

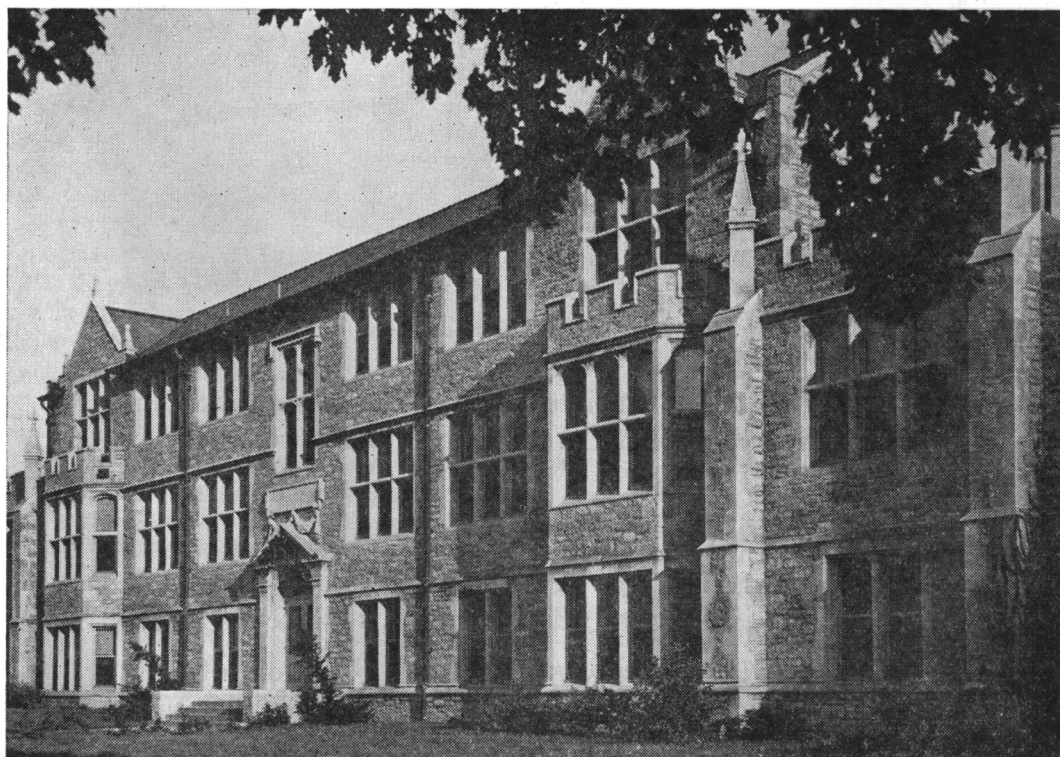
Vol. 105
No. 2734

Pages 533-558

May 23, 1947

Science

THE SCIENTISTS NEWSWEEKLY



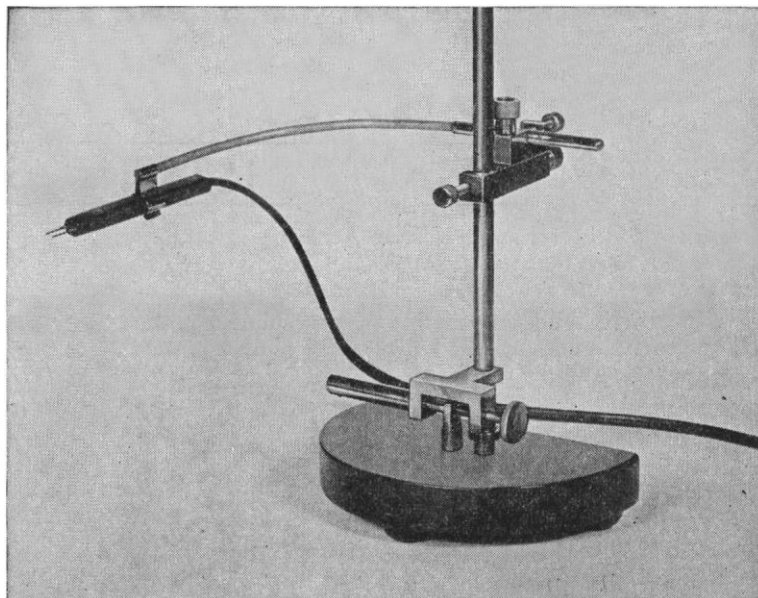
The genetics building at the University of Missouri, named Curtis Hall in honor of Dr. Winterton C. Curtis, professor emeritus of zoology and dean emeritus of the faculty of Arts and Science at the University. Dr. Curtis was instrumental in securing from the Rockefeller Foundation an \$80,000 grant which, together with a similar sum provided by the University; made construction of the building possible.

Published by the
AMERICAN
ASSOCIATION
FOR THE
ADVANCEMENT
OF SCIENCE

World Soil and Fertilizer Resources

Robert M. Salter

For the Physiological Laboratory
ELECTRODES WITH UNIVERSAL FLEXING ARM



Electrodes with Flexible Holder and adjustments—one-fourth the actual size.

Electrodes. With silver or platinum tips, quickly interchangeable. Handle and cord durably coupled.

Electrode Holder. A *lead flexing arm* supports the electrodes in any desired position.

Adjusting Clamp. Slow motion governed by a knurled head and swivel action by a set-screw.

Stand with Adjusting Screw. Rotation of post through 45° by an adjusting head on the semicircular base.

Each of these devices may be obtained separately. Write for our Catalog and Price-list.

