

# SCIENCE

VOL. 92

FRIDAY, NOVEMBER 29, 1940

No. 2396

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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.

## THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

### PRELIMINARY ANNOUNCEMENT OF THE PHILADELPHIA MEETING

Edited by DR. F. R. MOULTON

PERMANENT SECRETARY

THE one hundred seventh meeting of the association will be held in Philadelphia from next December 27 to January 2, inclusive. The association was born in Philadelphia on September 20, 1848, and the coming meeting will be its sixth meeting in the city of its birth.

The march of progress of the association and of science is measured roughly by the following data concerning the six Philadelphia meetings, the registration and the number of papers at the approaching meeting being necessarily estimates. The stated membership of the association in 1940 is as of September 30.

Year	Registration	Papers Read	Membership
1848 .....	.....	60	461
1884 ....	1,261	305	1,981

1904 .....	890	224	4,041
1914 .....	.....	774	8,325
1926 .....	3,181	1,449	14,366
1940 .....	4,000	2,200	21,067

### REGISTRATION

Registration headquarters will be in Convention Hall, about a block from the major buildings of the University of Pennsylvania where more than half of the general addresses and scientific sessions of the meeting will be held. Branch registration desks will be located in the Bellevue-Stratford and Benjamin Franklin Hotels. A visible directory of all registered persons and their Philadelphia addresses will be available throughout the meeting at the Bellevue-Stratford Hotel.

In a small dish or a wide shell vial, pour a layer of chloroform on the bottom and then a layer of absolute alcohol with eosin on top of it. Next, place the embryos or pieces of tissue in the alcohol and allow them to sink slowly into the chloroform; leave for 2 to 6 hours or until they have sunk to the bottom.

- (9b) For large embryos and for tissues which become tough or brittle easily, clear in synthetic oil of wintergreen by the sinking method. Then replace the oil with chloroform in similar manner.
- (10) Chloroform saturated with paraffin overnight.
- (11) Melted paraffin, 2 or 3 baths, 1 to 3 hours in each bath. Embed in the usual way.
- (12) Cut sections, attach them to slides by the albumen-water method, and dry for 24 hours or longer.
- (13) Put sections in xylol to remove paraffin; bring them to absolute alcohol to differentiate the eosin, then back to xylol; mount in balsam.

Sections made from materials thus prepared are stained sharply and uniformly from center to periphery, and show good color differentiation similar to those stained on the slide. Among the tissues tried were pieces of Nereis, clam gill, grasshopper testis, Amphioxus, salamander liver and stomach, mammalian skin, pancreas, cartilage and growing bone, a 10 mm pig embryo and portions of a young shark having a diameter of 14 mm. Equally good results were obtained for all of them. In the grasshopper testis, the metaphase chromosomes and the spindle structure were nicely brought out but, as with the other alum-hematoxylin, except iron hematoxylin, the centrosomes were only faintly stained.

CHAO-FA WU

PEIPING UNION MEDICAL COLLEGE,  
PEKING, CHINA

#### STERILIZATION OF SURGICAL INSTRUMENTS BY DI-ETHYLENE GLYCOL

STERILIZATION of surgical instruments by boiling water involves disadvantages: the boiling point of water is relatively low; mineral deposits or stains may occur, especially if the water is hard; and there is a tendency for boiling water to dull the edges of cutting tools. Di-ethylene glycol is relatively free from these objections. While it may fume on heating, this is negligible when small sterilizers are used. If an electric sterilizer is set at "low," the temperature of the liquid rises to about 150° C. As its boiling point of 250° C. is approached, it fumes more markedly, but adequate sterilization should be obtained at temperatures where fuming is not apparent. On standing it evaporates very slowly so that only small amounts at infrequent intervals need be added to the sterilizer to keep it full. Di-ethylene glycol leaves neither stains nor deposits on the instruments. It has no appreciable dulling effect on cutting edges. Since it is completely soluble in water, di-ethylene glycol residues may be

promptly removed by dipping the heat-treated instruments in sterile water before use. Finally di-ethylene glycol is relatively inexpensive and readily available from chemical supply houses. These observations are based on two years' exhaustive trial with the compound in comparison with many others recommended for sterilization of dental instruments.

CHARLES GURCHOT

NEWTON D. MELLARS

UNIVERSITY OF CALIFORNIA  
SAN FRANCISCO

#### "STUCK" SYRINGES

A SIMPLE and effective method of separating a "stuck" syringe is to place it in a container of concentrated nitric acid completely covering the syringe. Leave it immersed for a variable length of time, a week or two usually being sufficient.

