

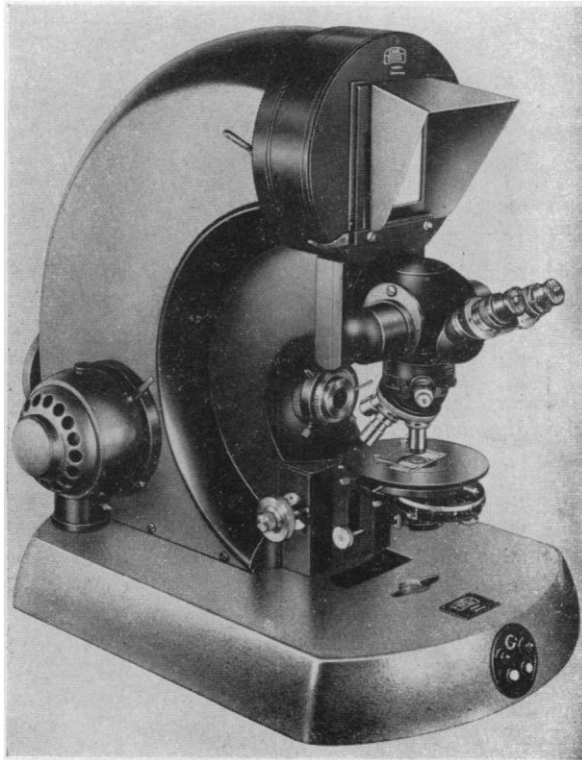
SCIENCE

6 September 1957

Volume 126, Number 3271

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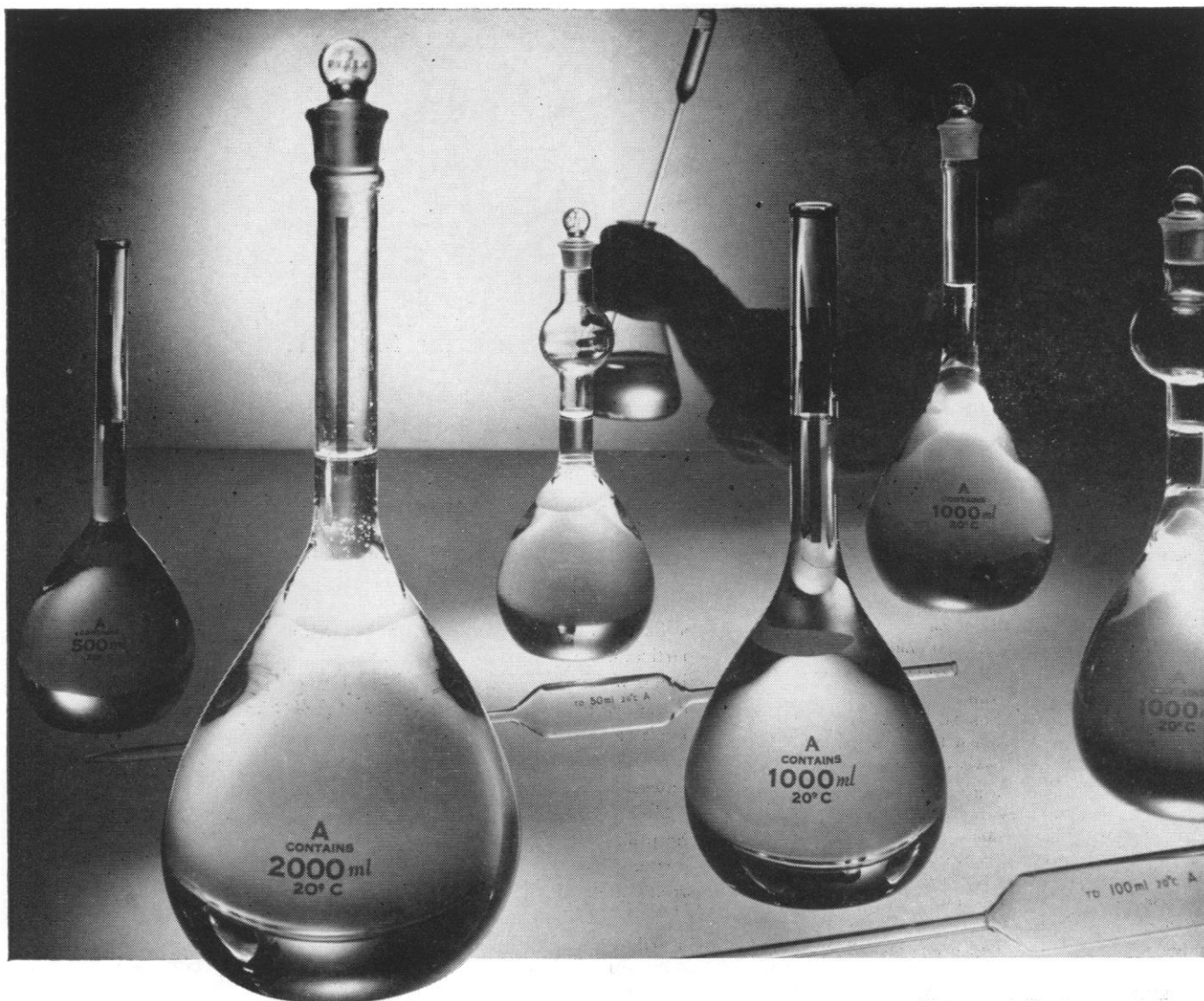
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the foreseeable future, when mankind will no longer be satisfied with the solar system but will look to the stars.

