Relativity, Levi-Civita (Italy); Notations, Stroobant (Belgium); Ephemerides, Eichelberger (U. S. A.); Bibliography, B. Baillaud (France); Telegrams, Strömgren (Denmark); Dynamical Astronomy, Andoyer (France); Instruments, Hamy (France); Solar Physics, Hale(U. S. A.); Wave-lengths, St. John (U. S. A.); Solar Rotation, Newall (Great Britain); Physical Observations of Planets, Comets and Satellites, Phillips (Great Britain); Lunar Nomenclature, Turner (Great Britain); Wireless Determination of Longitude, Ferrié (France); Variation of Latitude, Kimura (Japan); Positions of Planets, Comets and Satellites, Leuschner (U. S. A.); Shooting Stars, Denning (Great Britain); Carte du Ciel, Turner (Great Britain); Stellar Parallaxes, Schlesinger (U. S. A.); Photometry, Seares (U. S. A.); Double Stars, Aitken (U. S. A.); Variable Stars, Shapley (U. S. A.); Nebulæ and Clusters, V. M. Slipher (U. S. A.); Spectral Classification, Adams (U. S. A.); Radial Velocities, Campbell (U. S. A.); Time, Sampson (Great Britain).

Sir Frank Dyson gave, on behalf of the delegates of Great Britain and, more particularly, on behalf of Professor Newall, an invitation to the union to meet in Cambridge in 1925, and also to be present at the celebration of the two hundred and fiftieth anniversary of the foundation of the Royal Observatory, Greenwich. This invitation was seconded by Mr. Stratton, and was accepted after invitations from Poland and eastern center in the United States had been noted for 1928. The following were elected to act as officers and executive of the union for the coming three years:

President: Professor W. W. Campbell (U. S. A.).

Vice-presidents: Professor Cerulli (Italy), M. Deslandres (France), Professor Hirayama (Japan), Mr. Hough (Great Britain), Professor de Sitter (Holland).

Secretary: Professor Fowler (Great Britain).

HONORARY DEGREES CONFERRED BY YALE UNIVERSITY ON SCIENTIFIC MEN

AT the commencement exercises of Yale University on June 21, President James Rowland Angell conferred the honorary doctorate of science upon Dr. John C. Merriam and Mr. J. J. Carty and the doctorate of laws on Dr. Russell H. Chittenden. In presenting the candidates for the degrees Professor William Lyon Phelps spoke as follows:

JOHN CAMPBELL MERRIAM: President of the Carnegie Institution, paleontologist and educator. Born in Iowa, where he took his first degree at Lenox College in 1887. Doctor of philosophy of the University of Munich. He began his professional career as an instructor in paleontology and historical geology at the University of California in 1894, and since that date he has become a leading authority in fossil reptiles and fossil mammals of western North America, and of general historical geology of the Pacific coast region. He is a member of many learned societies and his publications are numerous and important. He was for years professor of geology and dean of the faculties at the University of California. He was largely instrumental in establishing the Pacific exploration project which has taken on large dimensions, involved wide ranges of science and large numbers of scientists. During the late stages of the war, he acted as chairman of the National Research Council. He is a member of the National Academy of Sciences and widely regarded by scientific men as one of the half dozen conspicuous representatives of American science. He combines to an extraordinary degree ability as an investigator with ability as a teacher.

JOHN JOSEPH CARTY: Vice-president of the American Telephone and Telegraph Company, A pioneer in the development of telephone science since 1879. He designed and constructed the first metallic circuit multiple telephone switchboard. A high authority states that his original researches published in 1889 demonstrate the preponderating effect of electrostaic induction in producing cross-talk on adjacent telephone circuits. Cross-talk is presumably used only in a technical sense. He invented the method of common battery work now in general use throughout the world. The bridging telephone was designed by him; this forms the basis of all farmers' party-lines, thus adding social knowledge and delight to the existence of farmers' wives. He is a leader in the movement to encourage research in pure science at the universities. During the war he was chairman of the executive board of the National Research Council. He rendered invaluable service in preventing the interruption by the enemy of our trans-Atlantic cable communications. He designed the telephone and telegraph system for the American Army in France. He served as colonel in the United States Army as a staff officer, and is now brigadier-general of the Officers' Reserve Corps. For his services in establishing

the telephone system in Japan, he received there the Order of the Rising Sun and of the Sacred Treasure. For his war services, he was given the formal thanks of the French Army, the cross of Officer of the Legion of Honor and the Distinguished Service Medal from the United States government.

