pression in the permeability of the ground substance. Fluctuations in this permeability result in corresponding fluctuations in the severity of the infectious process. Estrogens and gonadotropic and adrenocortical hormones are especially potent in this connection.

The same general topic on the permeability of the ground substance in infection was continued in the following section. M. Lurie, section chairman, gave an excellent general discussion of the mechanisms affecting spreading in infection, particularly in tuberculosis, in which connection he reported his studies on the paramount influence of constitution, sex, hormones, and still other factors on the disease. After this there followed a series of papers on that puzzling phenomenon of the inhibition of hyaluronidase by blood serum (Dorfman, Hadidian), and on the action of antibodies against streptococcal hyaluronidase (Friou, Quinn), which has proved to be an excellent diagnostic aid in streptococcal infections. The newer theories concerning the possible role played by the streptococcal enzyme or substrate in the pathogenesis of rheumatic disease were discussed. The subject was developed by Ragan and Meyer and discussed by Harris. Facts of great interest emerged in the discussion of this controversial subject—e.g., on the condition of the synovial fluid and the variations in the blood inhibitor for hyaluronidase in rheumatic disease.

In the field of cancer, promising results were reported by Simpson on the influence of hyaluronidase in malignant invasion of tissues, and by Fulton, Marcus and Robinson on an inhibitor for the enzyme found in cancer patients. These studies should be correlated with those of Catchpole, in the first section of the conference, concerning the water solubility of components of the ground substance around malignant growths. Another contribution by Anigstein described curious effects on typhus infection by antiorgan sera.

The last section was devoted to pharmacology and the practical applications of hyaluronidase. J. Seifter, chairman, reported results of his extensive studies on the enzyme, which he found to be pharmacologically nontoxic, and considers the perfect adjuvant, since it enhances the diffusion and thus speeds up the action of a variety of therapeutic agents. Warren and Burket and Gyorgy demonstrated the innocuousness of the enzyme in the case of established infection, in animals and humans respectively. Other authors reported the increased therapeutic effects obtained when hyaluronidase was added to local anesthetics (Kirby, Looby and Elkenoff); to penicillin (Sneierson); and to fluids used in hypodermoclysis (Burket and Gyorgy). The latter authors also reported comparable effects when the enzyme was added to dyes injected subcutaneously for diagnostic purposes.

The beneficial effects of hyaluronidase in some cases of human infertility as reported by Kurzrok offer the only instance of a direct therapeutic effect of the enzyme. To this one could perhaps add its dissolving action on renal calculi, as reported by Simon and Sussman. The effects on fertilization in men and cattle appeared to be a rather controversial subject, as discussed by Sallman and Birkeland and by Chang and Werthessen. The conference ended with these papers.

F. Duran-Reynals and E. D. Goldsmith
Yale University and *New York University*

Correction

My communication "Note on the Chemistry of Dramamine" (*Science*, 1949, **109**, 574) should have made it clear that the name "Dramamine" applies to the *salt* of β-dimethylaminoethyl benzohydryl ether with 8-clorotheophyllin. As it stands, the first sentence in the second paragraph of my note makes it appear that Dramamine is the ether alone, and that is incorrect.

John W. Cusic
G. D. Searle and Company, Chicago

Book Reviews

Dentistry in public health. (Prepared for the Dental Health Section of the American Public Health Association.) Walter J. Pelton and Jacob M. Wisan. (Eds.) Philadelphia: W. B. Saunders, 1949. Pp. xi + 363. (Illustrated.) $5.50.

This book presents an unusually fine compendium of dentistry's role in public health. The collaborators have presented good summaries on the topics assigned to them. These summaries, although they are brief, contain the fundamental information which the student or the practitioner needs to develop his thinking in terms of public health service.

The extent of the dental health problem is fully outlined. The great number of people who need dental services, the time it takes to perform these services, and the limited dental man power add greatly to the complexity of the situation and cost of service.

The need for reparative as well as preventive and control service is stressed. Reparative service needs to be thought of as an initial service to care for possible accumulated neglect, and a maintenance service—suggesting regular periodic checkup and care after the initial service has been rendered. This makes the dental health problem a different one from others. The book offers a vast amount of information that should be of special interest to those in the field of dental health.

The role of nutrition and diet is discussed, as well as desirability of laboratory tests to evaluate oral conditions and caries activity. The effect of fluorine in water supply is well presented and indications are that this technique may become an effective agent in the control

of dental caries. The topical application of sodium fluoride to the teeth is also considered.

The need for an effective plan of public dental health education is stressed. The desirability of local, state, and national participation in such a program of service—control and prevention—is well presented. Although now in its infancy, the role of dentistry in the public health program has unusual promise, as judged by the place the contributors to this book ascribe to it.

O. W. BRANDHORST

Washington University

Organic syntheses. (Vol. 28.) H. R. Snyder. (Ed.-in-Chief.) New York: John Wiley; London: Chapman & Hall, 1948. Pp. vi + 121. (Illustrated.) $2.50.

