

west in the northern hemisphere and from north-west in the southern hemisphere prevail.

(3) These anti-trade winds do not extend beyond the polar limits of the trade winds; they are deviated to the right in the northern hemisphere and to the left in the southern, and become currents from the west above the tropical high pressure areas, where they descend to feed the trade winds.

(4) The air of the temperate zones is involved in vast "polar whirlpools," which rotate from west to east. This rotatory movement appears to be similar to that of ordinary cyclones; the air in the lower layers draws nearer to the centre of the whirl, while that in the upper layers recedes from it more and more as the height above the earth's surface increases up to the highest regions from which we have any observations.

(5) The layers of upper air of the temperate zones overflow the tropical high pressure areas, and there descend.

(6) The irregularities found at the surface of the earth, more particularly in the monsoon areas of India, disappear, as a general rule, at the level of the lower or intermediate clouds.

(7) The theory of a vertical circulation of the atmosphere between the tropics and the poles, which has hitherto been accepted (Ferrel, James Thomson), must be abandoned.

The report as published in the society's journal is very fully illustrated by reproductions of the diagrams of the original edition. M. Teisserenc de Bort's charts of the average distribution of pressure at the 4000-metre level for January and July are also given, and they illustrate in a very striking manner the scheme of general circulation of the upper air to which the results of Prof. Hildebrandsson's report point.

AMERICAN HYDROIDS.¹

THE first part of this large work dealt with the plumarian hydroids. After an interval of four years, the second part, a folio of some 150 pages and 57 plates, has been issued. It appeals exclusively and intentionally to the student of systematic zoology; but owing to the wide distribution of the family—the "sea-firs" of our coasts—this account, though dealing primarily with American species, will assist students of sertularian taxonomy in almost any part of the world.

The plan of this book is that of the first part. There is first an anatomical account of the stem and its branches, then a *résumé* of the distribution, horizontal and vertical, in different seas, and finally a hundred pages of specio-graphy. The most assiduous care has been employed in drawing up these descriptions and in illustrating them by well selected figures; and most critical and generous consideration is given to previous researches on this group of animals.

For some not very obvious reason, Prof. Nutting has decided to postpone the more interesting bearings of his subject to the final volume, and confines himself in the work before us rigidly to a consideration of the taxonomic and diagnostic features of the Sertularidæ. We look in vain for any explanation of the mode of distribution, though the occurrence of the majority in Alaskan and Arctic waters suggests a polar origin. There is no attempt to explain the absence of free medusæ, nor are we given any information as to the habits of these hydroids, their modes of growth and of repairing injury, the influence of light upon their branching and reproductive powers. There is not a single experiment recorded in the work, though it is to be expected from the plasticity of such cœlenterates that continuous and discontinuous variation may be induced by changes in environment. On the other hand, differentiating anatomical characters, such as the forms of branching, the shape of the gonidial sacs, and the opercula, are described and combined into a system with great care, and it is to be hoped that Prof. Nutting has laid the foundation of a permanent and authoritative classification.

¹ "American Hydroids. Part ii. Sertularidæ." By C. C. Nutting, Smithsonian Institution. U.S. National Museum. Special Bulletin. (Washington, 1904.)

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

OXFORD.—The Vice-Chancellor has been informed that at a meeting of medical graduates recently held in London to consider the present provision in the university for the department of pathology, it was resolved (1) that steps should be taken to bring before the university the necessity of permanent and adequate support being received for the pathological department; (2) that a fund be started for the purpose of assisting in this object, and the primary object of this be the establishment and endowment of a professorship in pathology.

It was announced last term that the Rhodes trustees have made a grant for five years to Dr. Ritchie, the present reader in pathology, and New College has now elected him to an ordinary fellowship for seven years, provided that he continues his readership and does research work. Mr. Edward Whitley, Trinity College, has very generously given the university a thousand pounds towards the permanent endowment of a pathology chair.

CAMBRIDGE.—The Vice-Chancellor announces two important bequests which have been left to the university. The first consists of 5000*l.*, to be expended in improving the instrumental equipment of the Newall Observatory, and of a very valuable collection of illuminated manuscripts and early printed books and objects of mediæval and early art, to be placed in the Fitzwilliam Museum, left by Mr. Frank McClean, F.R.S., of Trinity College. The second bequest is left by the late editor of the *Athenæum*, Mr. Norman Maccoll, of Christ's and Downing Colleges, and consists of 500*l.* to form some endowment for a lectureship in Spanish or Portuguese, together with a valuable library of books.

The number of commissions allotted to the university, the first half-yearly nomination to which will take place after the examination in September next, is one in the Royal Artillery, one in the Indian Army, and five in the cavalry, Foot Guards, infantry, or the Army Service Corps.

The regulations for administering the Gordon Wigan fund are announced. The revenue will be divided between the special board of physics and chemistry and the special board of biology and geology, to be used in promoting and encouraging scientific education and research. The bequest amounts to some 6000*l.*

LONDON.—Mr. William Loring, late director of education under the County Council of the West Riding of Yorkshire, has been appointed warden of the Goldsmiths' College, New Cross, and Mr. Edgar Schuster Francis Galton research fellow in national eugenics.

The Mercers' Company has voted a sum of 1000*l.* to the university for the promotion of the study of physiology at University College.

Mr. W. Williams has been awarded the degree of doctor of science through a thesis on "The Temperature Variations of the Electrical Resistances of Pure Metals," and other contributions.

Mr. H. M. Hobart has been appointed lecturer in electrical engineering design at the Northampton Institute in succession to Mr. E. K. Scott, who has been appointed lecturer in electrical engineering in the University of Sydney. Mr. M. H. Smith has been appointed chief assistant in the mechanical engineering department in succession to Mr. W. E. Curnock, who has been appointed head of the mechanical engineering department of the Technical College, Huddersfield.

MANCHESTER.—The new public health laboratories, which have been erected by the Victoria University and have cost 13,000*l.*, were opened on January 27 by Mr. W. J. Crossley. Lord Spencer, Chancellor of the University, presided at the ceremony, and the large gathering included the Lord Mayor of Manchester and the Mayor of Salford. Honorary degrees were afterwards conferred upon Prof. Calmelle, Lille University; Prof. Perroncito, Turin University; Prof. Salomonsen, Copenhagen University; and Captain R. F. Scott, R.N.

It has been resolved to institute, in the United College, University of St. Andrews, a lectureship in organic