W. J. NUNGESTER

UNIVERSITY OF MICHIGAN

#### BOOKS RECEIVED

- BELL, HOWARD M. *Matching Youth and Jobs*. Pp. xiii + 277. Illustrated. American Council on Education, Washington. \$2.00.
- BERKMAN, SOPHIA, JACQUE C. MORRELL and GUSTAV EGLOFF. *Catalysis, Inorganic and Organic*. Pp. xi + 1130. Illustrated. Reinhold. \$18.00.
- BOORD, C. E., W. R. BRODE and R. G. BOSSERT. *Laboratory Outlines and Notebook for Organic Chemistry*. Pp. ix + 241. 28 figures. Wiley. \$1.75.
- BURGESS, PERRY. *Who Walks Alone*. Pp. viii + 308. Illustrated. Holt. \$2.75.
- COLLINS, A. FREDERICK. *Science on Parade*. Pp. xxiii + 314. 90 figures. Appleton-Century. \$3.00.
- Florida Academy of Sciences, *Proceedings for 1939*. Vol. 4. Pp. iv + 310. Illustrated. The Academy, Gainesville.
- GAUL, HARRIET A. and RUBY EISEMAN. *John Alfred Brashear*. Pp. viii + 220. University of Pennsylvania Press. \$2.25.
- GUGGENHEIM, M. *Die biogenen Amine*. Pp. xvi + 564. S. Karger, Basel, Switzerland. Sfr. 48.
- HART, HORNELL. *Chart for Happiness*. Pp. xi + 198. Macmillan. \$2.00.
- HUNTINGTON, ELLSWORTH. *Principles of Human Geography*. Fifth edition. Pp. xxiv + 594. Illustrated. Wiley. \$3.50.
- KRYNINE, PAUL D. *Petrology and Genesis of the Third Bradford Sand*. Pp. vi + 134. 37 figures. Pennsylvania State College. \$0.50.
- LUYET, B. J. and P. M. GEHENIO. *Life and Death at Low Temperatures*. Pp. 341. 33 figures. Biodynamica, Normandy, Missouri.
- NAMIAS, JEROME. *Air Mass and Isentropic Analysis*. Fifth revised edition. Edited by ROBERT G. STONE. Pp. vi + 232. Illustrated. American Meteorological Society, Milton, Mass. \$1.25.
- REISER, OLIVER L. *The Promise of Scientific Humanism*. Pp. xviii + 364. Oskar Piest, New York. \$4.00.
- ROBINSON, RAPHAEL M. *Stencils for Solving;  $x^2 \equiv a \pmod{m}$* . Pp. 14 and stencils. University of California Press.
- SHOHAT, J. A. and others. *A Bibliography on Orthogonal Polynomials*. Pp. ix + 204. National Research Council, Washington.
- STEFANSSON, VILHJALMUR. *Ultima Thule; Further Mysteries of the Arctic*. Pp. 383. 15 plates. Macmillan. \$3.50.

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Announcing—

# CATALYSIS

## INORGANIC AND ORGANIC

By

Sophia Berkman, Jacque C. Morrell and Gustav Egloff  
Research Laboratories, Universal Oil Products Company

• • •

CATALYSIS, including inorganic and organic reactions in both pure and applied science, has been studied with steadily augmenting intensity for more than one hundred years. In many varied fields of science and industry, Catalysis has come to occupy a revolutionizing position, a fact clearly emphasizing the importance of a thorough knowledge of the subject.

In the production of such essentials to our National Defense Program as aviation fuel, high explosives and synthetic rubber, the application of CATALYSIS to the development of important industrial processes is a factor of great significance. Many other processes are being based on its use, especially in the production of dyes, medicinals, pharmaceuticals, perfumes, edible fats and oils, synthetic resins and myriad other products hitherto derived from coal tar.

In order to arrive at an understanding of Catalysis, it seemed logical in the present work to arrange the findings of the various workers and their original interpretations in a systematic presentation with some consideration of historical evolution. The phenomenon of Catalysis itself is defined and discussed in detail with special emphasis on the physico-chemical aspects. The activity of many different catalysts and methods of measuring their activity are fully described. Exhaustive tables of the various catalytic reactions in both organic and inorganic chemistry are provided. All the specific types of reactions which have been extensively studied will be found in these tables. The physical conditions and types of catalysts which have been used to effect chemical changes in definite types of reactions and in compounds of definite molecular and atomic structures are also given.

The book has been divided into chapters, each pertaining to a particular branch of the field significant in itself and at the same time related to the general subject. This will permit the reader to acquire a knowledge of each specific branch, and perhaps to visualize logical thread running through the field, thereby simplifying and facilitating a critical analysis of the available experimental facts.

