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THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

PRELIMINARY ANNOUNCEMENT OF THE COLUMBUS, OHIO, MEETING

Edited by DR. F. R. MOULTON

PERMANENT SECRETARY

FROM next December 27 to January 2 the association and about 30 of its affiliated and associated societies will meet in Columbus, Ohio. This will be the one hundred fifth meeting of the association.

Columbus, the capital of Ohio, is a city of approximately 500,000 inhabitants situated near the center of the state and the center of population of the country. It is the seat of the Ohio State University, which has more than 17,000 students. Although the university has a campus of nearly 400 acres, most of its fifty buildings are within three miles of the business and hotel district of the city. A number of other state institutions and the Ohio Wesleyan University, located at Delaware only twenty-three miles distant, add to the large scientific population of the region. More-

over, Ohio is noted for having perhaps more colleges than any other equal area in the world.

REGISTRATION

Registration will be in the Civic Auditorium, which is only a few blocks from the Deshler-Wallick Hotel, the headquarters of the meeting. The Annual Science Exhibition and social center of the meeting will also be in the same building.

Each person registering will receive a General Program of the meeting and a badge of admission to the address of the retiring president and to other general sessions. The General Program contains the programs of all sections and societies and their places and times of meeting, a schedule of all general sessions, a list of

for routine preparation of human cadaveric material and will lead to a better concept of structures in many parts of the body. We have adopted it as our routine mass.

It's a pleasure to again acknowledge my indebtedness to Dr. Phillips for having first introduced me to this material, and I should also like to express my thanks for the great consideration given numerous queries and small orders by the various members of the firm of the Vultex Chemical Company.

OSCAR V. BATSON

GRADUATE SCHOOL OF MEDICINE,
UNIVERSITY OF PENNSYLVANIA

LIQUID LATEX AS AN INJECTION MASS FOR BLOOD-VESSELS

NUMEROUS substances have been used in injecting the circulatory systems of laboratory specimens to enable students to trace the course of blood-vessels with greater ease. Gelatin and corn-starch masses in various colors have been used for many years, but both of these have serious faults. Gelatin tends to stain tissue by "jumping" the capillaries and has the added disadvantage of becoming excessively brittle in formaldehyde. Starch mass does not set well if used too thin, and when made thick enough to prevent the running of the mass when a blood-vessel is accidentally cut by the student, it will not fill the smaller vessels.

Recently, plastics have been used with some degree of success, but the polymerization to the solid substance after injection presents such formidable obstacles that it is not yet practical to use for laboratory specimens.

Mr. William Kruse, of Ward's Natural Science Establishment, first suggested the use of latex as an injection mass in March, 1939. Since that time experiments have proven that latex is the perfect substance for this purpose. It will enter the smallest vessels without staining tissue; it may be diluted with water to give the proper consistency; it is used cold, and solidifies to form a tough, flexible solid which forms a perfect cast of the circulatory system. Latex will replace all other substances previously used for filling blood-vessels, and in addition has untold possibilities for use in research on the circulatory, respiratory and excretory systems.

Latex solution of heavy consistency and high pH value, colored with fast, soluble dyes, has proven most practical in this work. The latex may be thinned to any desired consistency by adding distilled H_2O . In larger vessels and ducts the mass should be thicker than for use in smaller cavities and thinner when it is desired to fill blood-vessels to their smallest branches. Syringes with glass cylinders and rubber pistons must be used since it was found that contact with the lubricants used for smooth operation of an all-metal syringe

set the mass around the piston, causing it to stick. All-glass syringes were unsatisfactory because rubber solution filled the tiny cavities in the ground-glass piston and set under pressure, making the piston immovable.

The material is injected in the ordinary way through metal hypodermic needles inserted into the cavity it is desired to fill. It sets into a tough, flexible solid almost immediately in animals that have been previously embalmed with solutions of phenol or phenol derivatives or preserved in formaldehyde. When injected into larger spaces in freshly killed animals it is difficult to set. When freshly killed animals are used they must be fixed immediately either in alcohol, embalming fluids containing phenol or phenol compounds or in solutions of 5 to 8 per cent. formalin containing 1 or 2 per cent. glacial acetic acid. If the latter fixative is used it must be injected internally so that it will come into close contact with injected vessels and organs and the animals should also be immersed in the fixative. To prevent the latex from escaping when the needle is withdrawn, a drop of 1 per cent. glacial acetic acid or 95 per cent. alcohol may be applied at the spot where the needle was inserted. A clamp or tie should be used on larger vessels.