This book is divided into two parts. The first part is a lively and optimistic description of the training of spacemen, of satellite rockets, and of the space station that permits space travel to the moon and the planets of the solar system. Discussions of the space mirror as a power source and of a "moon car" for getting around on a low-gravity body are indications of the practical turn of the author's mind. The descriptive detail is clear, and engineering development on such concepts could begin today, if it has not already been started! The second part of the book contains a mass of scientific and engineering data supporting and illustrating various points developed in the first part.

It would be a mistake to assume that Oberth is not aware of the difficulties of space travel and its attendant problems. He describes the difficulties inherent in the new type of environment and the changes that must be made in order that men may live (in vehicles) and move where lack of air and low gravity are predominant factors. He always suggests various ways of satisfactorily solving these problems. He emphasizes the importance of the step rocket and of space stations as necessary prerequisites for travel to the moon and the planets. Until more knowledge is obtained about gravity and the nature of "space" itself, man is limited to chemical, and possibly atomic, fuels, and his mode of propulsion must be based on the third law of Newton. Thus, a suitable, low-mass heat source that can be controlled is absolutely necessary. Tomorrow may bring more efficient fuels or methods of propulsion that may not require the orbital space station, but today this is the only practical way of getting into space.

Oberth's whole philosophy is summarized in his last two lines in the descriptive part of his fascinating little book, as follows: "This is the goal: To make available for life every place where life is possible. To make inhabitable all worlds as yet uninhabitable, and all life purposeful." Surely this is a large enough goal for intelligent man!

THOMAS S. GARDNER

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New Books

The Rise of Modern Physics. G. F. Von Weizsäcker and J. Jülich (translated by Arnold J. Pomerans from *Physik der Gegenwart*, Athenaüm-Verlag, 1952). Braziller, New York, 1957. 158 pp. \$3.75.

Solvent Extraction in Analytical Chemistry. George H. Morrison and Henry Freiser. Wiley, New York; Chapman & Hall, London, 1957. 280 pp. \$6.75.

Anthropology and Human Nature. M. F. Ashley Montagu. Porter Sargent, Boston, 1957. 400 pp. \$6.

The Beginnings of Embryonic Development. A symposium organized by the Section on Zoological Sciences of the American Association for the Advancement of Science, cosponsored by the American Society of Zoologists and the Association of Southeastern Biologists, and presented at the Atlanta meeting, 27 Dec. 1955. Publ. No. 48. Albert Tyler, R. C. von Borstel, Charles B. Metz, Eds. American Association for the Advancement of Science, Washington, D.C., 1957. 400 pp. \$8.75; \$7.50 (members).

