Stone's paper was published in the *American Journal of Mathematics* some 30 years ago. The necessary background for a rapid reading and understanding include basic information and considerable facility with elementary set-theoretic topology, ring theory, measure theory (including Haar measure), and logic. For a slower reading, with omission of many of the exercises, delete "considerable facility" and all reference to the fields following "set-theoretic topology" in the preceding sentence, these latter appearing essentially as models and examples. As to the mathematical style, there are diagrams, injective and projective Boolean algebras, and the use of "pairing" in presenting the duality theorems. The volume is not entirely contemporary since the treatment is not "categorized" and the author prefers "Boolean homomorphism" to "morphism." In the oral version there were no doubt comments about how and why Boolean algebras got into analysis, more direct reference as to connections with other fields (for example, does pairing stop here or is it used elsewhere?), and extensions and ramifications (for example, the *p*-algebras).

The literary style is a mature version of the author's earlier presentations, and there is a trace of current Gallic hauteur as well as some Bourbakian pontification. (In my opinion Laurence Sterne's aphorism is now mathematically invalid.) But this is an entirely minor and subjective opinion, and the book is most highly recommended as a generally elegant and perceptive introduction to the basic facts concerning Boolean algebras, available to the very well-trained senior and to the average second-year graduate student. The only reference to the literature is that to Sikorski's book.

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Notes

Information Retrieval

Electronic Information-Logic Machines [Interscience (Wiley), New York, 1963. 180 pp. $8], by L. I. Gutenmakher, was translated from the Russian edition by Rosalind Kent and edited by Allen Kent. The book combines an introduction to digital circuitry with an advanced and somewhat obscure discussion of the use of various memory addressing schemes for information retrieval, translation, and document indexing. There are many interesting notions, but I cannot determine which are proposals and which are already realized in hardware and thus available. In one case the ambiguity, perhaps attributable to the translation, is resolved by a photograph of a completed read-only capacitor memory device.

The outlook is quite broad and ambitious, suggesting many practical applications of information retrieval systems. The discussion of the technical aspects of indexing and its problems seems somewhat superficial—for example, there is no discussion of the problem of finding a *best* match to a retrieval prescription, if a perfect match is not found in an associative memory. The translation editor did not see fit to mention the original date and place of publication of this book itself, thus impairing its value for assessing Soviet technology in this area.

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New Books

Mathematics, Physical Sciences, and Engineering

Advances in Catalysis and Related Subjects. vol. 14. D. D. Eley, Herman Pines, and Paul B. Weisz, Eds. Academic Press, New York, 1963. 534 pp. Illus. $16. Six papers: "Quantum conversion in chloroplasts," by Melvin Calvin; "The catalytic decomposition of formic acid," by P. Mars, J. J. F. Scholten, and P. Swietering; "Application of spectrophotometry to the study of catalytic systems," by H. P. Leftin and M. C. Hobson, Jr.; "Hydrogenation of pyridines and quinolines," by Morris Freifelder; "Modern methods in surface kinetics: Flash desorption, field emission, microscopy, and ultrahigh vacuum techniques," by Gert Ehrlich; "Catalytic oxidation of hydrocarbons," by L. Y. Margolis.

Advances in Electronics and Electron Physics. vol. 19. L. Marton and Claire Marton, Eds. Academic Press, New York, 1964. 333 pp. Illus. $12. Four papers: "Electronic instrumentation for oceanography," by Allen H. Schooley; "Radio wave scattering in the ionosphere," by K. L. Bowles; "Properties, measurement, and bioclimatic action of 'small' multimolecular atmospheric ions," by M. Knoll, J. Eichmeier, and R. W. Schön; and "Endfire antennae," by G. Broussaud and J. C. Simon.

Advances in Machine Tool Design and Research. Proceedings of the third international conference (University of Birmingham), September 1962. S. A. Tobias and F. Koenigsberger, Eds. Pergamon, London; Macmillan, New York, 1963. 503 pp. Illus. $22.50 (34 papers).

Advances in Physical Organic Chemistry. vol. 2. V. Gold, Ed. Academic Press, New York, 1964. 300 pp. Illus. $10. Four papers: "Isotopes and organic reaction mechanisms," by Clair J. Collins; "Uses of volumes of activation for determining reaction mechanisms," by E. Whalley; "Hydrogen isotope effects in aromatic substitution reactions," by H. Zollinger; "The reactions of energetic tritium and carbon atoms with organic compounds," by Alfred P. Wolf.

Advances in Space Science and Technology. vol. 5. Frederick I. Ordway, III, Ed. Academic Press, New York, 1963. 352 pp. Illus. $13. Contents: "Astronautical investigations of the sun," by R. Grant Athay; "Advances in communication relay satellite techniques," by R. P. Haviland; "Solid propellant rocket technology," by H. W. Ritchey and J. M. McDermott; "Environmental control of manned space vehicles," by Robert E. Smith; "Terrestrial, lunar, and planetary applications of navigation and geodetic satellites," by John D. Nicolaides, Mark M. Macomber, and William M. Kaula; and "Orbital operations," by Krafft A. Ehricke.

American Vacuum Society, Transactions. Tenth national vacuum symposium (Boston, Mass.), October 1963. George H. Bancroft, Ed. Macmillan, New York, 1964. 532 pp. Illus. $23.

Analysis and Computation of Electric and Magnetic Field Problems. K. J. Binns and P. J. Lawrenson. Pergamon, London; Macmillan, New York, 1963. 347 pp. Illlus. $12.50.

Application of Computers in Valve Gear Design. Prepared under the auspices of the Society of Automotive Engineers, Powerplant Activity Committee. Pergamon, London; Macmillan, New York, 1964. 96 pp. Illus. $5.60.

The Application of Computing Technique to Automatic Control Systems in Metallurgical Plant. A. B. Chelyustkin. Translated from the Russian edition (Moscow, 1960) by D. P. Barrett. D. K. Ghosh, Ed. Pergamon, London; Macmillan, New York, 1964. 235 pp. Illus. $10.

Asynchronized Synchronous Machines. M. M. Botvinnik. Translated from the Russian edition (Moscow, 1960) by L. A. Thompson. D. Westwood, Ed. Pergamon, London; Macmillan, New York, 1964. 91 pp. Illus. $5.

Ballistic Missile and Space Technology, Transactions. Eighth symposium, (San Diego, Calif.), October 1963. vol. 1. Air Force Systems Command and Aerospace Corporation, Los Angeles, Calif., 1964. 401 pp. Illus. Paper.

Boron-Nitrogen Chemistry. A symposium (Durham, N.C.), April 1963. Kurt Niedenzu, Ed. American Chemical Soc., Washington, D.C., 1964. 340 pp. Illus. $7.50.