Dr. Oscar V. Batson, in the current issue of SCIENCE, describes the use of an emulsion of latex sold under the trade name Vultex. He states that he has experienced difficulty in causing the material to flow into the very finest vessels and further expresses the opinion that latex emulsion will never be suitable for the injection of fine vessels.

Dr. Batson undoubtedly refers to vessels of almost capillary size. We have found that our material, which is a rubber solution in contrast to an emulsion, will pass through capillaries if diluted sufficiently and can be used with the finest of cannulae.

D. L. GAMBLE

WARD'S NATURAL SCIENCE ESTABLISHMENT, INC.
THE FRANK A. WARD FOUNDATION OF NATURAL
SCIENCE OF THE UNIVERSITY OF ROCHESTER

BOOKS RECEIVED

- ARMSTRONG, HARRY G. *Principles and Practice of Aviation Medicine*. Pp. xii + 496. 86 figures. Williams and Wilkins. \$6.50.
MAIN, ROLLAND J. *The Care of a Small Rat Colony*. Pp. 101. 12 figures. Mosby.
PONTRJAGIN, L. *Topological Groups*. Translated from the Russian by EMMA LEHMER. Pp. ix + 299. Princeton University Press. \$4.00.
Report of the British Association for the Advancement of Science. New Quarterly Series, No. 1, October, 1939. The Association, London. 5/-.
VITRAY, LAURA, JOHN MILLS, JR. and ROSCOE ELLARD. *Pictorial Journalism*. Pp. xvi + 437. 43 figures. McGraw-Hill. \$4.00.
WENDT, GERALD. *Science for the World of Tomorrow*. Pp. 316. Illustrated. Norton.

Let these New MOSBY Books Serve You in 1940

TUMORS of the HANDS and FEET

This new book is a compilation of six articles on various phases of carcinoma of the upper and lower extremities. These articles were prepared by eight recognized authorities, including the author and editor. The various accepted methods of treatment of tumors of the hands and feet are fully explained and illustrated. Edited by GEORGE T. PACK. 136 pages, 69 illustrations. Price, \$3.00.

MALIGNANT TUMORS in CHILDHOOD

This new book covers a symposium on tumors of childhood, and contains the following important chapters: Malignant Tumors in Childhood; Malignant Tumors of Bone in Children; Lymphomas, Leucemias, and Allied Disorders in Children; Cancers of Genitourinary Organs in Children; Gynecologic Cancers in Children; Cancers of the Head and Neck in Children; Tumors of Soft Somatic Tissues in Infancy and Children; Blood and Lymph Vessel Tumors in Children. Edited by HAROLD W. DARGEON. 125 pages, 68 illustrations. Price, about \$3.00.

A MANUAL of NEURO-HISTOLOGIC TECHNIQUE

This compilation is an attempt to bring, under one heading, various neurotechnical methods which may be carried out in a general pathologic laboratory. Contents: General Considerations; Stains for Nerve Cells; Stains for Myelin Sheaths; Neurofibril Stains; Staining of Fat; Non-metallic Glia Stains; Metallic Glia Stains; Connective Tissue Stains; Pituitary and Pineal Stains; Spirochete Stains; Miscellaneous Staining Methods; Formulas; Appendix; References. By OSCAR A. TURNER. 72 pages. Price, \$2.00.

PSYCHOBIOLOGY and PSYCHIATRY

This book portrays the main lines of teaching at the Phipps Clinic, Johns Hopkins University. The book is divided into four parts: Psychobiology; Psychopathology; Treatment; Historical Appendix. By WENDELL MUNCIE. 770 pages, 69 illustrations. Price, \$8.00.

TEXTBOOK of NERVOUS DISEASES

The subject of neurology, as presented in this English Translation of the Fifth Edition of Bing's textbook, attains almost the exactness of mathematics. Translated and enlarged by WEBB HAYMAKER. 850 pages, 207 illustrations, 9 color plates. Price, \$10.00.

EXPERIMENTAL PHARMACOLOGY and MATERIA MEDICA

It is imperative that every man in active practice know and understand what effect a drug is likely to have on his patient when it is administered to him. This knowledge is available in this book. By DENNIS E. JACKSON. 906 pages, 892 illustrations, 55 color plates. Price, \$10.00.

LIFE and LETTERS of DR. WM. BEAUMONT—By Jesse S. Myer. 327 pages. Price, \$5.00.

CARDIOVASCULAR DISEASES—By David Scherf and Linn J. Boyd. 458 pages. Price, \$6.25.