RUSSELL HENRY CHITTENDEN: Dr. Chittenden was born in New Haven, and his active career has been identified with the Sheffield Scientific School, a fortunate thing for that institution. He took his bachelor of philosophy degree there in 1875. After taking his doctorate in the Graduate School, he studied at Heidelberg, and has received honorary degrees from the University of Toronto, University of Pennsylvania, Washington University, and the University of Birmingham in England. His researches and publications in the field of physiological chemistry have made him one of the world's foremost authorities; and during the war he represented America on the Inter-Allied Scientific Food Commission, which held sessions in London, Paris and Rome. In 1898 he was appointed director of the Sheffield Scientific School, where he immediately showed executive ability as remarkable as his powers of research. Under his leadership the Sheffield Scientific School became a liberal college, one of the best in America, where the study of the humanities had no stronger friend than the great scientist who directed the institution. Its growth in numbers and in buildings and in resources was phenomenal; leading authorities were numerous on the faculty, Dr. Chittenden's devotion to the avocation of fishing enabling him to be a good fisher of men. He retires from office this year in the plenitude of his powers, with the respect of the best scholars in Europe and America, with the admiration of his colleagues, and with the devoted affection of thousands of students who have been graduated under his administration.

SCIENTIFIC NOTES AND NEWS

PROFESSOR T. H. MORGAN, of Columbia University, was on June 1 formally received into the Royal Society and delivered the Croonian lecture. On the following day he and Dr. Sturtevant addressed the Genetical Society at its annual meeting, held at the John Innes Horticultural Institution. On June 8, Professor Morgan lectured at the University of Edinburgh and its degree of doctor of laws was presented to him.

DR. GEORGE ELLERY HALE, director of the Mount Wilson Observatory and honorary chairman of the National Research Council, has been elected the American representative on the international committee which, under the auspices of the League of Nations, is to study and suggest methods of intellectual cooperation throughout the world.

AT the commencement exercises of Princeton University, the doctorate of science was conferred on Dr. Arthur Gordon Webster, professor of physics at Clark University; Dr. Henry Crew, professor of physics at Northwestern University, and Dr. John Campbell Merriam, of the Carnegie Institution of Washington. The doctorate of laws was conferred on Dr. Livingston Farrand, president of Cornell University.

DR. VERNON KELLOGG, of the National Research Council, was given the honorary degree of doctor of science by Oberlin College on June 21.

THE honorary degree of doctor of laws was conferred on the secretary of agriculture, Henry C. Wallace, by the Iowa State College of Agriculture and Mechanics Arts at the commencement this month. Secretary Wallace is an alumnus of the institution and gave the commencement address.

DR. HAROLD L. AMOSS, associate member of the Rockefeller Institute for Medical Research, New York, on June 7 received the degree of doctor of science from George Washington University, Washington, D. C. The scientific staff of the Rockefeller Institute on June 12 gave a dinner in honor of Dr. Amoss, who has accepted the appointment of associate professor of medicine at the Johns Hopkins Medical School, Baltimore.

AMONG those knighted on the occasion of King George's birthday were Professor William Maddock Bayliss, professor of general physiology in University College, London; Professor Frederick William Keeble, Sherardian professor of botany at Oxford University, and Dr. Edward John Russell, director of the Rothamsted Experiment Station.

A COMPLIMENTARY dinner was given to Dr.