deep mathematical interest in their students. It is not enough for the exceptional man, whose early work has led to a professional recognition, to take thenceforth an easy-going attitude; such a man should continue with the devotion of a leader in a great cause. Furthermore, we ought all to provide our share of first-rate elementary teaching, by which we justify our privileged positions in immediate practical terms. If we do these things, mathematics in America will rise to still greater heights and there will appear among us mathematical figures comparable to the greatest in the past.

OBITUARY

GUY N. COLLINS

GUY N. COLLINS, Principal Botanist in the Division of Cereal Crops and Diseases of the Bureau of Plant Industry in the U. S. Department of Agriculture, died on August 14, 1938, of endocarditis at his home at Lanham, Maryland. Mr. Collins was born at Mertensia, N. Y., on August 9, 1872. He attended Syracuse University, but terminated his college career as an undergraduate in 1895 to join a survey expedition to Liberia organized by Dr. O. F. Cook for the New York Colonization Society. While in Africa he indulged his interest and perfected his skill in photography with the result that all his travels and most of his work are photographically recorded. Pursuing this interest he later designed and patented the Naturalist's Camera, which made it possible for the first time expeditiously to photograph objects natural size in the field.

His plates of fresh specimens of fruits, flowers and sections of plants, reproduced full size, did much to stimulate this method of recording.

Following the vicissitudes of life in the tropical rain forests of the West Coast of Africa, in the days before the discovery of the relation of mosquitoes to malaria and yellow fever, he returned to the United States and spent a few months (in 1898) as a free lance botanical collector on the Florida Keys.

Shortly after the close of the Spanish-American War he joined the staff of the Office of Botanical Investigations in the U. S. Department of Agriculture as Assistant Botanist, and in company with Dr. O. F. Cook explored the newly acquired island of Puerto Rico. Their expedition resulted in the publication by the Smithsonian Institution of the still standard treatise entitled "Economic Plants of Porto Rico." At this time also Mr. Collins wrote "The Mango in Porto Rico," probably the handsomest bulletin ever issued by the Bureau of Plant Industry.

Returning from Puerto Rico he entered the Seed Laboratory of the Division of Botany and there devised much of the apparatus used for subdividing large lots of seeds into samples for germination and purity tests. He never lost interest in the statistical problems of seed testing and the means for determining the probable quality of a large lot of seed from the analysis of small subsamples. This interest was manifested many years later by the publication of a paper on "The Application of Statistical Methods to Seed Testing."

In 1901 he published the bulletin "Seeds of Commercial Salt Bushes." In this undertaking full use was made of his skill in photography, and the plates of seeds in that bulletin have never been equalled in excellence of detail.

Many expeditions to the American Tropics followed his trip to Puerto Rico, and from one of these came the introduction of the Guatemalan "hard-shelled" avocado, which has been utilized extensively in developing the commercial varieties of this fruit grown in Florida.

While on another of these expeditions to Southern Mexico, accompanied by C. B. Doyle, he collected at Acala the variety of cotton now grown extensively under that name in the Southwest. This variety is known for its superlative qualities and far exceeds in merit any other cotton of the Upland type.

On all these expeditions to the American Tropics Mr. Collins lived on and close to Indian corn, and it is not surprising that the diversity of this magnificent grass captured his fancy. Soon his own garden at Lanham was crowded with a collection of tropical maize, and he was not slow to recognize the usefulness of this plant in testing and extending Mendel's rediscovered laws of inheritance.

His first contribution to the literature of maize was printed in 1909, at which time he was Assistant Botanist in the Office of Bionomic Investigations of Tropical and Subtropical Plants in the Bureau of Plant Industry. From that time on, though his official title and administrative position went through many changes, his time was devoted to a study of inheritance in maize and to the application to that study of biometrical methods, without which, he was convinced, no adequate conclusions could be reached. The numerous papers on inheritance in maize, published chiefly by the U. S. Department of Agriculture, constitute a permanent record of his achievements in research.

