

representatives, the members of the First and Second Chambers. The granting of a considerable sum of money for the building of a new National Museum of Natural History at Leyden, a necessity long felt and perseveringly advised by its director—Dr. Jentink—furnished an occasion to bring the question once more before the public. What the result will be—museum or storehouse?—we cannot tell. If a man is not convinced after reading Dr. Serrurier's pamphlet, he will never become convinced.

"But whatever may be done"—Dr. Serrurier concludes his interesting paper—"every change, in this case, will be an improvement, for now the life of the museum is ebbing away. The time is near that it will sink into a lethargic sleep, the end of which will be death."

H. TEN KATE.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

OXFORD.—Mr. T. I. Pocock, of Corpus, has recently been elected to the Burdett-Coutts Geological Scholarship. It is his intention, we believe, to devote himself ultimately to the science of astronomy, which he studied at Oxford under the late Prof. Pritchard.

Mr. E. A. Minchin has been elected to a Biological Fellowship at Merton College, and Mr. H. M. Vernon, of that college, has been elected to the Oxford Biological Scholarship at Naples.

CAMBRIDGE.—The council of the Royal Geographical Society offer in the present academical year a studentship of £100, to be used in the geographical investigation (physical or historical) of some district approved by the council. Candidates must be members of the University of not more than eight years' standing from matriculation, who shall have attended the courses given in Cambridge by the late or present University lecturer in geography.

The following awards in Natural Science were made at St. John's College on December 11:—K. C. Browning (Dulwich College), Foundation Scholarship of £80; E. R. Clarke (Tonbridge School), Foundation Scholarship of £50; O. F. Diver (Winchester College) and K. B. Williamson (St. Paul's School), Minor Scholarships of £50; A. A. Robb (Queen's College, Belfort), R. F. C. Ward (Epsom College), J. A. Glover (St. Paul's School), and G. D. M'Cormick (Exeter Grammar School), to various Exhibitions of £50 and under.

SOCIETIES AND ACADEMIES.

LONDON.

Linnean Society, November 16.—Prof. Stewart, President, in the chair.—Mr. J. H. Veitch exhibited a large and interesting collection of economic and other vegetable products of Japan, recently brought by him from that country, and described the various uses to which different kinds of wood, fibre, grass, &c., were applied for domestic purposes, as also the way in which various seaweeds were collected and prepared for food.—Mr. A. G. Renshaw exhibited a remarkably large specimen of the giant puffball, *Lycoperdon giganteum*, which he had gathered at Catford Bridge.—On behalf of the Rev. Prebendary Gordon, the secretary exhibited a plant of *Veronica salicifolia* of New Zealand, found growing in Langland's Bay, Mumbles, Swansea, having been introduced by some chance.—A paper was then read by the Rev. G. Henslow, on the origin of plant structures by self-adaptation to the environment, exemplified by desert and xerophilous plants. The purport of this paper was to prove by a direct appeal to facts the probably universal application of Mr. Darwin's assertions, viz.: (1) that natural selection has no relation whatever to the primary cause of any modification of structure ("Animals and Plants, &c." vol. ii. p. 272); (2) that modifications of structure are due to the direct action of the environment (*vide* Darwin, Weismann, Spencer, &c.). This always results in "definite variations," by which Mr. Darwin signifies (3) that all, or nearly all, the individuals became modified in the same way ("Origin of Species," 6th ed., p. 106), and consequently (4) that "a new variety would be produced without the aid of natural selection" ("Animals and Plants," ii. 271, "Origin of Species," pp. 72, 175). Mr. Henslow showed (1) that all the species constituting the peculiar *faunes* of a desert flora are the direct result of their climatic conditions; (2) that

