and Mrs. G. C. Payne, of the International Health Board. The expedition will be under the direction of Dr. W. W. Cort. The party will leave the United States early in June and will return about the first of October. The headquarters in Porto Rico will be Utuado, where a small hospital has been furnished by the Porto Rican Department of Sanitation for laboratory and living quarters. The expedition will work in cooperation with Dr. R. B. Hill, director for Porto Rico of the International Health Board, and Dr. W. F. Lippitt, commissioner of health of Porto Rico. The work of the expedition will include a continuation of the researches on the life of hookworm eggs and larvæ in the soil which were begun in Trinidad during the summer of 1921. Field studies will also be made of the sources of human infestation under the conditions in Porto Rico.

UNIVERSITY AND EDUCATIONAL NOTES

BY the will of Seymour Coman, of Chicago, the University of Chicago is made trustee of his residuary estate estimated to be approximately $145,000, the net income from which is to be used for scientific research with special reference to preventive medicine and the cause, prevention and cure of diseases. This bequest is to be known as the Seymour Coman Research Fund. By the will of Alexander D. Thomson, of Duluth, Minn., the sum of $50,000 is bequeathed to the university for use in the medical department, to be expended under the direction of Dr. Wilber E. Post, a graduate and trustee of the university, and Dr. Herman L. Kretschmer.

IT is reported that Wake Forest College School of Medicine is entitled to receive the principal of a trust fund, amounting to $1,375,000, which was created in 1892 by Jabez A. Bostwick, a director of the Standard Oil Company.

DR. D. WRIGHT WILSON, of the Johns Hopkins University, will succeed Dr. John Marshall in the chair of chemistry in the Medical School of the University of Pennsylvania.

G. F. REDDISH, Ph.D. (Yale '22) has been elected associate professor of bacteriology, and Paul A. Warren, Ph.D (Michigan '22) has been elected professor of botany in the Medical College of Virginia.

DR. CALVIN P. STONE, of the University of Minnesota, has been appointed assistant professor of psychology at Stanford University.

W. L. EIKENBERRY has resigned as associate professor in the School of Education of the University of Kansas, to take the position of professor and head of the science department in the Pennsylvania Normal School at East Stroudsburg, Pa.

DR. COLIN G. FINK has been appointed lecturer in electrochemistry and will have charge of that division of the department of chemical engineering of Columbia University, beginning on July 1. He will continue his services as secretary of the American Electrochemical Society, office facilities having been arranged at Columbia for this.

PROFESSOR MAYER, who has recently held the chair of physiology in the Strasbourg Faculty of Medicine, has been appointed successor to the late François Franck at the Collège de France.

DISCUSSION AND CORRESPONDENCE

THE ORIGIN OF SPECIES

THE recent address by Professor Bateson, at Toronto, has been variously interpreted. Among other things he is quoted as saying that "as to the origin of species we have no clear answer to give. Faith has given place to agnosticism . . . Although our faith in evolution remains unshaken, we have no acceptable account of the origin of species."

This statement must mean one of two things. It may be a large and generous gesture disclaiming for science any approach to omniscience, for the most that science can do is to record the "observed sequence of events." Or we may interpret it as a revelation of the speaker's ignorance of the researches of field investigators and of students of geographical distribution generally. It is evident that Bateson fails to distinguish between these and the taxonomists who, mostly in museums, have as he says "built up a vast edifice of knowledge

which they are willing to share with us and which we greatly need . . . The separation between the laboratory man and the systematists already imperils the work, I may say the sanity of either."

It is true that the accumulation of facts in regard to each one of hundreds of thousands of individual species shows endless variety in the details of modified divergence. It is therefore impossible to condense in a single phrase all that we know of its phases, unless with Darwin we use the term "Natural Selection" as the antithesis to supernatural creation and adjustment, thus including in one word not only the results of the Survival of the Fit, but also all other natural processes which may be coincident with it.

As a matter of fact, no phenomenon of nature is better understood than that of the origin of species, taking the word species in its original and natural definition as a definable form of animal or plant life as now existing on the globe. In the study of any one of these, we find the inherent factors of heredity and variation, the survival of individuals adapted to their environment, thereby perpetuating in a general way their particular traits. The groups thus formed lose their unity through "biological friction," "mating by propinquity," isolation, segregation or by whatever term we choose to indicate the effects of barriers. There is no better term than the one used by Moritz Wagner, *"räumliche Sonderung."* Thus taking the inherent life forces into consideration, adaptation is the result of sifting, species-moulding the result of bars to free movement within the species. Independent of the matter of adaptation, *sundering* separates groups with some differences in parentage and subjects them to new incidence of selection, so that in a longer or shorter time specific differences, usually non-adaptive, appear and become permanent. Whether the special variations are great or small in degree, mutations or fluctuations, is a secondary question, the latter most usually, but neither can become permanent except through *räumliche Sonderung.*

The origin of individual species of animal or plant runs closely parallel with that of individual words in a language. Each one of these springs from a "root"; through ancient documents (fossil records) the roots of words can be traced more perfectly than the roots of animal or plant species. Yet one may know the derivation of thousands of words while yet "expressing agnosticism" as to the origin of language.

The laws of distribution as to words or species alike may be summed up in simple propositions. Every word and every species is found in every part of the globe, unless (*a*) it has never found its way there, (*b*) it has failed to maintain itself, or (*c*) maintaining itself, it has been, through environment sifting or obstruction (selection or segregation), transformed into something tangibly different.

The Origin of Species for the most part is defined by proposition (*c*). The origin of any given species of the British fauna or flora, for example, can be traced from England to the Continent of Europe just as surely though not as accurately as a given word in the English language. The biological relations of words differ from those of animals or plants, but *räumliche Sonderung* produces corresponding results in both cases.

DAVID STARR JORDAN

THE KAIETEUR FALLS

TO THE EDITOR OF SCIENCE: I read with much interest in a recent issue of SCIENCE the account of the expedition of the New York Zoological Society to the Tropical Research Station at British Guiana. In this account was included a description of a visit to Kaieteur Falls, which were claimed to be the highest in the world. It seems a little unfortunate that the writer overlooked the fact that he has in his own country a magnificent waterfall which is several times as high as the one he described.

Quoting directly from the article, we find, "The Kaieteur Falls are the highest in the world, eight hundred and ten feet in all, about five times as high as Niagara." The statistics published by the Department of the Interior of the U. S. government give the height of the Yosemite Falls in the Yosemite Valley in California as more than twenty-five hundred feet in all, while the first sheer drop is fourteen hundred and thirty feet. I do not want to go on record as discouraging any one from visiting the Kaieteur Falls if the opportunity pre-