

SCIENCE

VOL. 80

FRIDAY, NOVEMBER 23, 1934

No. 2082

<i>Chemistry in the Service of Science:</i> DR. A. T. LINCOLN	463
<i>Obituary:</i> <i>Gilman A. Drew:</i> PROFESSOR FRANK R. LILLIE. <i>Recent Deaths</i>	470
<i>Scientific Events:</i> <i>The Waite Agricultural Research Institute; Elm Disease in Great Britain; Research in Engineering at Harvard University; Center for Polar Research at Cambridge, England; The Mangarevan Expedition of the Bernice P. Bishop Museum; The International Physiological Congress Fund Fellowships</i>	471
<i>Scientific Notes and News</i>	474
<i>Discussion:</i> <i>Museum Conditions in the United States:</i> EDWARD J. FOYLES. <i>Blood Pressure of Typhoid Carriers:</i> DR. F. C. FORSBECK. <i>The Spectrum of Deuterium?:</i> PROFESSOR FERNANDO SANFORD. <i>Berl on Natural Oil:</i> DR. JOHN MUIRHEAD MACFARLANE	476
<i>Societies and Meetings:</i> <i>The Second All-Soviet Mathematical Congress:</i> PROFESSOR S. LEFSCHETZ. <i>The Fifth Congress of the International Federation of Surveyors:</i> PROFESSOR EARL CHURCH	479
<i>Scientific Apparatus and Laboratory Methods:</i> <i>Butyl Alcohol and Cytological Technique:</i> PROFESSOR CONWAY ZIRKLE. <i>A Micropipette Adapter:</i> PROFESSOR J. A. REYNIERS	481
<i>Special Articles:</i> <i>The Energy Requirement of an Acromegalic Giant:</i> DR. ALLAN WINTER ROWE. <i>The Determination of CO₂ in the Atmosphere of a Closed System:</i> CRANDALL Z. ROSECRANS. <i>The Axis of the Human Foot:</i> PROFESSOR HERBERT ELFTMAN and JOHN T. MANTER	482
<i>Science News</i>	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.

CHEMISTRY IN THE SERVICE OF SCIENCE¹

By DR. A. T. LINCOLN

CARLETON COLLEGE

THE approach to the Hall of Science at the Century of Progress is so arranged as to present to the visitor some of the concepts of the phenomenal development of chemistry as a symbol of the contribution of science to the human race. By means of the strikingly beautiful murals there is depicted the growth and development of chemistry and its applications to industry, commerce and medicine. It is the natural tendency for the individual scientist to believe that the particular branch of science in which his interest lies is of basic importance in its contribution to human knowledge and thereby to human progress. The chemist, however, can claim with some justice that in his field—chemistry—all the sciences find their common meeting ground. The chemist has to perfect himself more and more in mathematics as one of his most valuable tools. An eminent mathematician has said, "The striking progress in modern physics and

physical chemistry has arisen from inquiries as to the data which specific mathematical tools could be made to yield when applied to physics and chemistry." He applies to his chemical problems the principles described by physics; he isolates, purifies and makes available for use the minerals and ores located by the geologist; he is now interpreting biological phenomena in terms of chemical changes and he is helping to pave the way for a clearer understanding and thereby a more accurate control over the physiological processes occurring in our own bodies. The automotive industry is really a chemical industry because everything used in it is chemical. This may be said of practically all the fundamental basic industries, a fact which further emphasizes the importance of chemistry as the handmaid of all the sciences.

SERVICE TO ASTRONOMY

To the man in the street little connection is apparent between shaking the test-tube and star-gazing,

¹ Presented at the second annual meeting of The Minnesota Academy of Science, Rochester, Minn., April 21, 1934.

