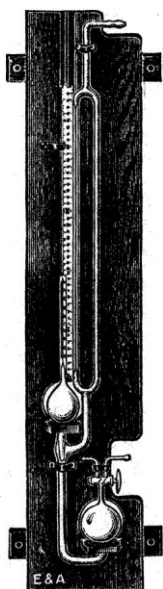


SCIENCE

NEW SERIES
VOL. LXIV, No. 1669

FRIDAY, DECEMBER 24, 1926

ANNUAL SUBSCRIPTION, \$6.00
SINGLE COPIES, 15 Cts.



McLeod Vacuum Gauge

Columbia University Model No. 3709/1

The size and arrangement of the upper part of this gauge, the capacity of the bulb, the graduations, and the readings of results are the same as for our well-known regular Columbia Model McLeod Gauge No. 3709. The accuracy is the same, namely, to 1 ten millionth of an atmosphere.

The advantages of the No. 3709/1 model are its small size, portability and its comparatively low price.

It requires the use of an auxiliary vacuum pump to connect with the side tube of the three-way stopcock at the bottom to raise and lower the mercury.

Complete as per cut, including oak board and graduated mm scale, with directions for use \$32.50

EIMER & AMEND

Established 1851, Incorporated 1897

Headquarters for LABORATORY APPARATUS and CHEMICAL REAGENTS

NEW YORK, N. Y.

Third Ave., 18th to 19th St.

University of CALIFORNIA PRESS

The California Indian

Pomo Folkways

By EDWIN M. LOEB

247 pages, 6 illus. \$1.75 postpaid

Clear Lake Pomo Society

By EDWARD W. GIFFORD

104 pages, \$1.35 postpaid

Californian Kinship Terminologies

By EDWARD W. GIFFORD

285 pages, 29 illus. \$4.00 postpaid

California Anthropometry

By EDWARD W. GIFFORD

174 pages, 55 illus. \$2.25 postpaid

New Catalogue of Publications
now ready. Sent free on request.

University of California Press
Berkeley, California

THE MONIST

JANUARY, 1927

TENDENCIES IN RECENT RUSSIAN PHILOSOPHY

S. Frank

PHILOSOPHY OF RELIGION IN FRENCH- SPEAKING COUNTRIES FROM 1914 TO 1925

Emmanuel Leroux

THE THEORY OF SENSATION: AN ASPECT OF CURRENT REALISM

W. P. Blevin

THE APPEARANCE OF VALUES

Louis Arnaud Reid

MATHEMATICAL REALITY

James Byrnie Shaw

MATHEMATICS AND NATURAL SCIENCE

Arnold Dresden

INFINITY AND THE INFINITESIMAL (Continued)

Winthrop Parkhurst and W. J. Kingsland, Jr.

Discussion:—REALISM AND EVOLUTIONARY NATURALISM: A REPLY TO PROFESSOR HOERNLÉ

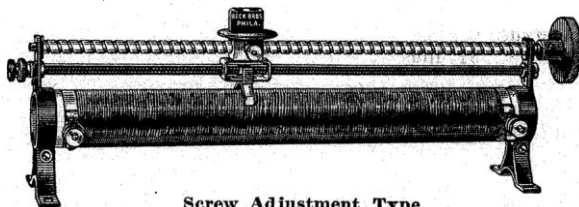
Roy Wood Sellars

Single copies, 85c; yearly, \$3.00

THE OPEN COURT PUBLISHING CO.

337 E. Chicago Avenue
Wieboldt Hall of Commerce
CHICAGO, ILLINOIS

BECBRO LABORATORY RHEOSTATS



Screw Adjustment Type

"BECBRO" Rheostats carried in stock include numerous different ratings.

Included in the stock sizes are tubular types of lengths 20"; 16"; 8"; the resistance element being Wire or Ribbon.

Each tube has a slider adjustment which varies the resistance by very small steps from Zero to total value of the unit.

The approximate total resistance of these stock rheostats vary from 0.3 ohm to 30,000 ohms per unit, and have corresponding current capacities of 25 amperes down to 0.1 ampere.

