

the general field of experimental biology and medicine. Abstracts of the papers presented will appear in the *Proceedings* of the parent society.

THE graduate women in the science departments at Cornell University have recently organized a sorority under the name of Sigma Delta Epsilon. The membership is primarily limited to women engaged actively in research work; honorary membership has been extended to several women who have gained recognition in the scientific world. The society will have a house at which the members may live while at Cornell. The organization at present consists of twenty-five active members and eight honorary members. The officers are: Adele Lewis Grant, *president*; Katherine Van Winkle, *vice-president*; Josephine Overton Souders, *secretary*; Hazel Elizabeth Branch, *treasurer*.

UNIVERSITY AND EDUCATIONAL NEWS

ABOUT \$400,000 of the \$500,000 appropriated for building purposes at the University of Iowa by the last general assembly is to be expended for the erection of the first units of a new chemistry building. When completed the building will cost \$1,000,000.

DR. C. L. METCALF, for the past seven years professor of entomology in the Ohio State University, has resigned to accept the position of professor of entomology and head of the department of entomology in the university of Illinois.

HERSCHEL C. SMITH, formerly deputy state highway engineer of Oklahoma, has been appointed assistant professor of highway engineering and highway transport at the University of Michigan, from which institution he graduated in 1913.

DR. ALFRED H. W. POVAH, assistant professor of forest botany and pathology in the New York State College of Forestry since 1918, has resigned to accept the position of associate professor of plant pathology and associate pathologist in the Alabama Polytechnic Institute.

CLEVELAND P. HICKMAN, M.A. (Michigan), has been appointed instructor in zoology in West Virginia University.

DR. JOHN HOWLAND, professor of pediatrics at the Johns Hopkins Medical School and pediatrician-in-chief of the Johns Hopkins Hospital, has declined the offer of the Medical School of Harvard University to become professor of children's diseases at that institution. He will remain at Johns Hopkins.

DISCUSSION AND CORRESPONDENCE

A LIVING GALVANOMETER

THAT differences in electrical potential are produced by protoplasmic activity is a well-known fact. This is especially true of muscular activity. The existence of electrical currents in tissues was proved by Schweiger in 1824 and by Nobili, who discovered the galvanometer. The string galvanometer was first used to detect these currents, although it was reasonably believed that such currents were present before the galvanometer was discovered. Such evidence was correctly given in a more rudimentary way by Galvani and Volta. With the introduction of the various kinds of galvanometers these electrical currents were easily demonstrated. At the present the various modifications of Einthoven's galvanometer are used in detecting electrical currents produced by the activity of various muscles and especially the heart and in obtaining electrocardiograms. In fact it is a very accurate method of obtaining a clinical picture of the condition of the heart in man.

The discussion and demonstration of the production of electrical currents by living organisms and especially man, never fail to fascinate students, however teachers have found themselves handicapped by the lack of a suitable galvanometer. In laboratory experiments of this kind, such as Galvani's experiment and the rheoscopic frog experiment an outside stimulus is necessary to demonstrate this. In the experiment where the sciatic nerve of a muscle nerve preparation is laid across the beating heart, the results are very