

FRIDAY, APRIL 27, 1883.

NATIONAL ACADEMY OF SCIENCES.

THE annual meeting of this body was held in Washington during the last week, with an attendance of forty members. Scientific sessions were held on Tuesday, Wednesday, and Friday, in the large lecture-room of the National museum, and business sessions on every day of the meeting. A list of the papers read appears elsewhere in this issue.

Twenty-four foreign associates were elected, as follows, — *Astronomers*: Professor Otto von Struve of the imperial observatory at Pulkova, Russia; Prof. J. C. Adams of Cambridge, Eng.; Prof. A. Auwers, director of the observatory at Berlin; and Prof. Theo. von Oppolzer, director of the observatory at Vienna. *Mathematicians*: Professor Arthur Cayley of the university of Cambridge, Eng.; Prof. J. J. Sylvester of the Johns Hopkins university, Baltimore; and Prof. E. Bertrand of Paris. *Physicists*: Prof. R. Clausius of the university of Bonn; Baron H. von Helmholtz, professor in the university of Berlin; Professor Robert Kirchhoff of the university of Berlin; Prof. G. G. Stokes of the university of Cambridge, Eng.; and Sir William Thomson, professor in the university of Glasgow. *Chemists*: Prof. J. B. Dumas, secretary of the academy of sciences, Paris; and Profs. M. Berthelot, Bous-singault, Chevreul, and Würtz, all of Paris. *Geologist*: Freiherr von Richthofen, professor in the university of Bonn, and president of the German geographical society. *Botanists*: Sir J. D. Hooker, director of the botanical gardens at Kew, Eng.; Prof. A. de Candolle of Geneva. *Biologists*: L. Pasteur of Paris; Prof. T. H. Huxley of London; Prof. R. von Virchow of the university of Berlin; A. von Kölliker, professor of anatomy in the university of Würzburg. Professor Struve, one of the newly elected foreign associates, who is on a visit to this country, was a regular attendant at the scientific sessions of the academy, and read a paper.

In consequence of the death of Professor W. B. Rogers, the president, it became necessary to elect his successor. On the first

ballot, Professor Wolcott Gibbs of Cambridge, one of the founders of the academy, was elected. He, however, firmly declined the honor, from a feeling, as he said, that he could not give the time necessary to the work. The academy reluctantly acquiesced in the decision of Professor Gibbs, and proceeded to a second ballot, when Professor O. C. Marsh of New Haven, the acting president, was elected by a hardsome majority. The newly elected president will hold office for six years.

The first act of the new president was to announce that he had received from Mrs. Mary A. Draper, widow of Professor Henry Draper, the sum of six thousand dollars, accompanied by a deed of trust which fully specified the objects she had in view. He called upon Professor Barker to explain the nature of the trust to the academy. Professor Barker first made some appropriate remarks, recalling Professor Draper's interest in the academy, and then read the deed, the substance of which is as follows: the income of the trust is to be used "for the purpose of striking a gold medal, which shall be called the 'Henry Draper medal,' shall be of the value of two hundred dollars," and shall be awarded from time to time, but not oftener than once in two years, as a premium, to any person in the United States or elsewhere who shall make an original investigation in astronomical physics, the results of which shall be deemed by the academy of sufficient importance and benefit to science to merit such recognition. If at any time the income of the fund shall exceed the amount necessary for the striking of the medal, the surplus may be used in aid of investigations and work in astronomical physics, to be made and carried on by a citizen of the United States.

The president appointed Messrs. G. F. Barker, W. Gibbs, S. Newcomb, A. W. Wright, and C. A. Young, as a committee to have charge of the fund, to make rules to govern the award of the medal, and to suggest to the academy for approval the names of those who may be considered worthy of the award.

The treasurer announced, that, in accordance with the will of the late Professor James C.

Watson, the sum of about fourteen thousand dollars had been placed in his hands. When the estate is finally closed, a further sum will be paid over to the academy. The income of the Watson fund is to be used, under the direction of three trustees, — Messrs. J. E. Hilgard, S. Newcomb, and J. H. C. Coffin, — for the purpose of aiding astronomical researches. In accordance with the recommendation of the trustees, the academy granted five hundred dollars from this fund, towards defraying the expenses involved in observations of the total solar eclipse of May 6, 1883.

Later in the meeting, Professor Simon Newcomb of Washington was elected vice-president, and Professor Asaph Hall of Washington, home secretary. Five new members were elected: Professor A. Graham Bell of Washington; Dr. J. S. Billings, U.S.A., of the U.S. army medical museum, Washington; G. K. Gilbert, of the U. S. geological survey; H. B. Hill and C. L. Jackson, professors of chemistry in Harvard college. The whole number of members is now ninety-five.

On the afternoon of Thursday the academy adjourned to take part, by invitation, in the ceremonies attending the unveiling of the statue of Professor Henry in the grounds of the Smithsonian institution. The time for these ceremonies was purposely fixed to coincide with that of the spring meeting of the academy. Henry was pre-eminently a scientific man, and, at the time of his death, president of the academy; and yet the members of the academy were placed far down the line in the procession, — after the commissioners of the District of Columbia, and after officers of the army and navy. This fact must be regarded as evidence of a lack of appreciation of the relations existing between Henry and the academy, and of the true worth and dignity of science.

The exercises, which were in good taste, began with a short address by Chief-justice Waite. After this, at a signal, the covering was quickly drawn aside, instantly revealing the entire statue. Loud applause followed, those who were seated rose to their feet, and

all hats were removed. The scene was highly impressive; and when the philharmonic society, accompanied by the full marine band, burst forth with Haydn's grand chorus, 'The heavens are telling,' the heart must have been a hardened one which did not experience a feeling of exaltation.

In the opinion of all, the statue is dignified and pleasing, and vividly calls to mind the honored original. President Porter's oration, which was the principal event of the afternoon, was listened to with much interest. It dealt with the plain facts of the life of Henry, and was all that his best friends could have desired.

Among the pleasantest social features of the meeting was a reception given to the members of the academy on Thursday evening by Prof. A. Graham Bell. There were present many well-known gentlemen, among them, Gen. Sherman, Chief-justice Waite, Senator Sherman, ex-Secretary Blaine, and the Japanese, Swedish, and Belgian ambassadors.

THE DECAY OF ROCKS GEOLOGICALLY CONSIDERED.¹

THE author, in this paper, presented in a connected form the principal facts in the history of the decay both of crystalline silicated rocks, and of limestones or carbonated rocks, by atmospheric agencies. Having first discussed the chemistry of the process, he noticed the production of spheroidal masses, or so-called boulders of decomposition, by the decay and exfoliation of massive rocks. He then proceeded to show that the process of decay is not, as some have supposed, a rapid or a local one, dependent on modern conditions of climate, but that, on the contrary, it is universal, and of great antiquity, going back into very early geological periods. These conclusions were supported by details of many observations among paleozoic stratified and eruptive rocks in the St. Lawrence valley, as well as among cozoic rocks in the Atlantic belt, as seen in Hoosac Mountain, in the South Mountain, and in the Blue Ridge. In connection with the latter he described the decay, not only of the crystalline strata, but of their enclosed masses of pyritous ores, and the attendant phenom-

¹ Abstract of a paper read by T. STERRY HUNT, LL.D., F.R.S., before the National academy of sciences at its meeting in Washington, April, 1883.