

SCIENCE

VOL. 83

FRIDAY, FEBRUARY 14, 1936

No. 2146

<i>Graduate Study and Research:</i> PROFESSOR LUTHER P. EISENHART	147
<i>How to View the Science Museum:</i> DR. F. B. JEWETT	150
<i>Obituary:</i>	
<i>Leopoldo A. Faustino:</i> PROFESSOR WARREN D. SMITH. <i>Recent Deaths</i>	152
<i>Scientific Events:</i>	
<i>The Philadelphia College of Pharmacy; The Retirement of Professor Herbert E. Gregory; Award of the Chandler Medal to Professor Giauque; Grants of the Geological Society of America; The New York Museum of Science and Industry</i>	153
<i>Scientific Notes and News</i>	156
<i>Discussion:</i>	
<i>Computing Progress in Chemistry:</i> EDWARD THOMAS. <i>Polygonboden on Mt. Desert Island:</i> ROBERT L. NICHOLS and FRANCES NICHOLS. <i>"Petrified Walnuts" vs. Concretions:</i> DUNCAN MCCONNELL. <i>Fluctuations in Numbers of Varying Hares:</i> D. A. MACLULICH. <i>Milk as a Source of Vitamin C:</i> DR. C. H. WHITNAH and DR. W. H. RIDDELL	159
<i>Reports:</i>	
<i>University of Michigan Geological Expeditions to Mexico:</i> PROFESSOR LEWIS B. KELLUM	163

Special Articles:
The Biologic Effects of Pineal Extract (Hanson):
 DR. LEONARD G. ROWNTREE and OTHERS. *Artificial*
Control of Nucellar Embryony in Citrus: DR.
 HAMILTON P. TRAUB. *The Ergot Alkaloids. The*
Ultra-Violet Absorption Spectra of Lysergic Acid
and Related Substances: DR. WALTER A. JACOBS,
 LYMAN C. CRAIG and ALEXANDRE ROTHEN 164

Scientific Apparatus and Laboratory Methods:
A New Apparatus for the Daylight Projection of
Microscopic and Lantern Slides: PROFESSOR HOVEY
 JORDAN. *Forceps Designed for Skin Suturing:*
 DR. G. LOMBARD KELLY. *A Note on Level Control*
in Funnels: DR. WILLIAM R. THOMPSON 167

Science News 6

SCIENCE: A Weekly Journal devoted to the Advancement of Science, edited by J. McKEEN CATTELL and published every Friday by

THE SCIENCE PRESS

New York City: Grand Central Terminal
Lancaster, Pa. Garrison, N. Y.
Annual Subscription, \$6.00 Single Copies, 15 Cts.

SCIENCE is the official organ of the American Association for the Advancement of Science. Information regarding membership in the Association may be secured from the office of the permanent secretary, in the Smithsonian Institution Building, Washington, D. C.

GRADUATE STUDY AND RESEARCH¹

By Professor LUTHER P. EISENHART

PRINCETON UNIVERSITY

In order to understand the present status of graduate study and research in this country it is advisable to review the development during the years. Although in some of our institutions there were graduate study and research before 1870, in the main our students went abroad for this purpose previous to that time. The organization of the Johns Hopkins University is generally regarded as marking the beginning of a new epoch in higher education in America. The conception on which it was founded was that there should be provided in Baltimore a place where young scholars attracted from various parts of the country might carry on advanced studies, particularly with reference to the development of scholarship and research. At the beginning the group was small and the professors were chosen solely with reference to the part they might play in this plan. There was no provision for

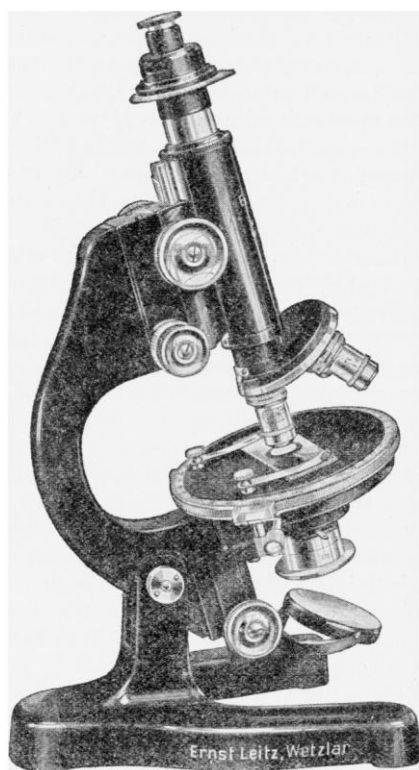
¹ Founder's Day Address at Lehigh University, October 2, 1935.

advanced degrees. The subsequent institution of degrees has had fundamental bearing on the whole question under discussion.

Under the impulse to graduate study and research given by the Johns Hopkins University other institutions of the country began to make provision for them. In the main, these institutions had been concerned with collegiate education, and graduate schools as they developed became part of the same structure, like an upper story. In the past fifty years we have seen many such structures developed. Some institutions have distinguished between those who are teaching in the graduate school and those associated with the undergraduate school, but in many cases the same faculty members take part in the instruction of both groups of students. An advantage of the latter plan is that a larger group is concerned with advanced work, with the result that many of the younger members of the faculty are thus able to have their part in

Leitz

CHEMICAL MICROSCOPE



Chemical Microscopy requires an instrument of greatest versatility. The Leitz Chemical Microscope was designed so that through simple adaptation of accessories it can be used for practically every method of investigation such as :

1. Transmitted light, polarized or non-polarized.
2. Darkfield and Ultropak illumination.
3. Reflected light, polarized or non-polarized.
4. Observations at high temperatures.

This microscope of greatest flexibility and highest precision is offered at a moderate price. Write for Bulletin No. 8-O.

E. LEITZ, INC., Dept. O.
60 East Tenth Street, N. Y. C.

BRANCHES:—Washington, D. C., Chicago, Ill., San Francisco, Calif., Los Angeles, Calif.