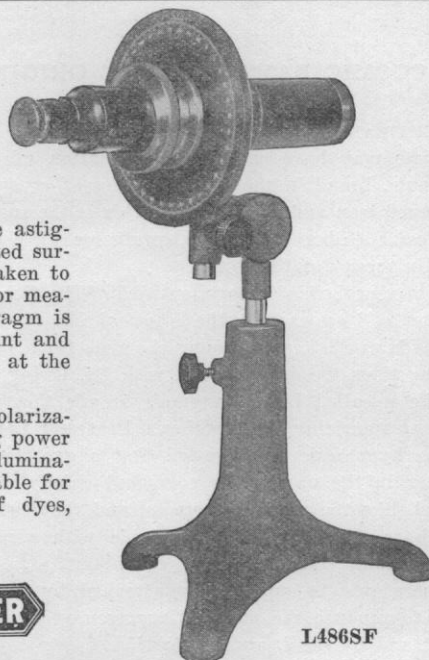
MARTENS PHOTOMETER

The recently modified form of this Photometer gives an instrument exceptionally compact and convenient in use by itself or in conjunction with accessories as a Spectrophotometer.

The advantage of the original optical system is retained by cementing the Wollaston cube, biprism and lenses together. The Glan-Thompson analyzing nicol is compensated to eliminate astigmatism. The 4" circle is divided in white lines on a black oxidized surface and graduated from 0 to 360°. Vernier readings can be taken to 1°. The circle is rotated by means of a large knurled head. For measurements of percentage of partial polarization, an extra diaphragm is supplied. The entire instrument can also be rotated in its mount and the azimuth of the plane of polarization read on another circle at the back of the instrument.

As furnished, this instrument can be used for the study of polarization of light sources, comparison of white light sources, reflecting power of white materials or of colored materials under monochromatic illumination, and absorption of filters. Accessory equipment is also available for colorimetry, turbidity and nephelometry; Spectrophotometry of dyes, papers, fabrics, paints and pigments, and opacity.

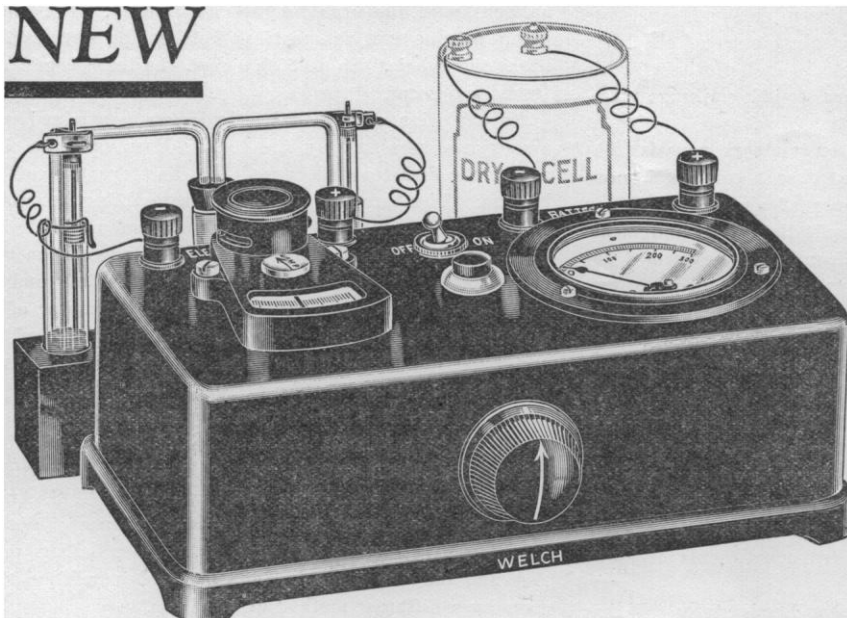
Write for our descriptive material of this and the other instruments of our photometric line.



L486SF

THE GAERTNER SCIENTIFIC CORP.
1204 Wrightwood Avenue Chicago, U. S. A.

NEW



NEW YODEN QUINHYDRONE pH APPARATUS

Here's welcome news for the smaller laboratory. This new low priced apparatus opens up a fruitful field of research not hitherto available except to those who could invest several hundred dollars. This compact instrument has all the features of convenience and reliability of the larger units.

Box 22 × 12 × 7.5 cm.

Accuracy 0.1 pH

Write for full information
on this and other
pH apparatus

Our large new catalog should be in every laboratory.

Everything in apparatus for the modern laboratory.

W. M. WELCH SCIENTIFIC COMPANY
1517 Sedgwick St. Established 1880 CHICAGO, ILL., U. S. A.