friend of Alexander Agassiz, and an oceanographer of the highest standing.

CENTENARY OF THE BIRTH OF OTHNIEL CHARLES MARSH

AT the dinner of the National Academy of Sciences at the New Haven meeting, Professor Charles Schuchert was called upon by President Campbell and presented the following statement and resolution:

By an odd coincidence, I was at Lockport in the western part of New York on the 29th day of last October, for the purpose of visiting the birthplace, the youthful environment and the ancestral grave of Othniel Charles Marsh. That day one hundred years ago a child was born in that village, of humble parents, Caleb Marsh and Mary Peabody, whose forebears were amongst the first settlers of old Massachusetts. This boy was destined to be for twelve years the president of our distinguished academy.

Graduating at Andover and Yale, and then spending several years at the seats of learning in Heidelberg, Breslau and Berlin, Marsh was appointed in 1866 to the chair of paleontology at Yale, the first professorship in that science in any institution. Beginning with the seventies and until the end of his life in 1899, he brought to light in rapid succession so many astonishing antediluvian animals that the unexpected became the rule with him. He revealed over and over again in complete skeletal restorations the medieval and Tertiary animals of our bad lands of the high plains. One of the strongest of personalities, Marsh in his time "stood without a peer" in his chosen field of endeavor. "To Yale he gave his services, his collections, and his estate."

At the height of Marsh's scientific career came what he regarded as the greatest honor of his life, namely, election to the presidency of this academy, and from 1883 to 1895 he served it, and through him it often became the adviser of the government in matters of a scientific nature. Over the academy he watched with as much of interest and care as over his personal affairs.

In view of these circumstances, I present the following resolution:

Resolved, That in this year which marks the centenary of the birth of Othniel Charles Marsh, and in the environment where he lived and worked so long, the academy recalls with pride the personality and mental gifts of that great paleontologist, whose distinguished service as its president was entirely in keeping with a lifetime of uninterrupted devotion to science.

In response to this resolution, Professor Richard Swann Lull spoke as follows:

Professor Marsh's birth and early training have been mentioned by Professor Schuchert. It is appropriate to express in greater degree something of his services to Yale University, especially to the Peabody Museum of Natural History with which he was so closely identified.

Coming to Yale as professor of paleontology in 1866, Marsh's services covered just a third of a century.

Inspired by a trip to the west in 1868, when he actually found a three-toed horse and is said to have discovered the first dinosaur bone found in the Rocky Mountains, he was filled with a desire to continue his search for fossils in the great west. The first formal expedition went west in 1870, and thereafter until 1873 parties, consisting largely of students or men recently graduated from Yale College and the Sheffield Scientific School, went annually to search for the scientific treasures which the region revealed. Marsh's choice of members for these parties was admirable, for almost invariably they were men who subsequently made their mark in the world, though few if any went into paleontology as a profession. Cooperation with the military authorities was obtained, and cavalry escort against the possibility of Indian attack was the usual thing. After 1873, the Indian menace becoming more acute, the student expeditions were abandoned and thereafter material was gathered by paid collectors, former guides and others, many of whom became famous in the archives of the museum. Later, as United States vertebrate paleontologist, collections were made for the U. S. Geological Survey as well as for himself and assembled here at Yale as the basis of a series of projected monographs, but two of which he lived to complete.

In 1898 Marsh's share of his collections was presented to the president and fellows of Yale, and after his death the United States material was separated out and transferred to the U. S. National Museum. His work as a collector has thus served greatly to enrich two institutions.

Not content with this, Marsh published a continuous stream of papers descriptive of the collections, and the world's knowledge of curious and bygone forms, of species and genera, families and even orders as yet unheard of was thereby vastly increased.

His anatomical knowledge was marvelous, and his paper restorations, though in but one plane of space and therefore open to possible error, became classic. To those of us who are privileged to carry on his work, the storehouse seems inexhaustible, and we are struck with the almost uncanny accuracy with which he seized upon the essentials of a new and but partially complete or developed specimen upon which to base his terse but significant description of a new species. While these descriptions, in the light of fur-

ther revelation, can often be amplified, they can rarely be improved.