The HARVARD APPARATUS COMPANY, Incorporated
Dover, Massachusetts

[A Massachusetts non-profit corporation, organized for the advancement of teaching and research in physiology and allied sciences.]

What Educators Are Saying About These Bacteriology Books

All the comments quoted below were received from Bacteriology teachers at the universities and colleges mentioned.

GREAVES' BACTERIOLOGY

Fifth Edition

Teachers and students enthusiastically praise Greaves' Elementary Bacteriology. Scores of universities and colleges are now using it. Here are some of the opinions that have come in from educators all over the United States:

- *Duke University*—"The revision has enhanced the usefulness of an already excellent treatise . . . It is sound, well balanced, and up-to-date."
- *Oberlin College*—" . . . the questions at the end of each chapter are good and can be used to require the student to stop and organize in his mind the material he has just covered."
- *Bradley Polytechnic Institute*—" . . . well organized, with a critical selection of topics, which are treated adequately and yet not in endless detail."
- *University of Pennsylvania*—"I think it is a well-written book in which the material is presented in logical sequence and in a very interesting fashion."
- *University of Wisconsin*—"I believe it to be a very fine textbook for a general class in bacteriology."

By JOSEPH E. GREAVES, M.S., Ph.D., Professor of Bacteriology, and ETHELYN O. GREAVES, M.S., Ph.D., Professor of Nutrition and Dean of Home Economics, Utah Agricultural College. 613 pages, 6½" x 7¾", with 169 illustrations. \$4.00

LABORATORY MANUAL for GENERAL BACTERIOLOGY

This manual is well suited for use with the Greaves' Textbook and other standard bacteriology texts. Its value as a teaching instrument in one-quarter and one-semester courses has been quickly recognized:

- *Baylor University*—" . . . clear and simple enough for a beginner student to understand and follow."
- *Massachusetts Institute of Technology*—" . . . I consider it to be exceedingly worthwhile."

By the DEPARTMENT OF BACTERIOLOGY and IMMUNOLOGY, University of Minnesota. 54 pages of experiments, 8" x 11", with 54 blank pages for recording results. Illustrated. Wire-0 Binding, \$1.00

W. B. Saunders COMPANY

West Washington Square

Philadelphia 5

Editor: Willard L. Valentine (*deceased*)

Assistant Editor

Mildred Atwood

Business Manager

Theo. J. Christensen

Publications Committee

Roger Adams, John E. Flynn, Kirtley F. Mather,
Walter R. Miles, W. J. Robbins, Malcolm H. Soule

Vol. 105

No. 2734

Friday, May 23, 1947

Science

CONTENTS

World Soil and Fertilizer Resources in Relation to Food Needs:

Robert M. Salter 533

Modern Concepts of Inflammation:

Valy Menkin 538

Obituary

John Lewis Sheldon: *Earl L. Core* 541

Philip W. Schutz: *Kenneth S. Pitzer* 541

News and Notes 542

Comments by Readers 546

Technical Papers

Inability of Thymine to Substitute for Folic Acid in
the Rat: *H. G. Petering and R. A. Delor* 547

Experimental Diabetes and Diet:
B. A. Houssay and C. Martínez 548

Mechanism of the Antibiotic Action of Certain Qui-
nones: *Otto Hoffman-Ostenhof* 549

Virus Hemagglutination:

Max Bovarnick and Patrick M. de Burgh 550

Reconsideration of the Photosynthetic Mechanism in

Chlorella: *Jack Myers and Marian L. Cramer* 552

In the Laboratory

Methods for Increasing the Value of Hydra as Material in Teaching and Research:

Harold W. Chalkley and Helen D. Park 553

Electron Micrographs of X-Ray-treated *Escherichia coli*

Cells: *A. Eisenstark and G. L. Clark* 553

A Mirror Device for Studying Lower Surfaces of Small Objects Using a Dissecting Microscope:

Richard S. Cowan 555

Saturation Concentrations of Triethylene Glycol Vapor at Various Relative Humidities and Temperatures:

Henry Wise and Theodore T. Puck 556

Book Reviews

The operculate land mollusks of the family Annulariidae of the Island of Hispanola and the Bahaman Archi- pelago: Paul Bartsch.

Reviewed by *H. Burrington Baker* 557

Performance records of individual trees and clones of Cinchona in Guatemala: John R. Shuman.

Reviewed by *H. Arthur Meyer* 557

Scientific Book Register 558

Science a weekly journal, is published each Friday by the American Association for the Advancement of Science at Mt. Royal & Guilford Avenues, Baltimore 2, Maryland. Founded in 1880, it has been since 1900 the official publication of the AAAS. Editorial, Advertising, and Circulation Offices, 1515 Massachusetts Avenue, N.W., Washington 5, D. C. Telephone, EXecutive 6060 or 6061. Cable address SCIMAG, Washington, D. C.

Articles offered for publication should be sent to the Editor, 1515 Massachusetts Avenue, N.W., Washington 5, D. C.

Membership correspondence for the AAAS should be sent to the Administrative Secretary, 1515 Massachusetts Avenue, N.W., Washington 5, D. C.

Change of address. Four weeks notice required for change of address. When ordering a change, please furnish an address stencil label from a recent issue. Address changes can be made only if the old as well as the new address is supplied.

Annual subscription, \$7.50; single copies, \$.25; foreign postage (outside the Pan-American Union), \$1.00 extra, Canadian postage, \$.50 extra. Remittances and orders for subscriptions and for single copies, notices of changes of address, and claims for missing numbers should be sent to the Circulation Department.

Entered as second-class matter January 17, 1947, at the postoffice at Baltimore, Maryland, under the act of March 3, 1879.