

the department's point of view and the student has received as a free allowance, sufficient chemicals for his needs, providing he is the average student and exercises moderate care. The possibility of theft is withdrawn absolutely, as the kit belongs to the student, to do with as he wishes, and no student will or can steal his own things. The prices on his list are selected from the most recent catalogue of the largest apparatus house in his vicinity, so he has no temptation to take things home because he saves by so doing. In fact in many cases an apparatus house will sell him things somewhat cheaper. Theoretically the student can if he wishes get all his kit elsewhere, and this is encouraged, as it will save the department the trouble of furnishing it, but the student would much rather take the department kit which is all ready made up and easy to procure, and is just exactly what he needs in his course.

This system takes out of the hands of the teaching staff all cares in regard to apparatus and chemicals, as this side of the work is handled by a trained body of men and women who soon learn to do the bottling of chemicals and the assembling of the same into kits, with the greatest speed and accuracy. In rush times, student help makes possible the doing of a great deal of work in a short time and is a benefit to both the department and the student.

The Freas System is just as helpful and as easily installed in a high school as in a technical school, college or university laboratory.

Of course each student must have the average size bench, viz., about 8,000 cubic inches, in order to hold this kit. Many laboratories give the student more space than this, but if one takes the measurement of a student bench in high schools and colleges all over this country, the figure 8,000 cubic inches is about the average. Unfortunately in a few good institutions circumstances over which the departmental authorities had no control, forced a reduction of students' bench space. More students were crowded into the laboratories than the benches were able to accommodate, and it seemed at that time wise to begin to reduce the size of the student

bench. In one case this went on until a student finally had but one drawer of about 400 cubic inches. In such a space only the most meager equipment can be placed, and the student of course suffers through lack of apparatus and an enforced walking to the storeroom and back for every little thing he may need. The pendulum has started to swing back, and I have no doubt that before long this department will restore the normal 8,000 cubic inches.

Some may say that the cost of installing this system is prohibitive. This is not so, as can be shown by actual figures in institutions using it. Others may wish to know where this scheme has been tried out for a sufficient length of time as to insure it being out of the experimental stage. The department of chemistry of Columbia University in New York City has been using this system for the past eight years with an ever-increasing satisfaction to all concerned, in all divisions of the department.

There is no question but that the Freas System is the cheapest, everything considered, most efficient, and up-to-date method of handling students' supplies yet devised. If a chemical department wishes quality of work above everything else, then this system will be an enormous aid to both student and instructor; but if quantity is the object to be obtained, then it does not matter so much, as quality of work is probably given but little thought. If a department must handle large numbers of students and wishes quality of work as well, then there is no question but that the quicker the authorities investigate the Freas System the better. No unprejudiced man can see this system in operation without feeling that he will not be satisfied till it is as speedily as possible installed in his own department.

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HERBERT SPENCER WOODS

HERBERT SPENCER WOODS, assistant professor
in the department of physiology, pharmacol-

ogy and biochemistry, died on January 4, 1920, in Dallas, Texas, following an operation.

Professor Woods was born and raised a Missourian and descended from Virginia and Kentucky stock.

He received the A.B. and A.M. degrees from the University of Missouri. While pursuing work for the Master's degree he came under the influence of the late Waldemar Koch with whom he conducted fundamental research on the distribution of the lecithins.

Later work and study were had at the Universities of Illinois, Wisconsin, and California and at the Ohio Agricultural Experiment Station. His earliest teaching experiences were enjoyed at the Universities of Illinois and Wisconsin and later on in a high school of California.

Professor Woods's first teaching in Texas was at the Texas Christian University, at Fort Worth, and a little later at the Grubbs Vocational College, an institution connected with the Agricultural and Mechanical College of Texas.

Those who gained an intimate acquaintance with Professor Woods found him to be a man possessed of extraordinary ability. His habits were simple and abstemious, his temperament sensitive and impetuous, very often not sanguine and serene enough for steady happiness.

As a man of science he was essentially clean, candid and a devout lover and seeker of the truth.

When he died he was thirty-six years of age, a period in life when most begin to live in enjoyment of the progression of science. He was a fellow of the American Association for the Advancement of Science.

LEWIS WILLIAM FETZER

SCIENTIFIC EVENTS

THE LISTER MEMORIAL INSTITUTE IN EDINBURGH

As has been noted in *SCIENCE*, the project originated before the war, for the establishment in Edinburgh of a permanent memorial to the late Lord Lister, has been revived. The *British Medical Journal* states that the University

of Edinburgh, the Royal College of Physicians and the Royal College of Surgeons of Edinburgh have come to the conclusion that the most suitable form for such a memorial will be an institute in which the scientific investigation of disease in any of its forms can be undertaken, and in which the principal sciences concerned can be adequately taught. It was in Edinburgh that Lister elaborated and consolidated his system, and it is appropriate that the scientific spirit which animated him and the methods of research he developed should be commemorated and continued in that city. Lister's work in the wards of the Royal Infirmary would have been fruitless—could not indeed have been carried out—had he not first tested his theories in the laboratory. It was in and through research that his system of treatment came to fruition. Research was the keynote of his work, and it is to research and the teaching of the results of research that the proposed memorial is to be dedicated. The need for such a centralized teaching and research institute in Edinburgh, it is said, is pressing. At the present time the burden of such work is borne by the university department of pathology and the laboratory of the Royal College of Physicians. Of these, the former, built and equipped thirty-five years ago, is now inadequate, and the resources of the latter, particularly as regards the accommodation of the workers, are entirely insufficient, even for present needs. There is as yet no permanent memorial to Lister in Edinburgh, and it is felt that the rapid development of pathology, of bacteriology, of clinical pathology, of pathological chemistry, and of other cognate branches of knowledge has widened the field to such an extent as to render it necessary that the building erected to his memory shall be modern in design and equipment, and sufficiently large to house all the departments enumerated. The proposed new institute will be managed by a board on which the university and the two Royal Colleges will be represented.

A committee has been formed to make an appeal for £250,000 to pay for the site, to erect