

chair of chemistry at King's College, London, in succession to Professor A. W. Crossley. Last year Dr. Smiles was appointed professor of organic chemistry at Armstrong College, Newcastle, and since 1913 he has been senior honorary secretary to the Chemical Society.

DR. T. F. SIBLY, at present professor of geology at Armstrong College, Newcastle-upon-Tyne, has been appointed principal of the University College of Swansea.

## DISCUSSION AND CORRESPONDENCE

### MATHEMATICS AT THE UNIVERSITY OF STRASBOURG

TO THE EDITOR OF SCIENCE: I take pleasure in transmitting to you a note recently received from my friend and old schoolmate at the Ecole Normale Supérieure, Maurice Fréchet, concerning the opening under French auspices of the University of Strasbourg. From the extent of the mathematical curriculum thereto appended it is clear that the whole university will be on a very substantial basis.

Many readers of SCIENCE may recall that in 1914 just prior to the outbreak of the war Professor Fréchet was planning to come to America as lecturer at one of our large universities with a strong department of mathematics. Students who now wish to study with Fréchet that branch of mathematics in which he is eminent by researches internationally known will have to cross the Atlantic. I may add that Dr. Fréchet speaks English fluently and will doubtless make every endeavor to render profitable to any young American mathematician a sojourn at Strasbourg.

EDWIN BIDWELL WILSON

THE UNIVERSITY OF STRASBOURG

It will be perhaps of interest for readers of SCIENCE to hear that notwithstanding many difficulties, the University of Strasbourg was reopened informally last January. It is in course of reorganization and will be in full working order for the formal reopening which will take place next November, 1919.

As "the end of the University of Strasbourg" has been announced in some neutral papers, we

give below the full program of its mathematical department for the next academic year, such as it has been decided upon, in the original French, names being only given in full for men already in Strasbourg.

Lectures are, of course, delivered in French. The library has been considerably increased as far as concerns books written in English, as well as French books.

For further particulars, apply to Professor Fréchet, 2 Rue du Canal, Robertsan, Strasbourg.

MAURICE FRÉCHET

The courses in mathematics offered during 1919-20 are: (1) Preparatory and general mathematics, by Dr. Pérès and an instructor. (2) Differential and Integral Calculus (unassigned). (3) Theoretical and applied mechanics, by Professor Villat and Mr. Veronnet. (4) Astronomy by Professor Escalgon and Danjon. (5) Higher Analysis (spaces of  $\infty$  dimensions, approximative functions, functional calculus), by Professor Fréchet. (6) Differential geometry (2d semester), by Dr. Pérès. (7) Theory of functions (integral functions, elliptic functions with applications), by Professor Villat and ——— (2d semester). Furthermore as preparation for the Agrégation a series of courses (Math. spéciales, Math. élémentaires, Calcul diff. et int., mécanique rationnelle) are given. Dr. Pérès, director of the mathematical laboratory, and an assistant will offer work in that line, and Professor Fréchet will conduct a colloquium to encourage original research.

### PROFESSOR PAWLOW

TO THE EDITOR OF SCIENCE: Knowing the keen interest of all American men of science and particularly physiologists in news from Professor Pawlow, I hasten to send herewith a paragraph from a letter recently received from a well-known physiologist in the south of Russia. For obvious reasons the place and name had at this time best not be made public.

In August of 1919 Professor J. P. Pawlow was still alive in Petrograd. He begged his friends [in Kieff] to send him some provisions, as he was starving. At the end of his letter he writes: "Instead

of science I am busy peeling potatoes." I know nothing about him at present (January 17, 1920), as the north has been severed from the south by the Bolshevik invasion.

Ever since the false announcement of Professor Pawlow's death a few years ago all his friends have been anxiously awaiting word from him. The above is indeed pitiable but at least indicates that he was living seven months ago.

FRANCIS G. BENEDICT

ANOPHELES QUADRIMACULATUS AND  
ANOPHELES PUNCTIPENNIS IN  
SALT WATER

WHILE it is well known that *Anopheles ludlowi* and *Anopheles chaudoyei* may pass their larval stages in brackish water, the report<sup>1</sup> of Smith (1904) regarding the occurrence of *Anopheles quadrimaculatus* in brackish water has been either ignored or discredited. *Anopheles crucians* has been found in salt water at times.

It seems desirable to record certain cases of the distribution of larvæ of malarial mosquitoes in brackish water which have come to my observation. Although not numerous these cases indicate that the American species of Anophelines may occur in brackish water rather frequently.

During the summer of 1918, while in charge of a malarial mosquito survey of the zone around Camp Abraham Eustis, Lee Hall, Va., the writer secured several imagoes of *Anopheles quadrimaculatus* and *Anopheles punctipennis* from larvæ taken in brackish water. Later, (1919) a single imago of *A. quadrimaculatus* developed from a collection taken in a brackish pond near Hampton, Va.

On August 21, 1918, in company with Mr. T. B. Hayne, a sanitary inspector in the U. S. P. H. S., the writer was surveying the draws leading off one of the tributaries to Skiff's Creek, near Camp Eustis, when a large draw was encountered on which great mats of algæ (*Spirogyra* and *Edogonium*) were floating. Such algal mats ordinarily

<sup>1</sup>Smith, J. B., 1904, Report of the N. J. Ag. Exp. Sta. upon the mosquitoes occurring within the state, their habits, life history, etc.

afford protection to mosquito larvæ and it was therefore not surprising that we secured two pupæ and several larvæ of the second and third moults of *Anopheles*. Since the water was slightly brackish, the expectation was that the imagoes would be those of *Anopheles crucians*. During the night, however, two females of the species *A. quadrimaculatus* emerged. On the next day a second trip was made to the same draw and temperature and specific gravity readings were taken, a number of larvæ of all ages being secured. The temperature of the water supporting the algal mats was 27° C. and the specific gravity was 1.0048. From the second collection three females of the species *A. quadrimaculatus* emerged and with them two females of the species *A. punctipennis*.

The source of the brackish water was from tidal flow and the tributary from which the draw led, had a temperature of 25° C. and a specific gravity of 1.0058. The seepage was not great. In this case there is no question that the eggs of *Anopheles* furnished larvæ which were able to resist a quite considerable salinity. Except for the presence of salts, the environment was one ordinarily exceedingly likely to furnish malarial mosquitoes.

During the summer of 1919, while the writer was making a survey of territory in the vicinity of Newport News, Va., much of which had been under the control of our sanitary engineers, a collection was made from a pond between Hampton and Newport News, which had been recently cut off by a dike from the tidal water of a large creek. The specific gravity of the pond water was 1.005 while that of the tidal creek was 1.015. One imago of *Anopheles quadrimaculatus* developed from this collection.

It is quite evident from the cases here recorded that future control work in connection with Anopheline mosquitoes must include rather careful study of the slightly saline waters. In all probability the adult females of *Anopheles* select their breeding places with more reference to favorable temperature, light and vegetation than with reference to the chemical conditions. Field