Rheostats of more or less special construction include the Single Tube equipped with two rods and two sliders; Single and Double Tube equipped with Screw Adjustment (see cut); Double and Triple Tubes mounted as a Unit; Non-Inductive Wound Tubular and Stone Types.

"BECBRO" Carbon Compression Rheostats with corresponding Normal Ratings of 250; 1000; 1500; 3000 Watts.

Write for Catalog S-20

BECK BROS.

3640-42 North Second Street

Philadelphia, Penna.

SCIENCE

VOL. LXIV DECEMBER 24, 1926

No. 1669

MEDICINE AND THE EVOLUTION OF SOCIETY¹

CONTENTS

<i>Medicine and the Evolution of Society:</i> PROFESSOR JOHN C. MERRIAM	603
<i>Research and the Universities:</i> PRESIDENT JOSIAH H. PENNIMAN	609
<i>Fellowship in the American Association for the Advancement of Science:</i> DR. BURTON E. LIVINGSTON	610
<i>William Joseph Hussey:</i> PROFESSOR R. H. CURTISS	612
<i>Scientific Events:</i>	
<i>Award of Prizes by the French Academy of Science; Presentation of the Royal Society Medals to Sir Frederick G. Hopkins and Dr. D. H. Scott; Appointment of A. V. Hill to the Baker Lectureship at Cornell University; Appropriation Bill of the Department of Agriculture</i>	614
<i>Scientific Notes and News</i>	617
<i>University and Educational Notes</i>	620
<i>Discussion and Correspondence:</i>	
<i>The Semi-Centenary of Willard Gibbs' Phase Law (1876-1926):</i> ERNEST COHEN. <i>Second Order Stark Effect in Hydrogen:</i> DR. PAUL S. EPSTEIN. <i>Unusual Carboniferous Cephalopods:</i> CAREY CRONEIS. <i>A Parasite of the Gold-fish:</i> PROFESSOR T. D. A. COCKERELL. <i>A Contemporary of Charles Darwin:</i> DR. HENRY FAIRFIELD OSBOEN	621
<i>Scientific Books:</i>	
<i>Daly's Our Mobile Earth:</i> PROFESSOR CHARLES SCHUCHERT. <i>Humphreys on Rain-making and other Weather Vagaries:</i> PROFESSOR ALEXANDER MCADIE	624
<i>Scientific Apparatus and Laboratory Methods:</i>	
<i>Cement Casts of Petroglyphs:</i> DR. HARLAN I. SMITH. <i>A Simple Device for Extraction and Digestion:</i> CHARLES F. ROGERS	626
<i>Special Articles:</i>	
<i>Correct Velocities for Echo Sounding in the Pacific Ocean:</i> N. H. HECK and JERRY H. SERVICE. <i>The Importance of Minute Chemical Constituents of Biological Products, Nickel, Cobalt and Insulin:</i> PROFESSOR GABRIEL BERTRAND	627
<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.

IN its inception medicine represented the effort to palliate or cure ills already fastened upon individuals. With advancing understanding of value in social machinery there came naturally a development of interest on the part of the community in organizing itself to guard against disease or ill health, and in some measure in protecting itself against the individual. As in practically every form of scientifically planned activity for human benefit, medicine rapidly passed beyond the stage of mere palliation, correction or warding off evils, and became a positive or constructive agency building along new lines where once it sought only to repair or to protect.

Methods and rate of advance in evolution of medicine have varied greatly. The development of a desire to carry proficiency to perfection has produced an art. A permanent cast of open-mindedness has produced research.

Achievements of the science and art of medicine which have made possible modern wonders of anti-septic surgery and of immunization are now followed by efforts aimed toward complete elimination of diseases, as in the epoch-making activity of the Rockefeller Foundation in eradication of yellow fever.

In addition to correction, cure and prevention of disease, much constructive work has been done in bringing our physical condition, at various stages in development of the individual, to a level of effectiveness not known in earlier generations. Research on the eye, coupled with utilization of lenses, gives continuing effective sight. Increase in number of deaths from troubles of the heart and of the circulatory system in general, which seem to come with higher average age, stimulated study of these organs in their relation to physiology of the whole body, with results which may give us new lease of life.

