the heritage and environment into which he was born. He had a love of study and was especially interested in the application of mathematics to biology. He became, as Henry F. Osborn once called him, "the American Galton." He inherited a patrimony that left him relatively independent. He became one of the few scientific amateurs of his time in America.

Woods studied at the Massachusetts Institute of Technology from 1890 to 1894, graduating precociously. But his interest was man, so he studied at the Harvard Medical School (graduating in 1898) and remained there to teach histology and embryology for four years. He then became connected with M.I.T. as lecturer in biology and so remained for twenty years.

Woods was actively employed in study during these years of comparative freedom from the necessity of earning a living. His first book, "Mental and Moral Heredity in Royalty" (1906), was a contribution toward "the science of history"—a science based on statistical analysis. His book opens with a regret that "so little attention is paid to heredity in the biological sense." The work struck out on new lines. Seven years later (1913) was published his "The Influence of Monarchs; steps in a new science of history." This work correlated the qualities of the rulers (classified in three grades) with the condition (in three grades) of the countries over which they ruled. Here he concludes: "The true interpretation of history must hinge upon the gametes."

It was during the time between the publication of these two books that Woods sent to SCIENCE his paper, "Historiometry as an Exact Science," in which he analyzes at some length (as an illustration of method) the relative eminence of Euripides and Sophocles. Historiometry was the keynote of most of Woods's later work. In his researches he made much use of photographs of past monarchs and others, and this led to his discussion (1919) of evolutionary changes in type of face of the New England stock.

The World War aroused an especial interest in Woods. With Alexander Baltzby ("Adams Woods fellow in Harvard University"), he wrote a book on "Is War Diminishing? A study of the prevalence of war in Europe from 1450 to the present day" (1915). This study also is quantitative; it shows up Prussia as the most pacific of the European powers.

Woods was a man of rather striking personality, nearly six feet tall and slender—decidedly of the respiratory type. His intellectual interest was always in the biology of man, especially dynamical man. That is why teaching histology and embryology at the Medical School did not satisfy him. As early as 1899 he began to breed rabbits to test Galton's Law of Ancestral Inheritance and, in 1903, published in *Biometrika* a paper on "Mendel's Laws in Rabbit Breeding." He took very active interest in the American Breeders Association and its successor, the Genetic Association. During 1918–19 he was editor of the *Journal of Heredity* and contributed numerous articles on human heredity to it. He participated on committees of the Eugenic Congresses. The Galton Society was one of his main interests before he left this country to reside in Rome. He was elected president of the Eugenics Research Association, but his health did not permit him to serve. As a speaker and writer he was always clear and very serious. His life work was all a labor of love and a product of his rare personality.

CHARLES B. DAVENPORT
COLD SPRING HARBOR, L. I., N. Y.

FRED WILLIAM TINNEY

FRED WILLIAM TINNEY was born at Saco, Montana, October 30, 1907. After graduation from the local high school, he entered the State Teachers College, Oshkosh, Wisconsin, where he received the degree of B.Ed. in 1929. He spent two years at the University of Oklahoma as assistant in botany, taking an M.S. degree in 1931. He then came to the University of Wisconsin as research assistant, which position he held until his appointment, in February, 1936, as assistant agronomist in the Bureau of Plant Industry of the U. S. Department of Agriculture, stationed at the University of Wisconsin, Madison, Wis. The degree of Ph.D. was received in 1933.

He married Madeline Morrissey on June 12, 1939. Both Dr. Tinney and his wife attended the International Congress of Genetics at Edinburgh. Both were passengers of the ill-fated *Athenia,* sunk off the coast of Scotland, on September 3, 1939. They were among those listed as missing since the disaster.

Dr. Tinney's research included a thoroughgoing study of heteropycnosis in two species of *Sphaerocarpos.* After this came an investigation of the cytology of an ornamental grass, *Agrostis nebulosa.* This led naturally to the study of the genetics and cytology of pasture grasses. After Dr. Tinney's appointment in the Bureau of Plant Industry, work in this field was carried on at Madison in cooperation with the department of agronomy of the University of Wisconsin. A paper embodying his extensive studies of blue grass (*Poa pratensis*) is in press. This grass has been the source of much confusion because of the multitude of races included within the species and of the variety of chromosomal conditions which these races manifest. Tinney's observations and studies of the peculiar methods of embryo-sac and embryo-development characterizing the species, go far toward explaining the peculiar genetic behavior of its varied forms. It promises, too, to supply a basis for the selection and breeding of improved strains of this and other grasses—a relatively new field of endeavor in America.

