electors, with increases of 234,314 and 400,400 in the respective sexes over the preceding year.

THE THAYER ORNITHOLOGICAL COLLECTION

WHAT is perhaps the finest private collection of North American birds, nests and eggs has been given to the Museum of Comparative Zoology at Harvard by the owner and collector, John Eliot Thayer, of the class of 1885. The collection, numbering about 30,000 skins and many thousand sets of nests and eggs, includes almost all the rarest North American birds and their eggs.

Mr. Thayer has sent out many carefully planned expeditions in an effort to secure rare specimens. His parties have visited Alaska, northeastern Siberia, the Queen Charlotte Islands, Lower California and northern Mexico. In Alaska one of his parties discovered the nesting place and secured the only surf bird's eggs known to be in any collection.

The bird skins in this collection are said to be beautifully prepared by the most expert taxidermists. One of the examples of this work is an adult male Labrador duck, a species extinct for sixty to seventy-five years. The Thayer specimen, formerly in the collection of Lord Derby, of England, is probably the best preserved bird of the species.

The Thayer collection recalls the fact that the United States once had parrots living within its borders; four specimens of the excessively rare western race of the Carolina parakeet, a species of parrot, from Oklahoma, will be added to the exhibit of extinct birds already on display at the Museum of Comparative Zoology. There is in Mr. Thayer's collection a series of examples of the extinct Eskimo curlew, or "dough bird," and specimens of the passenger pigeon, the bird which once darkened the western plains, extinct now for thirty years.

The bird skins include many collected by Mr. Thayer's expeditions in the peninsula of lower California. The university collections will also be enriched by a group which fills the gaps in the Harvard series from the Queen Charlotte Islands. There is a series of the Imperial woodpecker from the highlands of northern Mexico, and examples of the now rare ivory-billed woodpecker, together with a section of the cypress log in which is the nesting cavity with the set of eggs found there.

The collection of eggs includes ten eggs of the great auk, extinct since 1845. Harvard has now eleven auk eggs, or about one sixth of those known. There are several California condor eggs, almost the only examples of such eggs found in their natural surroundings. Several eggs of that condor have been secured from birds at the Washington Zoological Park, but few in the wild surroundings of the rocky coast where the bird nests. The first two sets of the eggs of the spoonbilled sandpiper ever found are in Mr. Thayer's collection. A set of "knot's" eggs taken by Admiral Peary on his last trip to the Arctic is included.

MEDALISTS OF THE ROYAL SOCIETY[1]

COPLEY MEDAL, AWARDED TO SIR ARTHUR SCHUSTER

SIR ARTHUR SCHUSTER was the first to show the important information to be got by measuring quantitatively the magnetic deflection of cathode rays. He showed how, by combining this measurement with the potential difference which generates the rays, it was theoretically possible to determine without ambiguity the velocity, and the ratio of charge to mass, of the particles constituting the corpuscular stream. We owe to him other almost equally fundamental contributions to the study of electric discharge in gases. Thus he showed that the passage of a luminous discharge put the gas temporarily into a conducting state, due to the presence of charged ions: these ions were able to diffuse into a space screened from the discharge by a wire gauze partition, and they could then be put into evidence by showing the conductivity of the gas under electromotive forces of a fraction of a volt. Sir Arthur was the first to show by experiment that in Crooke's radiometer the reaction was not on the sun but on the glass case of the instrument, thereby connecting the action with the residual gas. He has also made many important contributions to terrestrial magnetism. In spectroscopy he formulated independently the Rydberg-Schuster law. He invented the periodogram method of looking for periodicities in statistical material, a method which has been widely adopted by workers in many branches of inquiry, extending even into economics.

ROYAL MEDAL, AWARDED TO SIR RICHARD GLAZEBROOK

For fifty years Sir Richard Glazebrook has been closely identified with research on physical standards, and particularly electrical standards. For many years he conducted researches associated with the absolute measurement of resistance, current and inductance, and the results of this work are reflected in the present remarkable accuracy of electrical measurements. The name of Sir Richard Glazebrook is also world-known on account of his directorship of the National Physical Laboratory; it is largely due to his influence on the researches at that institution that

[1] Extracts, as printed in *Nature*, from the remarks made by Sir F. Gowland Hopkins, president of the Royal Society, in bestowing the medals of the society at the anniversary meeting on November 30.

aeronautical science has made such vast progress. Physical science is also indebted to him for that great work, the "Dictionary of Physics," and in international science he has played a conspicuous part.