PRACTICE of ALLERGY—By Warren T. Vaughan. 1082 pages, 338 illustrations. Price, \$11.50.

DISEASES of the SKIN—By R. L. Sutton and R. L. Sutton, Jr. 10th Ed. 1549 pages, 1452 illustrations, 21 color plates. Price, \$15.00.

CLINICAL GASTROENTEROLOGY—By H. W. Soper. 316 pages, 212 illustrations. Price, \$6.00.

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REFERENCE—Berger and Truog, *Ind. Eng. Chem., Anal. Ed.*,
II, 540 (1939)

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THE SCIENTIFIC MONTHLY

J. McKEEN CATTELL, F. R. MOULTON and WARE CATTELL, Editors

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 RUBBER'S POSITION IN MODERN CIVILIZATION. P. W. LITCHFIELD.

BOOKS ON SCIENCE FOR LAYMEN:

A Nation of Elders; Ants vs. Men; Human Heredity; A Scholarly Book for Scholars.

THE PROGRESS OF SCIENCE:

Scientists Assemble at Columbus; Professor Corneille Heymans, Nobel Laureate in Physiology and Medicine for 1938; The Forthcoming Exhibition at the Carnegie Institution of Washington; Award of the Rumford Medals to Professor George Russell Harrison; Seedless Fruits Produced by Chemicals; Industrial Research in the United States.

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BOOKS ON SCIENCE FOR LAYMEN:

Gone with Wind and Water; Classics of Geology; The Origin of Life.

THE PROGRESS OF SCIENCE:

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 SPANISH METHODS OF CONQUEST AND COLONIZATION OF YUCATAN, 1527-1550. II. DR. ROBERT S. CHAMBERLAIN.
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BOOKS ON SCIENCE FOR LAYMEN:

The Heavens Again; Living Darwinism; Thirty-three Eastern Wild Flowers.

THE PROGRESS OF SCIENCE:

The Mayos' Contribution to Medical Research and Practice; U. S. Government Expedition to the Antarctic; Seventh Conference on Spectroscopy and Its Applications at the Massachusetts Institute of Technology; Cruises of the E. W. Scripps in 1939; Some Factors Involved in the Invasion of the Body by the Virus of Infantile Paralysis.

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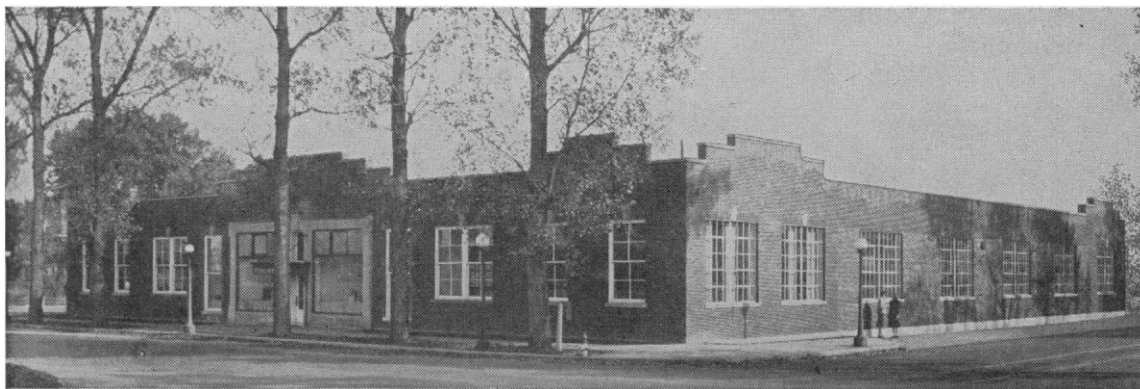
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THE SCIENCE PRESS PRINTING COMPANY has recently moved to a new building which it has acquired and equipped.

The building is situated opposite the Pennsylvania Railway Station facing a small park. The whole plant is on one floor only, which is a great advantage in printing, for the various processes can be carried on with the greatest efficiency. The building has light on four sides. It is absolutely fire-proof with an area of 128 x 152 square feet.

Our old building has been left with reluctance, for it was the scene of many pleasant and prosperous years, but our new building is larger and is especially suited and equipped for the production of scientific work.

We should like especially to call attention to our experience in printing monographs and theses. These and other occasional publications are a problem which is in some ways more difficult than the printing of journals and books, for each publication is different from every other. It is consequently desirable to have relations with a company that is especially experienced in this character of work and which can be relied on to quote fair and moderate rates.



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