Then, too, as we are privileged to mount one after another of his paper-restored creatures, we are so impressed with his accuracy that if we would differ from the findings of the master, we must indeed show cause. The last of these is the magnificent specimen the mount of which is just completed. Living and dying in the Jurassic age, this monster lay entombed in Como Bluff, Wyoming, 120,000,000 years. Collected half a century ago it was sufficiently prepared to form the original type of a genus and species and to serve as the basis for the most remarkable of Marsh's restorations. Partly mounted in the old museum twenty years later, it was made the chief thing in our imagination around which the great hall of the new museum was built, and now, after fifty years, it stands again in its majesty, the fruition of the last three years of intensive work! When you go to the museum tomorrow to view its treasures which we have been privileged to display, the skeleton of *Brontosaurus excelsus* will, as the name implies, excel them all.

May I be permitted to read the tributes of two eminent men, preserved among the archives of the Peabody Museum?

To Clarence King, Director of the United States Geological Survey.

NEWPORT, Aug. 19, 1876.

MY DEAR SIR:

In accordance with your wish, I very willingly put into writing the substance of the opinion as to the importance of Prof. Marsh's collection of fossils which I expressed to you yesterday. As you are aware, I devoted four or five days to the examination of the collection and was enabled by Prof. Marsh's kindness to obtain a fair conception of the whole.

I am disposed to think that whether we regard the abundance of material, the number of complete skeletons of the various species, or the extent of geological time covered by the collection, which I had the good fortune to see at New Haven, there is no collection of fossil vertebrata in existence which can be compared to it. I say this without forgetting Montmartra, Sivalik, or Pikermi.

And I think that I am quite safe in adding that no collection which has hitherto been formed approaches that made by Prof. Marsh in the completeness of the chain of evidence by which certain existing mammals are connected with their older tertiary ancestry.

It is of the highest importance to the progress of biological sciences that the publication of this evidence, accompanied by illustrations of such fulness as to enable palaeontologists to form their own judgment as to its value, should take place without delay.

I am

Yours very sincerely,

(signed) THOMAS H. HUXLEY

DOWN,
BECKENHAM, KENT.
RAILWAY STATION
ORPINGTON. S.E.R.

Aug. 31 1880

MY DEAR PROF. MARSH:

I received some time ago your very kind note of July 28th, and yesterday the magnificent volume. (The Monograph on the Odontornithes, Extinct Toothed Birds of North America.) I have looked with renewed admiration at the plates, and will soon read the text. Your work on these old birds and on the many fossil animals of N. America has afforded the best support to the theory of evolution, which has appeared within the last 20 years. The general appearance of the copy which you have sent me is worthy of its contents, and I can say nothing stronger than this.

With cordial thanks, believe me

Yours very sincerely,

(signed) CHARLES DARWIN

When one bears in mind that this letter was written approximately twenty years after the publication of the "Origin of Species" we realize the fulness of Darwin's tribute to Othniel C. Marsh.

SCIENTIFIC EVENTS

ECOLOGICAL NOMENCLATURE

THE following extracts from a letter to its members which was printed in the June *Bulletin of the Ecological Society of America* were intended to obtain suggestions concerning uses and abuses of ecological nomenclature which might be discussed by the newly formed committee on nomenclature and then assembled for presentation to the society at the New Orleans meetings. Knowing that many persons, not members of the Ecological Society, are actively interested in these questions, the committee believes that it may be worth while for SCIENCE to republish the essential points before the New Orleans meetings so that suggestions may be given to the committee by non-members of the Ecological Society as well as members. The committee is trying to work in the interest of all who make use of ecological terms, therefore it requests that any individual who cares to make a suggestion will give it to one of the members of the committee, preferably before the New Orleans meetings.

(1) In ecological discussions, written or spoken, what terms have you found to be used so loosely as to seem