The present addition to the series of *Organic syntheses* maintains the high standards set by previous volumes. Directions for preparing the following 37 specific organic compounds are given: 2-acetothienone, 2-acetylfluorene, 9-acetylphenanthrene, 2-allylcyclohexanone, *o*-aminobenzaldehyde, *p*-aminophenyl disulfide, benzoyl disulfide, 9-bromophenanthrene, 4-bromo-*o*-xylene, 3-carbethoxycoumarin, *p*-chloroacetylacetanilide, *m*-chlorophenylmethylcarbinol, *m*-chlorostyrene, 9-cyanophenanthrene, *trans*-1,2-cyclohexanediol, 4,7-dichloroquinoline, 2,5-dihydroxyacetophenone, diisovalerylmethane, 3,4-dimethylaniline, 2,4-dimethylquinoline, 1,4-dinitronaphthalene, diphenylacetonitrile, ethyl azodicarboxylate, ethyl ethoxymethylenemalonate, fluorenone-2-carboxylic acid, hexamethylene chlorohydrin, hydroquinone diacetate, 2-hydroxycinchoninic acid. D,L-isopropylideneglycerol, methyl 4-keto-7-methyloctanoate, 4-nitro-1-naphthylamine, *p*-nitrophenyl sulfide, phenanthrene-9-aldehyde, 1-phenyl-3-amino-5-pyrazolone, α-phenylthiourea, 2,4,7-trinitrofluorenone, vinyl chloroacetate. In each case a check on the preparation has been made by a member of the editorial board and his collaborator. It may be of interest to several readers to record that for their convenience the *Chemical Abstracts* indexing name for each compound is given as a subtitle when that name differs from the title of the preparation. As is the usual practice in this series, the present volume also contains a collective index to material for Volumes XX–XXVIII.

Again, the editorial board should be complimented and congratulated upon its worthwhile project of continuing to make available a repository of miscellaneous syntheses of organic compounds which really work and which will present no unexpected difficulties to the student who needs to prepare one of them. This volume continues the invaluable service of developing good technique. The compounds, in the opinion of the reviewer, have been well selected and the discussions and notes at the end of each preparation are also a real contribution to this all-important field of organic chemistry. Thus, the original purpose of the series is being carried out ably.

EVERETT S. WALLIS

Princeton University

Scientific Book Register

BLOUT, E. R., HOHENSTEIN, W. P., and MARK, H. (Eds.) *Monomers: a collection of data and procedures on the basic materials for the synthesis of fibers, plastics, and rubbers.* (Sect. 1.) New York: Interscience, 1949. 8 chapters. (Illustrated.) $7.50.

CARLETON, H. M., and LEACH, E. H. (Eds.) *Schafer's essentials of histology.* (15th ed.) Philadelphia: Lea & Febiger, 1949. Pp. xii + 655. (Illustrated.) $6.50.

CHALMERS, J. ALAN. *Atmospheric electricity.* New York (11): Oxford Univ. Press; Oxford, Engl.: Clarendon Press, 1949. Pp. 175. (Illustrated.) $3.75.

HILL, FREDERICK C. *Operative surgery.* New York: Oxford Univ. Press, 1949. Pp. xii + 698. (Illustrated.) $12.75.

JOHLIN, J. M. *Introduction to physical biochemistry.* (2nd ed.) New York: Paul B. Hoeber, 1949. Pp. ix + 246. (Illustrated.) $3.75.

LEDERMANN, WALTER. *Introduction to the theory of finite groups.* New York: Interscience; Edinburgh-London: Oliver and Boyd, 1949. Pp. viii + 152. $3.00.

LEICESTER, HENRY M. *Biochemistry of the teeth.* St. Louis, Mo.: C. V. Mosby, 1949. Pp. 306. (Illustrated.) $5.00.

MILNE, WILLIAM EDMUND. *Numerical calculus: approximations, interpolation, finite differences, numerical integration, and curve fitting.* Princeton, N. J.: Princeton Univ. Press, 1949. Pp. x + 393. (Illustrated.) $3.75.

PAGE, LEIGH, and ADAMS, NORMAN ILSLEY, JR. *Principles of electricity: an intermediate text in electricity and magnetism.* (2nd ed.) New York-London: D. Van Nostrand, 1949. Pp. xiii + 619. (Illustrated.)

WRIGHT, ALBERT HAZEN, and WRIGHT, ANNA ALLEN. *Handbook of frogs and toads of the United States and Canada.* (3rd ed.) Ithaca, New York: Comstock, 1949. Pp. xii + 640. (Illustrated.) $6.50.

Proceedings of the Fourth International Congresses on Tropical Medicine and Malaria: Washington, D. C., May 10–18, 1948. (Dept. of State, Publ. 3246, 2 vols.) Washington, D. C.: U. S. Govt. Printing Office, 1948. Vol. 1, pp. xiii + 946; vol. 2, pp. viii + 947–1810. (Illustrated.)

The situation in biological science: Proceedings of the Lenin Academy of Agricultural Sciences of the U.S.S.R., July 31–August 7, 1948. New York (16): International Pubs., 1949. Pp. 636. $5.00.