

SCIENCE

VOL. LVIII

OCTOBER 19, 1923

No. 1503

SCIENCE AND SOCIETY

CONTENTS

<i>Science and Society</i> : DR. R. A. MILLIKAN.....	293
<i>The Building of the National Academy of Sciences</i> : DR. GANO DUNN.....	298
<i>Charles Newton Little</i> : PROFESSOR D. N. LEHMER.....	299
<i>Scientific Events</i> :	
<i>The International Health Board of the Rockefeller Foundation; The Explosion at the Bureau of Standards; The Aldrich Collection of Diptera; Harvard College Observatory; Celebration in Honor of Professor E. H. S. Bailey</i>	300
<i>Scientific Notes and News</i>	302
<i>University and Educational Notes</i>	304
<i>Discussion and Correspondence</i> :	
<i>The Significance of the "Folk Ray"</i> : PROFESSOR R. E. TORREY. <i>Femoral Deformation</i> : G. E. RHOADES. <i>A Case of Supersensitiveness to the Poisonous Action of the Castor Bean</i> : DR. WILLIAM J. ROBBINS.....	304
<i>Quotations</i> :	
<i>Industry and Chemical Research</i>	306
<i>Scientific Books</i> :	
<i>Lönnis's Text-book of Agricultural Bacteriology</i> : DR. A. GRANT LOCHHEAD.....	306
<i>Special Articles</i> :	
<i>A Remarkable Development of the Sporophyte in Anthoceros</i> : DR. DOUGLAS HOUGHTON CAMPBELL. <i>The Effect of the Removal of the Micronucleus</i> : DR. C. V. TAYLOR.....	307
<i>The American Chemical Society</i> :	
<i>The Division of Physical and Inorganic Chemistry</i> : PROFESSOR GRAHAM EDGAR.....	309
<i>Science News</i>	x

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

THE SCIENCE PRESS

Lancaster, Pa.

Garrison, N. Y.

New York City: Grand Central Terminal.

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.

Entered as second-class matter July 18, 1923, at the Post Office at Lancaster, Pa., under the Act of March 3, 1879.

I PROPOSE to-day to compare very briefly the problems of the college graduate of my own time thirty-two years ago and those of the present, and then to point out what seems to me to be the most vital elements which must enter into the solution of the problems which to-day's graduating class will be called upon to face.

I have a very vivid picture of one of America's most constructive statesmen, Senator John Sherman, addressing my own class upon its graduation, and wishing with all his soul that he might be in our shoes.

My generation, said he (and his constructive work covered the fifty years from 1845 to 1895), has had for its great task the preservation of the Union, the assuring to posterity of one unified representative government extending over the whole vast area embraced within the limits of our states and territories, the problem—new in the world's history—of creating the conditions which make it possible to try out democracy on a huge scale. That problem we have solved at an awful expense of money and of human lives. The war for the preservation of the Union is passed, and the process of recovery and reconstruction has been in the main completed. Your problem, young graduates, is to show how well, during the next half-century, you can make that kind of government work in a country three thousand miles one way by two thousand the other.

The half-century since 1891 is now two thirds past, and, if it were fair to shut our eyes to the rest of the world and to take the present situation in the United States as an index of how well we have carried out that task, my generation in America might perhaps look back with a certain complacency upon what it has done so far. Certainly, gauged by the standard of the material prosperity of the average citizen alone, I suppose that it will be generally agreed that in this June, 1923, the United States finds itself better off than any country has ever been at any time in the world's history—considerably better off than it itself was in 1891. Wages have more than doubled since that year, and costs have not yet doubled. The condition of the man at the bottom, whether you consider that man to be the unskilled laborer or the young Ph.D. seeking a job, is better now than it was then, and it is probably immensely better than it has ever been in any preceding period of the world's history. In 1896, after a four-year college course, three years

¹ An address delivered at the Commencement of Stanford University, June 18, 1923.

Cornell University Medical College

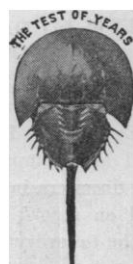
First Avenue and Twenty-eighth St.
NEW YORK CITY



The first year of the course is
also offered at Ithaca, N. Y.,
subsequent years at New York
City only.

For information address
THE SECRETARY

Marine Biological Laboratory Woods Hole, Mass. Biological Material



1. ZOOLOGY. Preserved material of all types of animals for class work and for the museum.
2. EMBRYOLOGY. Stages of some invertebrates, fishes (including Acanthias, Amia and Lepidosteus), Amphibia, and some mammals.
3. BOTANY. Preserved material of Algae, Fungi, Liverworts, Mosses, Ferns and Seed Plants.
4. MICROSCOPE SLIDES in Bacteriology, Botany and Zoology.
5. LIFE HISTORIES, Germination Studies, and Natural History Groups.

Catalogues furnished on application to

GEORGE M. GRAY, Curator
WOODS HOLE MASSACHUSETTS

THE MICROSCOPE

By SIMON H. GAGE of Cornell University
13th Edition, Published December, 1920

In this edition, special emphasis is put upon the Dark-Field Microscope.
POSTPAID. \$3.00.

Comstock Publishing Co., Ithaca, N. Y.

SCIENTIFIC PERIODICALS

Chemical, Medical and allied subjects. Complete files, volumes and copies, bought and sold. Kindly send us a list of your wants.

B. LOGIN & SON

29 East 21st Street

New York, N. Y.

PATENTS AND TRADE-MARKS

SOL SHAPPIRIO, B. Ch. E, LL.B.

Chemical Patent
Specialist

McLachlen Building
Washington, D. C.