Mr. Collins was among that early group of investigators whose work provided the foundation on which rests the present popular system of producing commercial corn crops from hybrid seed. However, his interest in the commercial utilization of hybrid seed was

limited to the methods of determining the best combinations of strains and to the technique of producing such combinations.

The study of inheritance in maize led quite naturally to an interest in the origin of this crop and an interest in the American Indians who developed it. Consequently his articles on the phylogeny, agricultural history and origin of maize are definite contributions to this subject, ranking equally in importance to his contributions to maize heredity.

His insistence on the use of biometry not only on his own data but on those of his associates in the Bureau of Plant Industry compelled him to contribute much of his time to other investigators, at that time feeling their way through the labyrinth of statistical methods. In this manner he made contributions to much of the research of his colleagues. His was the first division in the Department of Agriculture to utilize the now common Hollerith tabulating machines.

Mr. Collins was devoted to the billiard table with its fascinating geometrical and psychological problems and was an ardent baseball fan. Confined to his home by his last illness he undertook with the aid of the radio to determine whether left-handed pitchers were more effective against left-handed batters than against right-handed batters, as is claimed by most team managers. This study was not completed.

Mr. Collins was highly regarded by his colleagues for his absolute honesty and for the objectivity with which he approached all problems whether of a personal or scientific nature. He was always patient and tolerant, particularly with younger workers to whose projects he was ever ready to contribute both advice and assistance.

To his staff he was a father confessor whose ready sympathy and understanding lightened many a burden.

In his death biological science has lost a great spirit, always fired with enthusiastic curiosity on scientific questions and tempered with a reasonableness that can come only with the highest intellectual development.

Mr. Collins is survived by his widow, Christine Collins, and two sons, George Briggs Collins, Assistant Professor of Physics at the University of Notre Dame, South Bend, Indiana, and Perez Hathaway Collins, of the Engineering Department of the Dye Works Division of the du Pont Company, Wilmington, Delaware.

J. H. KEMPTON

BUREAU OF PLANT INDUSTRY,
U. S. DEPARTMENT OF AGRICULTURE

RECENT DEATHS AND MEMORIALS

EDWARD MURRAY EAST, professor of genetics at Harvard University, died on November 9 at the age of fifty-nine years.

JOHN HENRY NEFF, professor of urology at the University of Virginia, died by suicide on November 9. He was fifty-one years old.

THE following deaths are noted in *Nature:* Sir John Griffith, president of the Institution of Civil Engineers in 1919, on October 21, aged ninety years; George Jennison, formerly owner and principal curator of the Belle Vue Zoological Gardens, Manchester, on October 21, aged sixty-six years; Colonel J. Clibborn, formerly principal of the Thomason Engineering College, Rorkee, known for his work in connection with irrigation in northern India, on October 31, aged ninety years.

IN honor of the late Dr. C. H. Eckles, chairman of the department of dairy husbandry at the Missouri College of Agriculture from 1901 to 1919, who died on February 13, 1933, the Board of Curators of the university has announced that the new dairy husbandry building will be named Eckles Hall.

SCIENTIFIC EVENTS

UNITED STATES STANDARDS IN ARGENTINA

THE Board of Directors of the American Standards Association has taken favorable action on a proposal that a permanent staff representative be stationed in Buenos Aires for the purpose of promoting American standards and other standards now in use by American industry. The decision of the board to take this action was based largely on the recommendations of a group of manufacturing concerns, trade associations and technical societies that met last June to discuss the need of a better knowledge of American industrial standards in South America. The fact that British, German and other interests have for some time been active in encouraging adoption of their standards had already brought forth suggestions from the U. S. Chamber of Commerce at Buenos Aires that American interests should also be represented.

Argentina, primarily an agricultural country, is the market for many American-made products. With the exception of Canada, it provides the leading outlet for motor trucks. It is the seat of several large American-owned meat-packing plants. North American oil companies have an interest in Argentina's petroleum business. Such firms as Goodyear, Firestone, Michelin and Dunlop manufacture tires in the country; du Pont has a rayon factory there and is also bidding for a share of the country's chemical business. The International Telephone and Telegraph Company counts Argentine business as its largest single foreign invest-