Other prizes were awarded to Mr. Ch. Girard, for various physical and chemical works; Mr. Van Beneden, for researches on the development of the lower animals; Mr. Bourbouze (photography); Mr. Sidot (chemistry); Mr. Valson; Mr. G. H. Halphen (mathematics); and Mr. Sappey, for his work entitled 'Anatomy, physiology, and pathology of the lymphatic vessels, considered in man and other vertebrates.'

— Letters had been received at Vienna, Dec. 29, from Professor Lenz, of the Austro-Hungarian Kongo expedition, dated Angо-Angо, Oct. 31. He announces his departure for Stanley Pool, his assistant, Dr. Baumann, having succeeded in obtaining at Nyombi 80 natives as porters. It is difficult to secure these auxiliaries. The French missionaries, who are also travelling up the Kongo, meet with even greater difficulties, their porters having run away. A similar misfortune has happened to the German expedition under Lieutenants Knuth and Tappenbeck. The health of the members of the Austro-Hungarian expedition is satisfactory, although the transition from the dry to the rainy season is very dangerous to Europeans.

— Why Labberton's 'Historical atlas' (New York, *Townsend, MacCoun*) should have reached an 'eighth edition,' is one of the mysteries of book-publishing in this country. The maps, many of them, are of the rudest description. In fact, so bad is the workmanship, that in some cases important cities are laid down miles away from their actual sites. Nor is the selection much better. There are sixteen maps of Britain, no less than twelve of which relate to a period anterior to the reign of King Aelfrid. The last of the set is a map showing the Norman conquest. Of England since 1071, nothing is given except a few miserable maps in the corners of the maps of Europe. The Puritan revolution is utterly ignored. The 'explanatory text,' so loudly announced on the titlepage, adds little to the worth of the book, while 'the carefully selected' bibliography can appear of value to those only who are ignorant of the literature of the subject. The maps showing the growth of our own country are based on such an inadequate knowledge of our history that they are little more than a mass of error. In fine, although the plan of the atlas is good, the selection and workmanship are so poor, that we lay it down as one of the most unsatisfactory books of the past year. Much better in every respect is the 'Standard classic atlas,' bearing the following imprint: "Copyright, 1885, by Ivison, Blakeman, Taylor & Co., publishers, New York and Chicago." The maps are well drawn, and admirably chosen. In fact, we were just beginning to congratulate ourselves on the advance which American map-makers had made during the last few years, when suddenly our attention was drawn to the following words, attached to map 18: "Engraved by Becker's patent on steel, Stationer's Court, London." So, after all, this is an English book which in some way or other these publishers have copyrighted. If such actions are legal, what need have we for an international copyright law? As to the book itself, it is a good one, and contains besides the maps a very useful alphabetical index, giving the position of about ten thousand places, with their ancient and modern names.

— To judge from the statements made in the introduction to a treatise on 'A system of iron railroad-bridges for Japan,' by J. A. L. Waddell, published by the University of Tokio, many of the iron bridges erected by foreign contractors, and now in use in Japan, are of inferior construction. Professor Waddell, who occupies the chair of civil engineering at the University of Tokio, has here aimed to make clear to Japanese engineers the method of designing the class of structures mentioned, and he has covered the ground in an extremely satisfactory manner, and with much minuteness of detail. The book must prove a great benefit to Japan by securing improved construction, and there is much in it that will be serviceable and suggestive to American engineers, even if they should not agree entirely with him in the discussion; for his devices and methods are not always those which are commonly employed in the United States. He analyzes in all its parts the American type of bridge as adapted to the conditions of the Japanese narrow-gauge railroads. He gives tables and strain-sheets, the preparation of which must have required a vast amount of labor, and which by themselves make a large atlas. Some portions of the memoir have appeared in this country as papers submitted to different technical societies. It is a most agreeable surprise to find that the University of Tokio endeavors to extend its usefulness by publishing treatises of so eminently practical a character.

WASHINGTON LETTER.

