

climatologist. Among other contributions to science, Dr. Aitken has made important advances in our knowledge of the formation of dew.

Dr. Smith Woodward has been for many years keeper of the Department of Geology in the British Museum, and has published a very large number of valuable memoirs on fossil vertebrates, especially fishes. He has also published an important "Catalogue of Fossil Fishes in the British Museum," and his "Outlines of Vertebrate Palæontology," published in 1898, is a standard text-book on the subject. Dr. Smith Woodward's original memoirs are too numerous to mention, but they have secured for him a world-wide reputation, and he is universally regarded as one of the highest authorities on vertebrate palæontology.

DAVY MEDAL.—M. Albin Haller, professor of organic chemistry at the Sorbonne, Paris, founder and first president of the International Association of Chemical Societies, and at the present time the most representative chemist of France, is distinguished for his many and important contributions to chemical science during the past forty years. His investigations have covered a very wide field in the domain of organic chemistry, the most important being those dealing with compounds belonging to the camphor group. He has maintained over a long period of years the reputation of the Sorbonne School of Chemical Research, created by Dumas and Wurtz, his predecessors in the chair.

BUCHANAN MEDAL.—Sir Almroth Edward Wright was the first (1896) to apply laboratory knowledge on typhoid immunity to the protection of human beings against enteric fever. Against formidable opposition he carried out a long series of observations with the highest scientific acumen and unsurpassed technique, and laid the foundations for the effective elimination of enteric fever from the armies of the world. Nothing of importance has been added to his work down to the present time.

HUGHES MEDAL.—Prof. C. G. Barkla's investigations have mainly dealt with X-rays, and their absorption and secondary emission by solid substances. He showed that secondary emission of X-rays was of two varieties. In one of these the X-rays are scattered, without change of quality. The scattered rays were shown by examining tertiary emission to be polarised, and this was a fundamental result for the classification of X-rays with ordinary radiation, at that time doubtful. Prof. Barkla's other kind of secondary emission is characteristic of the secondary radiator, and is accompanied by selective absorption of the primary rays. He showed that each chemical element emitted more than one definite kind of secondary fluorescent radiation. Concentrating attention on, say, the less penetrating kind, it was found to vary in quality by definite steps with the atomic weight of the secondary radiator.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

OXFORD.—The Romanes lectures, which has been in abeyance for the present year, will, it is hoped, be delivered in the course of 1918. The lecturer appointed by the Vice-Chancellor is the Rt. Hon. H. H. Asquith, D.C.L., honorary fellow of Balliol College. The subject and date are not yet announced.

A BEQUEST of 10,000*l.* has been made to the University of Liverpool by Mrs. A. C. Chaddock for the endowment of a chair of commerce in memory of her husband, unless such a chair has been endowed already, in which case the bequest is to be used for such purposes as the authorities shall determine.

THE provision of excellent laboratories at the Bristol Grammar School was followed in 1915 by the forma-

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tion of a Scientific Society, which now issues its first report. The society is made up of the science masters and science students, members of the classical side and the upper school being admitted under special rules. The society gives the members special opportunities for developing their school studies along lines of their own choosing, subject to the approval of the master in charge, and work of this character is expected from the members during meeting hours. A strong library has been formed, and the nucleus of a local herbarium, to which the members have contributed 350 species. War difficulties and lighting regulations have somewhat hindered the holding of working meetings, their place being taken by lectures, to which the upper and middle schools were admitted.

At the Massachusetts Institute of Technology the faculty changes have introduced some new problems, since there has been so much demand by the U.S. Government and by industrial corporations related to the war for men of technical skill. So great has been this draft, says *Science*, that in the department of electrical engineering one-third of the staff has been called away, in mechanical engineering a dozen men have gone into war work, while civil engineering, chemistry, naval architecture, and the other departments have sustained serious losses. On the other hand, the demands for instruction have not only not decreased, for the registration is but slightly less than normal with much the same distribution through courses, but are to a considerable extent greater, for the institute is furnishing instruction on academic and engineering lines to the schools of aeronautics for the Army and Navy, and is carrying on no fewer than three schools for deck officers and the school for marine engineers. Changes already announced include the retirement of Prof. C. R. Cross, with the title of professor emeritus, and the appointment of Prof. E. B. Wilson, of the department of mathematics, to the chair of mathematical physics and head of the department of physics. Prof. C. L. Norton has been appointed professor of industrial physics. In the department of chemical engineering of the University of Michigan all but one member of the faculty have left for active service. Every effort made by the University to replace them temporarily proved unavailing, owing to the unprecedented demand for men in this branch. The situation became so acute that several manufacturing concerns of the State, which employ expert chemical engineers, and the Michigan Agricultural College, came to the aid of the University, and it opened with a complete staff in this department. Dr. C. D. Holley, of the White Lead and Colour Works, of Detroit, will act as head of the department during the absence of Prof. A. H. White.

SOCIETIES AND ACADEMIES.

LONDON.

Zoological Society, November 20.—Mr. E. G. B. Meade-Waldo, vice-president, in the chair.—J. J. Joicey and G. Talbot: New South American Rhopalocera, New South American Arctiidæ, new butterflies from Africa and the East, Gynandromorph of *Papilio lycophron*, Hbn., and three aberrations of Lepidoptera.—S. Alpheraky: Deformity of *os penis* in a *Phoca caspica*, Nilsson.—Lt.-Col. J. M. Fawcett: Notes on a collection of Heterocera made by Mr. W. Feather in British East Africa, 1911-13.—Prof. F. W. Jones: The structure of the orbito-temporal region of the skull of Lemur.

Geological Society, November 21.—Dr. Alfred Harker, president, in the chair.—J. Morrison: The Shap minor intrusions. The paper deals with the minor igneous intrusions occurring in the triangular area between