these peculiarities are in nearly all cases of the utmost benefit to the plants, such as the hardening of the tissues, the reduction of parenchyma, the minute size of the leaves, the dense clothing of hair, a thick cuticle, the presence of wax, storage of water tissues, &c. But (3) these features are just those which systematists utilise as descriptive characters of varieties and species. Mr. Henslow observed that by Darwin's assuming that "indefinite variations" which are characteristic of *cultivation* were equally so in *nature*, he reasonably required natural selection to correspond with artificial selection; but that assumption he believed to be erroneous. For experiments proved that by sowing seeds in a very different medium, *all* the seedlings vary in the same direction, viz. that of adaptation to the new environment, verifying Mr. Herbert Spencer's statement that "under new conditions the organism immediately begins to undergo certain changes in structure, fitting it for its new conditions." The conclusion is thus arrived at which is expressed in the title of this paper. The functions of natural selection therefore become limited, as follows: (1) The survival of the constitutionally strongest amongst seedlings; (2) delimitation of species by the non-reproduction of intermediate forms; (3) the geographical distribution of plants by self-adaptation. An interesting discussion followed, in which Prof. Reynolds Green, the Rev. Dr. Klein, Mr. Perry Coste, and others took part.

Zoological Society, November 21.—Sir W. II. Flower, K.C.B., F.R.S., President, in the chair.—The secretary read a report on the additions that had been made to the Society's menagerie during the month of October, 1893, and called special attention to an example of Goliath beetle (*Goliathus druryi*), the largest of known Coleoptera, obtained near Accra, and presented October 5, by Mr. F. W. Marshall, and to an adult female and a young of the Manatee (*Manatus americanus*), captured in Manatee Bay, Jamaica, and most kindly sent home for the Society's collection by Sir Henry A. Blake. Unfortunately the Manatees had reached the gardens in a very exhausted condition, and died soon after their arrival.—The secretary read an extract from a letter addressed to him by Mr. J. S. Mackay, of the Kangra District, Punjab, relating to a young snow-leopard which he had in captivity, and exhibited some photographs of this animal.—Mr. Sclater exhibited and made remarks on a mounted specimen of an African monkey (*Cercopithecus albobularis*) belonging to the Leyden Museum.—Mr. W. B. Tegetmeier exhibited and made remarks on two hybrid pheasants, believed to be crosses between the common pheasant and the gold and silver pheasants.—A communication was read from Messrs. G. W. and E. C. Peckham, on the spiders of the family *Attidae* of the island of St. Vincent, based on specimens collected in that island by the agency of the joint committee of the Royal Society and the British Association for the exploration of the Lesser Antilles. The series had been collected by Mr. Herbert H. Smith and Mrs. Smith, who had been specially sent to the island as skilled collectors by Mr. F. D. Godman, F.R.S.—A communication was read from Mr. P. R. Uhler, containing a list of the Hemiptera Heteroptera collected in the island of St. Vincent by Mr. and Mrs. Herbert H. Smith, with descriptions of new genera and species.—Dr. G. Lindsay Johnson made some observations on the refraction and vision of the eye of the common seal (*Phoca vitulina*).—Mr. Sclater read a paper on some specimens of mammals from Lake Mweru, British Central Africa, transmitted by Vice-Consul Alfred Sharpe, through Mr. H. H. Johnston, C.B. The specimens were referred to seventeen species, amongst which was a new monkey of the genus *Cercopithecus*, proposed to be called *C. opisthostictus*, and a new antelope allied to the waterbuck, which was named *Cobus crawshayi*, after Mr. R. Crawshay, who had first discovered the species.

CAMBRIDGE.

Philosophical Society, November 27.—Prof. T. McK. Hughes, President, in the chair.—The following communications were made.—The action of light on bacteria, by Dr. H. Marshall Ward. By throwing the spectrum on various bacteria suspended in films of agar, it is possible to obtain photographic records of the action of the various rays; because, after incubation, those spores or bacilli, &c. which are killed by certain rays remain invisible, whereas those still left capable of development render the agar opaque. The experiments show that those germs which are struck by the infra-red, red, orange and yellow, develop as rapidly as those not exposed to light at all. The action begins