ROYAL MEDAL, AWARDED TO PROFESSOR W. H. LANG

Professor Lang's work on the fossils of the Old Red Sandstone is of high scientific importance. It has led to the discovery and description of a new and unexpected group of plants in which root, stem and leaf are not differentiated. For the first time it thus becomes possible to trace in a circumscribed group the probable origin of these structures from a source in which they did not exist as distinct members. The work was begun in collaboration with the late Dr. Kidston and continued by Professor Lang after the death of his colleague in 1924. Professor Lang's previous intensive studies on the morphology of the liverworts and ferns had eminently fitted him to provide a morphological point of view which has given most important results.

DAVY MEDAL, AWARDED TO PROFESSOR A. LAPWORTH

Professor Lapworth's work has been largely concerned with the application of physical methods to the investigation of the reactions of organic chemistry. His study of the bromination of acetone yielded results of primary importance in relation to the reactivity of carbonyl compounds and has formed the basis of many subsequent investigations. His researches on the addition of hydrocyanic acid to organic compounds, besides leading to results of theoretical and synthetical importance, made clear the mechanism of the formation of cyanhydrins. His investigations of the effect of small quantities of water in diminishing the activity of acids in alcoholic solution indicated the existence of the oxonium ion and added considerably to our knowledge of catalysis by acids. Among his more notable synthetical achievements are the synthesis of zingerone, derived from the pungent principle of ginger, and of homocamphor. His work on the mutual influence of groups in the same molecule, his recognition of induced alternate polarity and his classification of reagents as anionoid or kationoid have played an important part in the development of the present state of knowledge of the reactivity of organic compounds.

SYLVESTER MEDAL, AWARDED TO PROFESSOR E. T. WHITTAKER

Professor E. T. Whittaker is one of the best known of British mathematicians, his work showing extraordinary versatility. He has written five books, on entirely different subjects, and numerous papers which touch on almost every branch of mathematics. All his books show, besides their more technical qualities, powers of arrangement and exposition of a most unusual order; and the "Modern Analysis" and "Analytical Dynamics" have had a considerable influence on mathematical thought. Professor Whittaker has made important additions to the theory of the solution of differential equations, ordinary and partial, by definite integrals; to the theory of Lamé and Mathieu functions, the functions of the elliptic and parabolic cylinders and the integral equations associated with them; to the theory of interpolation; and to the theory of the solution of dynamical problems by trigonometrical series. He has also in recent years made a number of interesting contributions to the pure mathematics of relativity, electromagnetism and quantum theory.

HUGHES MEDAL, AWARDED TO PROFESSOR W. L. BRAGG

Professor Bragg's recognition of the fact that the Laue diffraction spectra could be considered as produced by reflection from the planes of the crystal lattice, besides being a great simplification of a difficult geometrical problem, was the starting point of two important and fruitful lines of physical investigation, namely, the measurement of x-ray wave-lengths and the elucidation of crystal structure. Work on the first of these led to Moseley's discoveries and their subsequent developments. Bragg's concentration on the second has resulted in a wonderful extension of our knowledge of the structure of crystals, both simple and complex, and of inter-atomic distances and linkages. His work may truly be said to have laid the foundations of a chemistry of the solid state.

AWARD OF THE CHANDLER MEDAL TO PROFESSOR CONANT

THE Chandler Medal for achievement in chemical science has been awarded for 1931 to Professor James Bryant Conant, chairman of the division of chemistry in Harvard University, according to an announcement recently made by Professor Ralph H. McKee, at Columbia University, chairman of the Committee on the Chandler Lectureship.

Professor Conant will receive the medal at a national gathering of scientific men in Havemeyer Hall, Columbia University, at 8:15 P. M., on February 5. He will deliver the annual Chandler lecture.

The medal, an outstanding distinction in chemistry, was instituted in 1910 by friends of the late Professor Charles Frederick Chandler, pioneer in industrial chemistry, and a founder of the American Chemical Society. The award was established with a gift which constitutes the Chandler Foundation.