COMPLETE EQUIPMENT SERVICE



**Explorers—Engineers—Travelers—
Scientists**

The only place in the U. S. where every unit of the correct outfit may be obtained.

Fiala Patent Sleeping Bag

The only light weight, scientific bag made—keeps in the heat, allows body moisture to escape. \$20 up.

GURLEY'S celebrated Transits, Levels,
Alidades, Water Meters and Registers.

Write for descriptive circulars

FIALA OUTFITS INC.

ANTHONY FIALA, 25 Warren Street, New York

COMPLETE STOCK OF

**C. A. F. Kahlbaum's
Chemicals and Reagents**

also

Baker's Analyzed Chemicals

and

Dr. Gruebler's Biological Stains
For Prompt Shipment



C. P. CHEMICAL & DRUG CO.
(Incorporated)

114 Liberty St. New York City

Phone—Rector 4787

LANGMUIR

Condensation High Vacuum Pump

GLASS DESIGN

Made under license agreement with
the General Electric Company

This pump is specially designed for College, University and Experimental Laboratories. It is made entirely of Pyrex glass and operates on the mercury vapor condensation principle. It will produce a vacuum of .000002 mm. of mercury quite readily, at a speed of 500 to 600 c. c. per second. Some form of backing pump must be used, and for this purpose a vacuum of 0.1 mm. or lower is recommended. A special mercury heater is available.

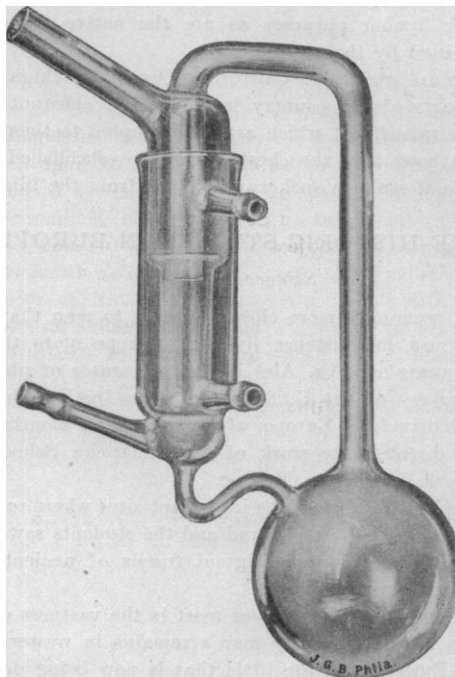
Bulletin 1045-S (October 1923) gives particulars and prices.

Write for Copy.

JAMES G. BIDDLE

Scientific Instruments

1211-13 ARCH STREET, PHILADELPHIA



Royal Copenhagen Chemical Porcelain

Fired at a higher temperature than any other chemical porcelain made, each piece of Royal Copenhagen Porcelain is perfect, true and evenly glazed.

FREE SAMPLES FOR CHEMISTS AND LABORATORIES

Write for Free Samples of Royal Copenhagen Chemical Porcelain. Put them to any test—they will not lose weight, or fracture, nor will sand adhere.

Do not waste time and chemicals on inferior containers.

Write for our new catalog

Just out, showing the latest importations of Royal Copenhagen Chemical Porcelain—the highest grade porcelain known to the ceramist the world over.

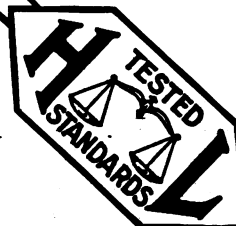
ROYAL COPENHAGEN PORCELAIN

Established 1776

19-21 West 57th Street, New York

THE PROTEIN CASEIN

of the
HIGHEST PURITY ATTAINED COMMERCIALY

High NitrogenLow AshTrace Calcium

CASEIN-HARRIS, free from Vitamines A & B, extensively purified by reprecipitation from a CLEAR, dilute soda solution, with acetic acid. Extracted with acetic acid, alcohol and ether. Vacuum dried, pulverized.

PHYSIOLOGICALLY STANDARDIZED BY THE WHITE RAT METHOD

Widely used by Universities, State Departments, Experiment Stations and Laboratories of the United States Government, as a highly nutritive protein, free from Vitamines A and B. Growth charts upon request.

AVERAGE ANALYSIS

Ask for full list of Essential food factors, Vitamine products, food mixes, wall chart, etc.

Moisture.....10.73	Casein (N X 6.38) ...87.09
Ash59	Ether-soluble..... .20
Calcium trace	Nitrogen,
Nitrogen.....13.66	water, fat, ash-free.15.44

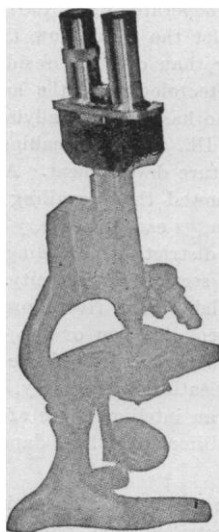
(cf.—Osborne & Harris, Jr. Am. Chem. Soc., 25-IV. 346)

THE HARRIS LABORATORIES
TUCKAHOE, NEW YORK

Leitz Binocular Stereo Attachment

To Convert a Monocular Microscope into one for Binocular Vision

In Stock for Immediate Delivery



Stereo Attachment

1. It can be used with any model of Leitz Microscopes.
2. With slight modification it can likewise be used with microscopes of other make.
3. It permits stereoscopic vision even with objectives of highest power (Oil Immersions).
4. It has means of adjustment to any interpupillary distance.
5. One eyepiece tube has focussing mount to permit the adjustment of difference in the refractive index between both eyes.
6. Removing the draw-tube of the microscope the Binocular attachment can simply be introduced in its place.

PRICE \$50.00

Write for Pamphlet No. 0-1027

