ticians, Camille Jordan, member of the Académie des Sciences, professor emeritus at the Collège de France and the Ecole Polytechnique. He will be particularly remembered for his "Traité des substitutions," which appeared in 1870 and is still to-day the great classic in the theory of finite groups for his "Traité d'Analyse" and especially for his editorship of the *Journal de Mathématiques* in which he followed Resal in 1884, guiding its destinies until this very last year. He had the intense satisfaction of seeing it recently saved from extinction, most probably owing to the strong support that it received from America.

PROFESSOR DR. THEODOR LIEBISCH, late professor of mineralogy at the University of Berlin, died at his home in Berlin on February 9, after a protracted and painful illness. A correspondent writes: "Liebisch was born on April 29, 1852 and from about 1890 to 1900 he was professor of mineralogy at the University of Göttingen. During this period there were many Americans studying for the doctor's degree with their major in chemistry. Most of these men took mineralogy under Professor Liebisch as one of their minors, and it is hardly too much to say that he was one of the most highly respected and best loved professors in the university. He perhaps did more in a personal nature for the American students in those days than did any other professor. All Americans respected and admired him for his deep learning, his ability as a teacher, his inspiration for research work and his extremely kind and ever-thoughtful nature. About the year 1900 he was called to the University of Berlin, and served there until about 1920, when he retired from active work. He was the author of many books, his most important being "Grundriss der Physikalischen Krystallographie."

A GEORGIA ACADEMY OF SCIENCE was organized on March 25 by a group of twenty-two scientific men, invited to the University of Georgia for that purpose. The delegates came from Emory University, the Georgia School of Technology, Mercer University, Oglethorpe University, the University of Georgia and the Georgia Experiment Station. Practically all phases of scientific endeavor were represented. Membership in the academy is to be a recognition of noteworthy service to science or to the scientific development of the state, and the number is limited to fifty. It is the aim of the academy to foster every means of encouraging scientific research, to develop the natural resources of the state, and to stimulate in the people a realization of the fact that their prosperity depends very greatly on the scientific training of a large number of Georgia men.

THE Sigma Xi research fellowships for the coming academic year will be awarded in May. Applications should be made to Professor Edward Ellery, Union College Schenectady, N. Y. The awards are made for work in sciences other than physics and chemistry and to men and women who have already taken their doctor's degree. Applications should be accompanied by reprints of published articles and by reference to two or more persons competent to speak about the ability of the candidate in his or her special line. The minimum award is sixteen hundred dollars.

DR. WILLIAM CROCKER, director of the Thompson Institute for Plant Research, addressed the Brooklyn Institute of Arts and Sciences on March 25 on "The present outlook for plant research in Europe."

DR. W. J. HUMPHREYS, of the U. S. Weather Bureau, recently lectured before the West Virginia University Scientific Society on "Fogs and clouds."

## UNIVERSITY AND EDUCATIONAL NOTES

IT is announced that the three million endowment fund for Wesleyan University has been oversubscribed by a hundred thousand dollars.

MR. HAMILTON B. TOMPKINS has bequeathed the residue of his estate to Hamilton College, his alma mater, with a stipulation that $100,000 be set aside for the increase and support of the college library, this fund to be known as the Hamilton B. Tompkins Library Endowment Fund. Five thousand dollars is left to Wells College.

DR. FRANK THILLY, professor of philosophy at Cornell University, and Professor Madison Bentley, professor of psychology in the University of Illinois, will lecture during the summer session of the University of California.

DR. WILLIAM A. R. TAYLOR, now instructor in botany in the University of Pennsylvania, has been promoted to an assistant professorship.

MR. ARTHUR LEE DIXON, M.A., F.R.S., fellow and tutor of Merton College, University of Oxford, has been appointed Waynflete professor of pure mathematics in succession to Professor E. B. Elliott, fellow of Magdalen, who has resigned.

MR. ARTHUR LAPWORTH, D.Sc. (London), F.R.S., at present professor of organic chemistry in the University of Manchester, has been appointed to the Sir Samuel Hall chair of chemistry and to the directorship of the chemical laboratories.

## DISCUSSION AND CORRESPONDENCE

### GENETICAL ANALYSIS AND THE THEORY OF NATURAL SELECTION

IN my Toronto address I lately referred to John Ray as the first who laid stress on the sterility of interspecific hybrids. I was then writing away from books and must apologise for this slip. The passage in the *Historia Plantarum* 1686, 1, pp. 40 and 42, that I had in mind is probably the first in which anything approaching a genetical definition of species is attempted. Ray there lays down the excellent principle that forms which, though differing from each other, can be bred from seed of the same plant, should be regarded as of the same species. Not till the Linnean period, more than half a century later, did the cognate question of the sterility or fertility of interspecific crosses assume prominence.

Professor Osborn has expressed great vexation at the tenor of my address. After considering his remarks, I do not know that I can add much to what I have said. The divergence between the conceptions to which genetical analysis introduces us and the doctrines of which Professor Osborn has been so long a distinguished champion is indeed wide.

Paleontological observations have served a useful purpose in delimiting the outline of evolution, but in discussing the physiological problem of interspecific relationship evidence of a more stringent character is now required; and a naturalist acquainted with genetical discoveries would be as reluctant to draw conclusions as to the specific relationship of a series of fossils as a chemist would be to pronounce on the nature of a series of unknown compounds from an inspection of them in a row of bottles. The central tenet of Darwinism that species are merely the culminations of varietal differences, such as we find contemporaneously occurring, is not easily reconcilable with the new knowledge. It was my purpose once more to direct the attention of naturalists, especially geneticists, to this deficiency in the evidence, by no means without hope that it may be supplied.

Professor Osborn, in extenuation, suggests that my tongue ran away with me and that I could not have meant what I said. That defense, however, is not available, for I had taken the precaution which I understand he learned from Huxley, and I had prepared a written text. This, in all important passages, I followed verbatim, and it appears without serious modification in SCIENCE for January 20. I may even plead guilty to having spoken and written to the same effect on many previous occasions, and Professor Osborn will find the theme developed in "Problems of Genetics" (New Haven, 1913, and in my presidential address to the British Association in Australia (1914).

W. BATESON

MARCH, 1922

### A SUGGESTION TO MR. BRYAN

I THINK most readers of SCIENCE must feel indebted to you as I do for reprinting W. J. Bryan's attack on Evolution. It may be true that only the psychologists will be able to find in it data of value to their science but to them the importance of this contribution of Mr. Bryan's must be large indeed. The rest of us welcome the diversion which it affords. A Don