

an incalculably greater distance : and this idea would not be negatived by any apparent general displacement, which would be referred to the proper motion of the large star. Should, however, any mutual change of position be detected among the comites, a wide field would be opened for research among the fortunate possessors of competent telescopes. The question of native or reflected light would of course be a difficult one to deal with—its solution would, in fact, be impossible in the case of orbits highly inclined to our line of vision ; but if bodies exist whose revolutions carry them from side to side, or nearly so, with respect to the central luminary, any periodical variation of light connected with their positions in their orbits would, as indicating the existence of phases resulting from reflection, give sufficient evidence of their planetary nature.—*Intellectual Observer.*

— Mr. Frank Buckland delivered a lecture on the artificial culture of fish, by permitting the ova to develop in shallow boxes supplied with a constant flow of water. Mr. Buckland has recently ascertained the amount of ova in several species of fish, by counting the number in a given weight, say ten or twenty grains, and then weighing the entire roe. The following are the results :—

Salmon, to each pound the fish weighs, about 1,000 ova.	
Trout of one pound weight	1,008 "
Herring of half pound weight	19,840 "
Perch of half pound weight	20,592 "
Jack of four and a half pounds weight	42,840 "
Mackerel of one pound weight	86,220 "
Sole of one pound weight	134,466 "
Brill of four pound weight	239,770 "
Turbot of eight pounds weight	385,200 "
Roach of three quarters of a pound weight	480,000 "
Cod of fifteen pounds weight	4,872,000 — <i>lb.</i>

Mr. GLASHIER'S ASCENTS.—The ninth of these incidents took place at the Crystal Palace on the 31st of March, at 4h. 16m. p.m., the temperature being 50°. At one mile elevation the temperature was 33½°; at two miles, 26°; three miles, 14°; three miles and three-quarters, 8°. Then a warm current was encountered, and the temperature rose to 12°. At four miles and a-half, temperature zero. In descending, 11° at three miles, cold current entered, and it fell 7°. At two miles, rose to 18½°; 25° at one mile, and 42° on reaching earth. The air was dry before leaving the earth; at heights above two miles very dry; exceeding four miles dew point fully minus 40°. This, with previous ascents, shows that the theory of a decline of 1° for each 300 feet elevation must be abandoned. At one mile the deep roar of London was heard distinctly, and a murmur at greater elevations. At three and four miles views were wonderful, extending to Margate, Dover, Brighton, Yarmouth, etc. Railway trains looked creeping things, like caterpillars, and all the country looked so calm as to appear artificial. Looking downwards, patches of cumulus cloud appeared resting on the earth, and had the aspect of shining wool. The blackness creeping over the land at sunset was remarkable, while the sun was still shining on the balloon. The tenth ascent was made on the 18th of April, when he found sensitive photographic paper did not colour as much in half an hour in the full sun at three miles' elevation as in one minute at Greenwich. He likewise made spectroscopic experiments, and reports that at four miles, and upwards to four and a-half, "when the light entered the slit from the sun itself the lines in the spectrum were innumerable; all those I saw before leaving the earth were visible, and many more. The nebulous lines (H) were both seen, and the spectrum a good deal lengthened at the violet end; at the red end (A) was visible. When the light came from the sky in the immediate vicinity of the sun, the spectrum was shorter, but all the lines were visible from B to G. On passing from the sun the spectrum shortened very quickly, and when opposite to the sun there was no spectrum—in fact, no light at all."—*lb.*

— Hon. Henry Wilson, of Massachusetts, in the Senate of the United States, at the last session of Congress, presented and secured the passage of a bill to incorporate a National Academy of Sciences. Not more than fifty members will be received; and among the names already on the list we notice those of Professor Agassiz, A. D. Bache, J. A. Dahlgren, J. D. Dana, Ben. Silliman, and B. Silliman, Jr. The Academy will have all the powers necessary for its proper management; and it has undertaken, whenever called upon by the Government, to investigate, experiment, and report upon any subject of art or science without compensation. A committee has been appointed to draw up rules and regulations in conformity with the act of incorporation; and the two classes have been formed—Class A, to include *Mathematics and Physics*, and to be subdivided into the following sections:—1, Mathematics; 2, Physics; 3, Astronomy, Geography, and Geodesy; 4, Mechanics; 5, Chemistry; and Class B, which will be devoted to *Natural History*, with the following sections: 1, Mineralogy and Geology; 2, Zoology; 3, Botany; 4, Anatomy and Physiology; 5, Ethnology. The Academy is authorized to elect fifty foreign associates, who will have the privilege of attending the sessions, reading or communicating papers, and of receiving the publications of the Academy. There will be two regular meetings each year—the first, in January, will always be held at Washington, and the second, in August, at a place to be fixed upon during the previous session. The scientific sittings will be open to the

public, but the business meetings closed. Communications from persons not members of the Academy will be received, but must be read by a member who will be responsible for the general propriety of the paper though not for the opinions of the author. A report, drawn up by the President, will be presented to Congress annually. The following is a list of the officers chosen at the first election :