The petroleum industry, with which the authors are directly connected, has been chosen for detailed description as an outstanding example of a major industry which has been revolutionized by Catalysis. From this point of view the petroleum industry is concerning itself principally at present with the production of high octane motor fuels. However, it is indicated that in the near future synthetic hydrocarbons such as benzene, toluene, xylenes, monoölefins and diolefins, acetylenes and others will assume great importance by the applications of Catalysis. The foundation is thus laid not only for an improved petroleum industry, but also for an ample and rapid development of a new synthetic organic chemical industry.

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## CONTENTS FOR DECEMBER

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SOME ASPECTS OF CENTRAL AMERICAN BIRD-LIFE. II. DR. ALEXANDER F. SKUTCH.  
THE TRAGEDY OF RUDOLF DIESEL. PROFESSOR HENRY CREW.  
HIGH PRESSURE INVESTIGATION. DR. ROY W. GORANSON.  
THE STUDY OF HUMAN HEREDITY. PROFESSOR LAURENCE H. SNYDER.  
GERMINATION OF SEEDS. LELA V. BARTON.  
FREE ENTERPRISE AND SCIENTIFIC DEVELOPMENT. RUFUS S. TUCKER.  
FOOD SUPPLY OF CONTINENTAL EUROPE. DR. ALONZO E. TAYLOR.  
BOOKS ON SCIENCE FOR LAYMEN:  
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THE PROGRESS OF SCIENCE:  
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PUBLISHED FOR THE AMERICAN ASSOCIATION FOR THE  
ADVANCEMENT OF SCIENCE  
BY THE SCIENCE PRESS

LANCASTER, PA.—GRAND CENTRAL TERMINAL, NEW YORK CITY—GARRISON, N. Y.  
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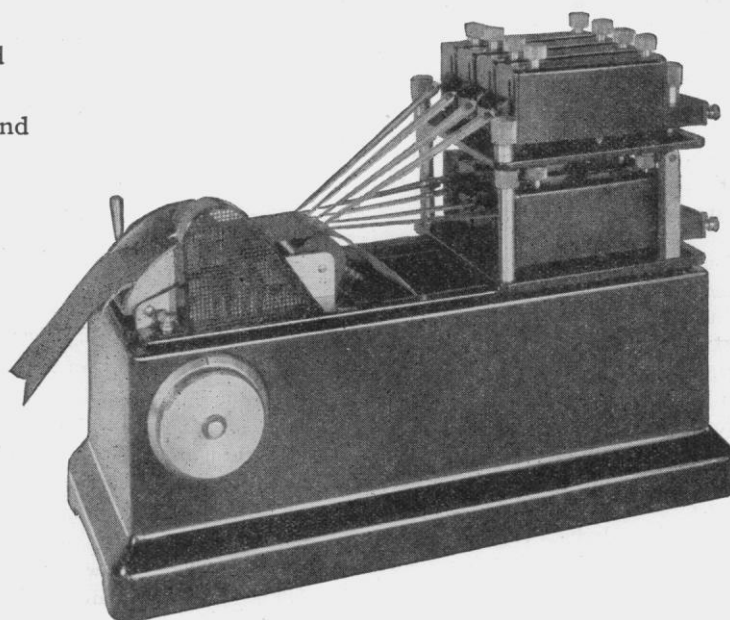
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*Filmosound Library: Catalog of Educational Motion Pictures.* Pp. 108. Illustrated.

**BORDEN COMPANY**, New York. *Borden's Review of Nutrition Research*, October, 1940. Pp. 6.

**CALIFORNIA BOTANICAL MATERIALS COMPANY**, Palo Alto. *For the Botanical Sciences: Microscope Slides, Preserved Materials, Living Plants, Reagents, etc.* Pp. 64.

**FLEXROCK COMPANY**, Philadelphia. *Hand Book of Building Maintenance.* Fourth edition. Pp. 68. Illustrated.

**GLYCO PRODUCTS COMPANY, INCORPORATED**, New York. *Polyhydric Alcohol Esters.* Pp. 6.

**HARVARD UNIVERSITY PRESS**, Cambridge. *Autumn Announcements, 1940.* Pp. 38. Illustrated.

**REINHOLD PUBLISHING CORPORATION**, New York. *Let's Look It Up: A Catalog of Books on Chemistry and Related Subjects, 1940-41.* Pp. 108.

**TIN RESEARCH INSTITUTE**, Middlesex, England. *Tin and Its Uses*, October, 1940. Pp. 13. Illustrated.

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