

benefits are single estimates applied across the board to all sites. Problems of water quality are ignored because of insufficient information concerning the relation of water quality to hydrology. Various rates and methods are used to study sensitivity of the design to the discount factor. Results are compared with the final Corps of Engineers design for the basins to show that a very few simulation runs resulted in a design comparable to that derived by standard methods. The relation of flood damages to policy decisions is commented on only in passing, and no new alternatives are considered.

The concluding remarks concerning mechanical details will be of much interest to all who are interested in undertaking simulation studies. Despite the many simplifying assumptions, 80 percent of the memory capacity of the IBM 7094 was used in coding alone. Estimates of computer-run time are given. The interplay of programmer and analyst is described, and the desirability of combining the two skills in one individual is stressed.

As computers become larger and faster, simulation studies will be more common in water-resources design. For those who are on the periphery of the field, or who are involved in simulation for the first time, this book will be helpful. For those teachers who wish to expose their classes to the latest concepts in water-resource system design it will be a good supplementary text.

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A Quick Introduction

The task of a book with a title such as that of **Electronics for Experimenters in Chemistry, Physics and Biology** by Leon F. Phillips (Wiley, New York, 1966. 280 pp., illus. Paper, \$3.95) is to provide a balanced account of electronics which is both detailed enough to help the reader see the inner workings of electronics and fast-moving enough so that he does not get lost in these details. The proper balance depends on the outlook and background of the reader, so there is plenty of room for books in this field. Phillips' book is, in his words, "a more or less pocket-sized account," and in reading it I was constantly surprised at

how much progress was made on each page and in each section. Many important results are quickly derived by simple calculus, and many good comments of a practical nature are made throughout the book. The order of presentation of topics is not surprising, starting with simple network theory and properties of vacuum tubes and transistors, and progressing through amplifiers, feedback, and noise to a final chapter in which some complex systems are described. There are sections on construction techniques and troubleshooting which will be valuable to many graduate students. I wish, however, that the author had explicitly mentioned reduction of electric shock hazard when discussing construction techniques.

The fast pace probably precludes learning electronics from this book alone, or even in conjunction with a normal set of lectures of a few hours a week, but there are lists of references which provide the student with a starting place in the literature, and the book should be valuable as a guide in a self-study program.

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New Books

Mathematics, Physical Sciences, and Engineering

Advanced Inorganic Chemistry: A Comprehensive Text. F. Albert Cotton and Geoffrey Wilkinson. Interscience (Wiley), New York, ed. 2, 1966. 1148 pp. Illus. \$14.50.

Advances in Electrochemistry and Electrochemical Engineering. vol. 4, *Electrochemistry*. Paul Delahay, Ed. Interscience (Wiley), New York, 1966. 401 pp. Illus. \$16. Five papers.

Advances in Electron Metallography. vol. 6. Proceedings of a symposium (Lafayette, Ind.), June 1965. American Soc. for Testing and Materials, Philadelphia, 1966. 137 pp. Illus. Paper, \$7; members, \$4.90. Ten papers.

Advances in Nuclear Science and Technology. vol. 3. Paul Greebler and Ernest J. Henley, Eds. Academic Press, New York, 1966. 414 pp. Illus. \$17.50. Six papers.

Advances in Organometallic Chemistry. vol. 4. F. G. A. Stone and Robert West, Eds. Academic Press, New York, 1966. 432 pp. Illus. \$16.50. Six papers.

Algèbres de Lie semi-simples complexes. Jean-Pierre Serre. Benjamin, New York, 1966. Unpaged. Illus. Paper, \$3.95; cloth, \$8.

Annual Review of Physical Chemistry. vol. 17. H. Eyring, Ed. Annual Reviews, Palo Alto, Calif., 1966. 597 pp. Illus. \$8.50. There are 18 papers.

Artificial Intelligence Through Simulat-

ed Evolution. Lawrence J. Fogel, Alvin J. Owens, and Michael J. Walsh. Wiley, New York, 1966. 184 pp. Illus. \$9.95.

Atlas of Landforms. James L. Scovel, J. C. McCormack, Emmett J. O'Brien, and R. B. Chapman. Wiley, New York, 1966. 168 pp. Illus. Paper, \$9.95.

Atomic Collisions: The Theory of Electron-Atom Collisions. Academy of Sciences of the Latvian SSR Institute of Physics, Transactions XIII. V. Ya. Veldre, R. Ya. Damburg, and R. K. Peterkop, Eds. Translated by M. V. Kurepa. M.I.T. Press, Cambridge, Mass., 1966. 142 pp. Illus. \$7.50. There are 17 papers.

Beginning Geology. H. H. Read and Janet Watson. Macmillan, London; St. Martin's Press, New York, 1966. 256 pp. Illus. \$6.

Beta Decay. C. S. Wu and S. A. Moszkowski. Interscience (Wiley), New York, 1966. 410 pp. Illus. \$16. Interscience Monographs and Texts in Physics and Astronomy.

Chain Reactions: An Introduction. F. S. Dainton. Methuen, London; Wiley, New York, ed. 2, 1966. 240 pp. Illus. \$5.50.

The Chemistry of the Metallic Elements. David Steele. Pergamon, New York, 1966. 152 pp. Paper, \$3.45.

The Chemistry of Metallides. Ivan Ivanovich Kornilov. Translation based on the Russian edition (Moscow, 1964) by J. W. Loweberg. Consultants Bureau, New York, 1966. 168 pp. Illus. Paper, \$22.50.

Conformations of Macromolecules. T. M. Birshtein and O. B. Ptitsyn. Translated from the Russian edition by Serge N. Timasheff and Marina J. Timasheff. Interscience (Wiley), New York, 1966. 364 pp. Illus. \$14.50. High Polymers Series, vol. 22.

Crystal Symmetry and Physical Properties. S. Bhagavantam. Academic Press, New York, 1966. 240 pp. Illus. \$9.50.

Deposition of Thin Films by Sputtering, Symposium (Rochester, N.Y.), June 1966. Consolidated Vacuum Corp., Rochester, N.Y., 1966. 103 pp. Illus. Paper, \$4. There are 11 papers.

Design and Construction of Electronic Equipment. George Shiers. Prentice-Hall, Englewood Cliffs, N.J., 1966. 378 pp. Illus. \$14. Prentice-Hall Series in Electronic Technology.

The Electromagnetodynamics of Fluids. W. F. Hughes and F. J. Young. Wiley, New York, 1966. 662 pp. Illus. \$17.50.

Electron Diffraction: The Nature of Defects in Crystals. Abstracts of papers presented at an international conference (Melbourne, Australia), August 1965. Sponsored by Australian Academy of Science, International Union of Crystallography, and International Union of Pure and Applied Physics. Published for the Australian Academy of Science by Pergamon, New York, 1966. Unpaged. Illus. \$14. There are 127 papers.

Electronic Engineering. Charles L. Alley and Kenneth W. Atwood. Wiley, New York, ed. 2, 1966. 757 pp. Illus. \$12.50.

The Electronic Theory of Heavily Doped Semiconductors. V. L. Bonch-Bruyevich. Translated from the Russian edition (Moscow, 1965) by Scripta Technica. Robert S. Knox, Translation Ed. Elsevier, New York, 1966. 141 pp. Illus. \$7.50.

(Continued on page 442)