Deeply devoted to fundamental research in accord-

ance with his training and inclinations, Dr. Tinney in his later work developed a keen insight into the applied aspects of his studies. Quiet and unassuming, he was highly respected by his fellow workers and many friends, who recognized in him the qualities of substantial leadership among the younger group of American scientists.

CORRESPONDENT

HENRY CLINTON FALL

MOST people are not aware that the fauna of the United States is still very imperfectly known. Among the insects, in particular, new species can still be found in great numbers, and of most of those which have been described, little or nothing is known of their life history and habits. There is thus an immense task before us, to culminate eventually in a work of many volumes, describing the life of this continent in all its details. Such a work can never be really complete, but it might be as nearly so as existing treatments of the fauna of the British Islands or Central Europe. There is no organized effort to reach such ends, but many workers are dealing successfully with particular groups of animals, defining families, genera and species, arranging them according to their apparent natural affinities. During the past forty-five years, the name of Fall has been well known to all those concerned with American beetles. Henry Clinton Fall was born at Farmington, N. H., in 1862, and died at Tyngsboro, Mass., on November 14, 1939. He graduated from Dartmouth College with the degrees B.S. and Sc.D., the latter honorary. When I first knew him he was resident in Pasadena, Calif., happy in the extraordinary opportunities for the study of Coleoptera which he found in the arid southwest. He had been interested in the subject for fifteen years before he began to publish, but once he began to record his observations he soon became a prolific writer, especially known for his excellent revisions of various groups and important faunal papers, such as those dealing with Southern California, with New Mexico and Alaska. He described over 1,400 new species of beetles, and had one of the finest collections extant. All this was done in his so-called leisure time; he earned his living by high-school teaching. His entire collection goes to the Museum of Comparative Zoology, Harvard University.

T. D. A. COCKERELL

UNIVERSITY OF COLORADO

RECENT DEATHS AND MEMORIALS

DR. CHARLES ZELENY, research professor of zoology, who had been a member of the faculty of the University of Illinois since 1909, died on December 21 at the age of sixty-one years.

FERDINAND AUGUSTUS SILCOX, chief of the U. S. Forestry Service, died on December 20. He was fifty-seven years old.

DR. HUGH KELSEA MOORE, for thirty years before his retirement in 1934 chief chemical engineer of the Brown Company, Berlin, N. H., died on December 18 at the age of sixty-seven years.

THE College of Medicine of the State University of Iowa has received a gift of $5,000 from Mrs. Edith Graham Mayo, of Rochester, Minn., in the name of herself and the late Dr. Charles H. Mayo for the establishment of a memorial to their son, the late Dr. Joseph Graham Mayo. The fund is for the support of a lectureship or research scholarship. Dr. Joseph Mayo was a graduate of the Iowa College of Medicine in 1927, who died in 1936.

SCIENTIFIC EVENTS

THE STATUS OF THE ENGINEERING PROFESSION

THE Engineers' Council for Professional Development, a joint cooperative body of seven engineering organizations, through its 1938–1939 Committee on Engineering Schools, of which Dr. Karl T. Compton, president of Massachusetts Institute of Technology, was chairman, has issued a list for 1939 containing 525 accredited undergraduate engineering curricula leading to degrees in 118 colleges and universities in the United States.

Since the inauguration of the accrediting program in 1935, the committee through its committees on inspection has appraised the various curricula in each school separately, considering such factors as qualifications of the faculty, standards of instruction, scholastic work of the students, records of the graduates, attitudes of the administration, as well as physical facilities, finances, requirements and size of staff and student body. According to Dr. Compton's report,

> while the committee has adhered rigidly to the policy that it should set no fixed standards for use as yardsticks in measuring the quality of engineering instruction, one principle however has been insisted upon, namely, that if any curriculum omits some portion of a subject in which the engineers in that field are expected by the public to have competence, then under such conditions the committee insists, as a necessary safeguard to the public, that the curriculum be not accredited. . . . However, it aims to preserve the independence of action of individual institutions and to promote thereby the general advancement of engineering education.

Besides Dr. Compton, other members of the Committee on Engineering Schools included: H. P. Ham-