Biochemical Contributions to Endocrinology. Experiments in hormonal research. The Lane Medical lectures, 1956. Sir Charles Dodds. Stanford University Press, Stanford, Calif.; Oxford University Press, London, 1957. 76 pp. Illus. \$3.

Biochemistry of the Amino Acids. Alton Meister. Academic Press, New York, 1957. 498 pp. \$10.

Canine Surgery. A text and reference work. Karl Mayer, J. V. Lacroix, H. Preston Hoskins, Eds. American Veterinary Publ., Evanston, Ill., 1957. 839 pp.

Chemie und Biochemie der Reduktone und Reduktonate. Hans von Euler and Bernd Eistert. Enke, Stuttgart, Germany, 1957. 355 pp. DM. 47.40.

Détermination Pratique des Fossiles. André Chavan and André Cailleux. Masson, Paris, 1957. 387 pp. F. 5800.

Foot Troubles. T. T. Stamm. Philosophical Library, New York, 1957. 122 pp. \$4.75.

Introduction à L'Etudes des Roches Métamorphiques et des Gites Métallifères. Physico-chimie et thermodynamique. Pierre Laffitte. Masson, Paris, 1957. 358 pp. F. 4000.

L'Analyse Qualitative et les Réactions en Solution. G. Charlot. Masson, Paris, ed. 4, 1957. 379 pp. F. 3600.

Personal Problems and Psychological Frontiers. A Cooper Union forum. Johnson E. Fairchild, Ed. Sheridan House, New York, 1957. 320 pp. \$4.

Psychology in the Soviet Union. Translated by J. and M. Ellis, H. Milne, J. McLeish, N. Parsons, and others. Brian Simon, Ed. Stanford University Press, Stanford, Calif., 1957. 313 pp. \$6.

Ultrastructure and Cellular Chemistry of Neural Tissue. vol. II of *Progress in Neurobiology*. Heinrich Waelsch, Ed. Hoeber-Harper, New York, 1957. 264 pp. \$7.50.

Documentation and Information Retrieval. An introduction to basic principles and cost analysis. J. W. Perry and Allen Kent. Western University Press, Interscience, New York, 1957. 168 pp. \$5.

Elements of Color in Professional Motion Pictures. Wilton R. Holm, Chair. Society of Motion Pictures and Television Engineers, New York, 1957. 104 pp.

Engineering Properties and Applications of Plastics. Gilbert F. Kinney. Wiley, New York; Chapman & Hall, London, 1957. 285 pp. \$6.75.

The Galactic Novae. Cecilia Payne-Gaposchkin. North-Holland, Amsterdam; Interscience, New York, 1957. 336 pp. \$8.50.

Teaching Science in the Secondary School. R. Will Burnett. Rinehart, New York, 1957. 394 pp. \$5.25.

You Can Win a Scholarship. Samuel C. Brownstein, Mitchel Weiner, Stanley H. Kaplan. Barron's Educational Series, Great Neck, N. Y., 1956. 434 pp. Paper, \$2.98.

Understanding Arithmetic. Robert L. Swain. Rinehart, New York, 1957 (first published, 1952). 285 pp. \$4.75.

Virus in the Cell. J. Gordon Cook. Dial Press, New York, 1957. 208 pp. \$3.

We Live by the Sun. J. Gordon Cook. Dial Press, New York, 1957. 192 pp. \$3.

Fasteners Handbook. Julius Soled. Reinhold, New York; Chapman & Hall, London, 1957. 439 pp. \$12.50.

Miscellaneous Publications

(Inquiries concerning these publications should be addressed, not to Science, but to the publisher or agency sponsoring the publication.)

Pest Infestation Research, 1956. Report of the Pest Infestation Research Board with the report of the director of pest infestation research. Department of Scientific and Industrial Research. H.M. Stationery Office, London, 1957 (order from British Information Services, 45 Rockefeller Plaza, New York). \$0.86.

Liquid Metals Technology, pt. 1. Chemical Engineering Progress Symposium series, vol. 53, No. 20. F. J. Van Antwerpen, Ed. American Institute of Chemical Engineers, New York, 1957. 84 pp.