Although its effort must always be directed largely to curative and preventive functions, medicine is now in the distinctly constructive stage.

Discussion of questions touching evolution of society implies justification for the assumption that society will continue to exhibit changes of the nature

¹ Read at the public exercises of dedication for the School of Medicine and Dentistry of the University of Rochester, October 25, 1926.

The New
WESTON
Battery Eliminator
Voltmeter



THE increasing use of battery eliminators has created a need for a special type of Voltmeter to indicate the true value of the voltage delivered. The ordinary type of Voltmeter used with a battery eliminator will not give correct indications because of the current such voltmeters require. Most Battery Eliminators cannot maintain their voltage when an appreciable amount of current is required. ¶ Weston, constantly alert to be of the utmost assistance in the development of the art of radio, again provides an instrument to meet this new condition. This new Voltmeter, known as the Weston Battery Eliminator Voltmeter, requires only one milliamper for full scale deflection and has a self-contained resistance of 1,000 ohms per volt. ¶ It is made in double range combinations of 200/8 or 250/50 volts and the latter range can be supplied with an external multiplier to increase the range to 500 volts. ¶ This Battery Eliminator Voltmeter is handsomely enclosed in Bakelite and is supplied with a pair of 30" flexible cables. Price \$28.

Weston Electrical Instrument Corporation
52 Weston Avenue, Newark, N. J.



WASHINGTON
UNIVERSITY
SAINT LOUIS

School of Medicine

NEW ADMISSION REQUIREMENTS

At least three years of approved college work including specified requirements in the sciences.

DEGREE OF B.S. IN MEDICAL SCIENCE

This degree may be awarded at the end of the third or fourth year to students fulfilling certain conditions including the preparation of a thesis.

DEGREE OF DOCTOR OF MEDICINE

Upon satisfactory completion of prescribed four-year course.

For catalogue and information, address
THE DEAN, Washington University
School of Medicine, St. Louis,
Missouri



COLEMAN & BELL
Test Papers

Are manufactured from indicators of the highest purity and special paper manufactured for this purpose. The care taken in their manufacture is evidenced by the increased sensitivity of these papers.

Our list includes:—

Cochineal Paper
Congo Red Paper
Litmus Paper Blue
Litmus Paper Neutral
Litmus Paper Red
Methyl Orange Paper
Methyl Red Paper
Phenolphthalein Paper
Potassium Iodide Starch Paper
Turmeric Paper

Vials, 100 strips, \$0.12 each, \$0.95 dozen. Sheets, 8" x 10", \$1.00 quire.
Complete catalogue of Laboratory Reagents upon request.

THE COLEMAN & BELL COMPANY
(Incorporated)

Manufacturing Chemists
NORWOOD, OHIO, U. S. A.



THE SCIENTIFIC MONTHLY

EDITED BY J. McKEEN CATTELL

DECEMBER, 1926

SOME INTERESTING ANIMAL COMMUNITIES OF NORTHERN UTAH. PROFESSOR W. C. ALLEE.

THE RIDDLE OF LIFE. PROFESSOR J. E. GREAVES.

THE MYTH ABOUT BACON AND THE INDUCTIVE METHOD. PROFESSOR MORRIS R. COHEN.

GENIUS AND HEALTH. DR. J. F. ROGERS.

THE LIES THAT CHILDREN TELL. DR. ADOLPH E. MEYER.

A TRIP TO SANTO DOMINGO. PROFESSOR FRANK D. KERN.

THE STORY OF THE STONES IN THE DOMINION PARLIAMENT BUILDING. DR. E. M. KINDLE.

A MOUNTAIN SOLAR OBSERVATORY. DR. C. G. ABBOT.

THE METRIC SYSTEM OF WEIGHTS AND MEASURES. PROFESSOR A. E. KENNELLY.

THE ANCIENT AND MODERN USE OF PLANT ARROW POISONS. PROFESSOR RALPH H. CHENEY.

