does not induce droplet freezing by virtue of any crystallographic similarity to ice (p. 89), but by cooling cloud drops below the threshold of homogeneous nucleation (near −40°C). Silver iodide does not act as an ice nucleant "on which super-cooled droplets readily fasten and turn to ice" (p. 90), but rather by that dissembling trick which the authors erroneously ascribe to dry ice.

Vaeth's book, *Weather Eyes in the Sky*, is a brief and businesslike summary of the history of the meteorological satellite program and a look ahead into the future of that program. It can be recommended to any readers who seek a concise account of weather satellites, and is an account that is well bolstered with quantitative data. It is pleasingly free of purple prose about the great new breakthroughs that are to be expected not much later than the next orbit, although the general reader may nonetheless be left with misimpressions about how useful these instruments now are to working meteorologists. In fact, the payoff from the satellite program still lies in the future, a point that might have been more heavily stressed by an author further removed from the satellite program.

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Aspects of Engineering

The World of Engineering. John R. Whinnery, Ed. McGraw-Hill, New York, 1965. xii + 304 pp. Illus. Paper, $3.95; cloth, $5.95.

Many worlds make up the pursuit called engineering. This anthology, title aside, does a superlative job in conveying an understanding of these many worlds.

Credit for compiling the book goes to John R. Whinnery, dean of engineering at the University of California, Berkeley. Under his editorship, the anthology's ten contributors—all outstanding engineers—have struck a high level of technical content, surprisingly so, in view of the fact that the book is basically a career guidance work. Formulas, for example, are used liberally to drive home engineering's dependence on mathematics, especially the calculus, as in Leonardo Zeevaert's chapter "The engineering of large structures." Overall, the book seems perfect for the high school senior and the college freshman, as well as for the college sophomore who has an adequate background in mathematics and science but must soon choose between a major in engineering and a major in science.

The anthology also does an imaginative job in depicting the variety of challenges in the field of engineering and their interactions with science, economics, manufacturing, and management, and even suggests that some engineering work entails routine (a tidbit that career-guidance books always play down).

In contrast with other guidance books on engineering, this one emphasizes broad engineering functions—for example, there are chapters entitled "Energy sources and energy conversion," "Material science and engineering," "Computers, communication, and control," "Bioengineering," and "Space engineering." In departing from the traditional discipline orientations (mechanical, chemical, civil, and electrical engineering, for example), the text seems to have added zest. Apparently, this approach makes it easier for an author to capture the excitement of his technical field. The traditional disciplines, nevertheless, receive an airing, but in a more telling manner, namely, the role of each and their interrelationships in fashioning an Atlas missile or a TVA.

Basically, then, this book surveys the advancing frontiers of technological development which, we are reminded, is taking place not only in space exploration, but also, for example, in building design and construction as well. As such, it can be recommended to the technical specialist who is not familiar with the hubbub that is going on in technical worlds other than his own.

STANLEY KLEIN
Engineers Joint Council, New York, New York

New Books

Mathematics, Physical Sciences, and Engineering

Advances in Analytical Chemistry and Instrumentation. vol. 4. Charles N. Reilley, Ed. Interscience (Wiley), New York, 1965. 521 pp. Illus. $16. Seven papers: "Recent advances in precipitation from homogeneous solution" by F. H. Firsching; "Differential dialysis" by Lyman C. Craig; "The oxygen-flask method" by A. M. G. Macdonald; "Phase-solubility techniques" by T. Higuchi and K. Connors; "The electrochemistry of cation-sensitive glass electrodes" by G. Eisenman; "Recent advances in time-of-flight mass spectrometry" by Donald C. Damoth; and "Organic analysis with ultraviolet-visible absorption spectroscopy" by L. N. Ferguson.

Advances in Chemical Engineering. vol. 5. Thomas B. Drew, John W. Hoopes, Jr., and Theodore Vermeulen, Eds. Academic Press, New York, 1964. 327 pp. Illus. $14. Five papers: "Flame processes—Theoretical and experimental" by J. F. Wehner; "Bifunctional catalysts" by J. H. Sinfelt; "Heat conduction or diffusion with change of phase" by S. G. Bankoff; "The flow of liquids in thin films" by George D. Fulford; and "Segregation in liquid-liquid dispersions and its effect on chemical reactions" by K. Rietema.

Applied Optics and Optical Engineering. vol. 1, *Light: Its Generation and Modification*. Rudolf Kingslake, Ed. Academic Press, New York, 1965. 437 pp. Illus. $15. Eleven papers contributed by P. Baumeister, F. E. Carlson, C. N. Clark, Ralph D. Geiser, Robert F. Hopfield, R. E. Jacobson, Rudolf Kingslake, Norbert J. Kreidl, Robert J. Meltzer, Joseph L. Rood, Philip T. Scharf, Harold S. Stewart, Ray P. Teele, and Adriaan Walther.

Atomic Energy Review. vol. 3, No. 1. A. A. Jonke, I. Lovas, and Z. Zámori. International Atomic Energy Agency, Vienna, 1965 (order from Natl. Agency for International Publications, New York). 147 pp. Illus. Paper, $3.

Basic Facts of College Chemistry. Alfred Vogel. Macmillan, New York, 1965. 59 pp. Paper, 95¢.

Basic Facts of College Mathematics. John Papay. Macmillan, New York, 1965. 64 pp. Illus. Paper, 95¢.

Basic Facts of Trigonometry. Louis F. Roethel. Macmillan, New York, 1965. 64 pp. Illus. Paper, 95¢.

Chemical Physics of Semiconductors. J. P. Suchet. Enlarged and revised translation of the French edition (Paris, 1962) by E. Heasell. Van Nostrand, Princeton, N.J., 1965. 209 pp. Illus. $8.50. Van Nostrand Series in Physical Chemistry, edited by T. M. Sugden.

Classical Electromagnetic Radiation. Jerry B. Marion. Academic Press, New York, 1965. 495 pp. Illus. $10.75.

College Physics. Robert L. Weber, Kenneth V. Manning, and Marsh W. White. McGraw-Hill, New York, ed. 4, 1965. 718 pp. Illus. $9.75.

Colloque sur le Dévonien Inférieur et ses Limites, Rennes, September 1964. *Mém. Bur. Rech. Geol. et Min. No. 33*. Bureau de Recherches Géologiques et Minières, Paris, 1965. 86 pp. Paper, F. 20. Résumés of 34 communications.

Concepts in Physical Science. Sidney Rosen, Robert Siegfried, and John M. Dennison. Harper and Row, New York, 1965. 593 pp. Illus. $9.95.

Concepts of Engineering System Design. Warren E. Wilson. McGraw-Hill, New York, 1965. 267 pp. Illus. $7.50.

Einleitung in die Algebra und die

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