SCIENCE and the scientific have in some degree indulged in that suspension of activity which is the recognized privilege of the more serious occupations during the holiday season. Some of the societies have suspended their meetings for a period of two or three weeks. When they are resumed, the season's work will begin in earnest, as it is said that papers of considerable importance, growing out of the field-work of last summer, are nearly

ready for public presentation. The president of the National academy has spent a part of the vacation time in the city, largely on business connected with the affairs of the academy. The visit is timely, as it doubtless has enabled Professor Marsh, on various occasions, to express his views, and to some extent the views of the academy, on several questions of primary interest and importance to science and scientific men, which are just now coming before the national legislature.

Of these, one of the earliest to be brought forward is the proposition to establish a national university in accordance with the provisions of a bill introduced by Mr. Ingalls in the senate at its first session after the holidays. The idea of such an establishment is as old as the government itself, and it is said to have been recommended by every president from George Washington down, with the possible exception of Lincoln, whose time was so occupied with matters of greater moment and more immediate importance as to preclude its consideration. The bill was ordered printed and to lie on the table. It is said that senator Ingalls intends to make an argument in its favor in the near future. The measure will unquestionably have warm friends and strong opponents.

A leading member of the senate recently remarked that experience had convinced him that an appropriation of fifteen hundred dollars was sufficient to start a national university, and cited in proof that some of the scientific branches of the government now expending nearly a million dollars annually, were inaugurated with appropriations of one or two thousand dollars.

The subject of an international copyright law is likely to receive attention from congress at an early date. It was before the senate judiciary committee in the last congress, but in the early part of the present session it was referred to the committee on patents. It is said to be the intention of this committee to give the subject a thorough consideration, and that prominent exponents of both sides have been invited to express their views and arguments. The list includes many prominent American authors.

An experiment in the direction of securing communication between vessels at sea by means of electricity will be made at some time during the present week in the Chesapeake Bay. A board of naval officers, consisting of Commander Hoff and Lieutenants Reeder and Meigs, has been detailed to witness the trial. They will be accompanied by Prof. A. Graham Bell, who has long been interested in the subject, and who has himself experimented upon it.

The improvement of signalling by methods other than electric has for some time been under consideration, both in the army and the navy. A committee has been selected, consisting of General Hazen of the army, and Commander Hoff and Lieutenant Reeder of the navy, to report upon a more desirable code of signals for the service of the United States. It has been agreed to instruct a certain number of men in each of the codes used by the different governments of the world, and by a sort of competitive examination to determine which is the best. Improvements are also being made in heliographic signalling. Experiments at long range with various forms of apparatus are about to be undertaken under the direction of Lieutenant Purssell, in charge of the division of military signalling of the signal corps.

Although this system of signalling has come into almost universal use, there does not seem to have been any very decided advance in methods since the successful experiments of Moses G. Farmer in 1861. The signals are made by long and short exposures of light, to which system the dot and dash alphabet of Morse is easily applicable. At long distances, however, and under unfavorable atmospheric conditions, it becomes difficult to distinguish the long from the short, and a limit to the rapidity of transmission is soon reached. Lieutenant Finley of the signal corps has recently constructed a heliograph in which two mirrors, or two sources of light, are used, separated far enough to be readily distinguished by the reader of the message. The display of one of these only, means a dot, while the exposure of both at the same instant means a dash. This method promises to increase both the certainty and rapidity with which the message can be read; but its great advantage is that a vastly less amount of skill and training will be required in its working, on account of the nearly complete elimination of the comparison of time intervals.

In spite of the many attractions which Washington offers to the scientific worker, it now and then happens that the resultant of all the forces is in an opposite direction. There is more or less that is disagreeable incident to all government work, and unfortunately there is a more or less uncertain tenure of office, so that occasionally a college corporation carries off a man whose services the government ought not to lose. A recent example is that of Professor Gooch of the geological survey, who will leave his post here to become professor of chemistry in Yale college.

One or two other attempts of a similar character have been made within a few months; but the facilities for original research in certain directions, which are offered here, have prevented their being successful. Z.

Washington, D.C., Jan. 11.