museum library has received two important gifts, being the E. A. Schwartz collection of books on American coleoptera, and the W. H. Dall collection of books on recent and fossil mollusks.

The institution has taken over for America the work of the International Catalogue of Scientific Literature.

At its last session Congress authorized the construction of a fireproof building for the use of the National Museum, at a cost not to exceed \$3,500,000. The plans for this structure are now practically finished, and borings for the foundation have been made. The actual work will begin in warm weather, though it will probably be three or four years before the building is completed.

Two hundred and thirty-six thousand specimens