WHAT IS AN INSTITUTION? PROFESSOR EDWARD CARY HAYES.

TWO ENTOMOLOGISTS OF THE EIGHTEENTH CENTURY. DR. HARRY B. WEISS.

THE PROGRESS OF SCIENCE:
Refrigeration by a Flame; The Catalysis of Coal; Dr. Albert A. Michelson; Dr. Friedrich von Müller; The New Coolidge Cathode Tube.

INDEX TO VOLUME XXIII.

JANUARY, 1927

MONGOLIA, THE NEW WORLD. PROFESSOR WILLIAM K. GREGORY.

FORMATION OF THE MOON AND EARTH. W. L. R. EMMET.

THE DETERMINATION OF SEX. DR. ROBERT T. HANCE.

THE PASSING OF THE PROFESSOR. DEAN OTTO HELLER.

WHO IS A MORON? DR. HENRY H. GODDARD.

THE UNNATURAL HISTORY OF THE CLOTHES MOTH. PROFESSOR HAROLD SELLERS COLTON.

THE MEDICAL CENTER IN NEW YORK CITY. DR. C. CHARLES BURLINGAME.

THE DISCOVERY OF ANESTHESIA. DR. C. A. H. SMITH.

AN EXPLORER'S EXPERIENCE WITH THE GREENLAND GLACIAL ANTICYCLONE. PROFESSOR WILLIAM HERBERT HOBBS.

OUR AMERICAN FORESTS, THEIR PAST, PRESENT AND FUTURE. DR. RAYMOND J. POOL.

THE NEED FOR GAME FISHERY INVESTIGATIONS. PROFESSOR NATHAN FASTEN.

THE PROGRESS OF SCIENCE:
The Nobel Prizes; Making and Unmaking Matter; The Philadelphia Meeting of the American Association and Affiliated Societies.

THE SCIENCE PRESS

GRAND CENTRAL TERMINAL, N. Y. CITY

Yearly Subscription \$5.00

::

::

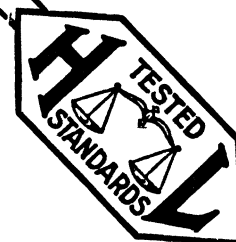
::

Single Copies 50 cents

Brewers' Yeast-Harris

Pasteurized

Does not Ferment in
the Stomach.



For years, we have supplied medicinal brewers' yeast and concentrate to universities, colleges, experiment stations and the U. S. Public Health Service, for studies in nutrition and for clinical practice.

Brewers' Yeast-Harris is a dry granular powder. It can be shipped or stored in all climates, at all seasons of the year. It *keeps indefinitely*, in a dry place, at room temperature.

The U. S. Public Health Service has recently announced the improvement and cures of 26 cases of pellagra in the Georgia State Sanitarium, with the addition of *Brewers' Yeast-Harris* to the diet.

Dr. Geo. R. Cowgill, Yale Univ., has shown *improvement in appetite*, when small amounts of Yeast Vitamine-Harris are fed.

Yeast Vitamine-Harris Tablets are *indicated in convalescence* or typical anorexia.

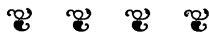
Lactation is stimulated and milk secretion increased by feeding liberal amounts of Yeast Vitamine-Harris Tablets, according to report of Dr. Barnett Sure, Univ. of Ark.

H. J. Gerstenberger, Lakeside Hospital, Cleveland, Ohio, reported a series of cases of *Herpetic Stomatitis* and *Herpes Labialis*, cured with addition of Yeast Vitamine-Harris Tablets to the regular diet.

Goldberger and Tanner, U. S. P. H. Service, reported *cures of black tongue in dogs*, when fed *Brewers' Yeast-Harris* (medicinal).

The Connecticut Experiment Station and U. S. P. H. Service have shown the *superiority of brewers' yeast over bakers' yeast*, as a source of Vitamine-B and as a cure for *specific disease*.

Sample bottle of yeast or Yeast Vitamine Tablets. To physicians only. \$1.00 each



THE HARRIS LABORATORIES

Tuckahoe, New York