President,	Alexander Dallas Bache,	Washington, D. C.
Vice-President,	James D Dana,	New Haven, Conn.
Foreign Secretary,	Louis Agassiz,	Cambridge, Mass.
Home Secretary,	Wolcott Gibbs,	New York.
Treasurer,	Fairman Rogers,	Philadelphia.

OFFICERS OF THE CLASSES.

Class A. *Mathematics and Physics.*

Chairman,	B. Pierce,	Cambridge, Mass.
Secretary,	B. A. Gould,	Cambridge "

Class B. *Natural History.*

Chairman,	B. Silliman,	New Haven, Ct.
Secretary,	J. S. Newberry,	Ohio.

"Born in the midst of a great political revolution," says Silliman's *Journal* from which the above is extracted, "the National Academy of Sciences, created by the supreme law of the land, stands pledged to the power which has called it into being, and to the world to discharge its duties with fidelity. The members of the Academy named in the Act had before them simply to accept or to decline the trust reposed in them, by no choice of theirs. So far as they have accepted their position, we feel justified in saying it is with a conviction that there were many not named on the list who might most properly have been there, and with the assurance that so far as any honor may attach to membership, it will be shared much more largely by those who shall hereafter be called by the suffrages of the Academy to fill such vacancies as must occur, than by the corporators who are named in the law.

"The National Academy of Sciences does not take the place of, or necessarily interfere with the American Association for the Advancement of Science, as many persons seem to have supposed.

— It is with real pain that we have to announce to our readers the death of Mr. Lucas Barrett, the distinguished naturalist, who was accidentally drowned whilst investigating the structure of some coral reefs at Port Royal, Jamaica. All who visited the Jamaica Court at the International Exhibition will remember the enthusiasm and painstaking kindness with which this gentleman was ever ready to show and explain the various mineral and geological specimens collected and exhibited by him. Although one of the most active of the Jamaica Commissioners, he still found time to officiate as one of the local secretaries of the British Association, besides keeping a term at Cambridge. Before returning to Jamaica to renew his researches as one of the chief members of the West Indian Geological Survey, he ordered a diving dress and pumping apparatus of the latest and most scientific construction, for the purpose of personally examining the rocks and coral reefs lying in the neighbourhood of most of the West India islands. He first tried this dress at Port Royal, on December 17, in shallow water, and was so well pleased with the result that he determined to give it a trial in deeper water. Two days afterwards he took with him his servants and boat's crew, all of whom were negroes, and descended into the deep water between the reefs, the men in the boat continued to pump without intermission as on the former occasion, but they noticed that he remained longer in the water than usual. Suddenly, to their horror, they saw him floating on the surface at a little distance from the boat. They got to him as quickly as possible, but all was over. The cause of his death will remain a mystery. He was not drowned by the influx of the water, as the diving-dress contained only air. The only explanation to be given is, that the air exit valves became permanently closed in some mysterious manner; but even this seems open to doubt, as the men continued to pump without interruption. Mr. Barrett was only twenty-five years of age when he died; and the enormous amount of valuable work done by him during his brief career, gave promise of his speedily becoming one of the chief ornaments of the science he so ardently loved, and to the too enthusiastic pursuit of which he fell a victim. For three years before his engagement on the West Indian survey, he delivered most of the geological lectures for Professor Sedgwick, and was made by him curator of the Woodwardian museum at that university. His collection of *Rudaria* in that Museum is one of the finest in the world. His loss to science will be felt severely, not merely on account of his own personal exertions in the cause of truth, but from the enthusiasm he communicated to those who had the privilege of his acquaintance.—*Chemical News.*

STATISTICAL INTELLIGENCE.

— The *Times* of the 29th. ult., gives a summary of a Parliamentary return respecting the Colonies of Great Britain. They extend over 3,330,000 square miles; cost £3,350,000 per annum, or £1 per mile; import £60,000,000 of goods yearly, and export £50,000,000. Their population is 10,000,000, of whom 5,000,000 are whites. The Australian colonies are the largest and do the most trade; the so called colonies,