The Rio Grande Flood. A comparative study of border communities in disaster. Disaster Study No. 7. Publ. 458. Roy A. Clifford. 145 pp. Paper, \$2.50. *An Introduction to Methodological Problems of Field Studies in Disasters.* A special report prepared for the Committee on Disaster Studies. Disaster Study No. 8. Publ. 465. Lewis M. Killian. 35 pp. Paper, \$0.75. *Convergence Behavior in Disasters.* A problem in social control. Disaster Study No. 9. Publ. 476. Charles E. Fritz and J. H. Mathewson. 102 pp. \$2. National Academy of Sciences-National Research Council, Washington 25, D.C., 1957.

Strengthening Science Education for Youth and Industry. Proceedings of the seventh Thomas Alva Edison Foundation Institute, 19-20 Nov. 1956. New York University Press, N.Y., 1957. 162 pp. \$5.

Travaux de l'Association Internationale de Géodésie, vol. 19. Rapports généraux. Etablis à l'occasion de la dixième assemblée général, Rome, 14-25 Sept. 1954. Pierre Tardi, Ed. Association Internationale de Géodésie, Paris, 1956. 10 repts.

World Directory of Crystallographers. Philips Laboratories contribution No. 115. Compiled by William Parrish. Philips Laboratories, Irvington-on-Hudson, N.Y., 1957 (order from Polycrystal Book Service, Brooklyn 1, N.Y.). 79 pp. \$1.50.

Role of Hospitals in Programmes of Community Health Protection. First report of the Expert Committee on Organization of Medical Care. WHO Technical Rept. series, No. 122. World Health Organization, Geneva, 1957 (order from Columbia University Press, New York). 34 pp. \$0.30.

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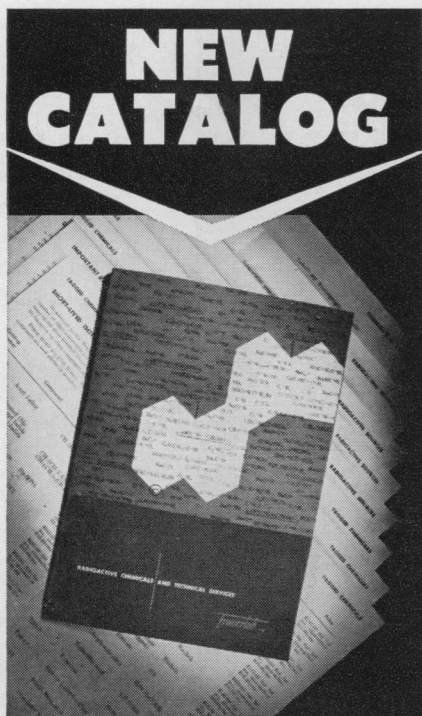
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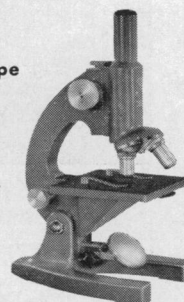


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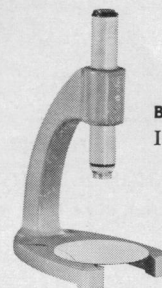
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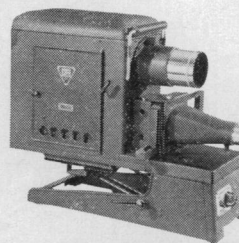


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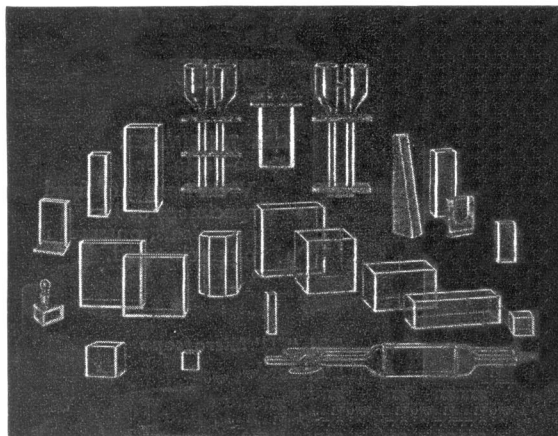
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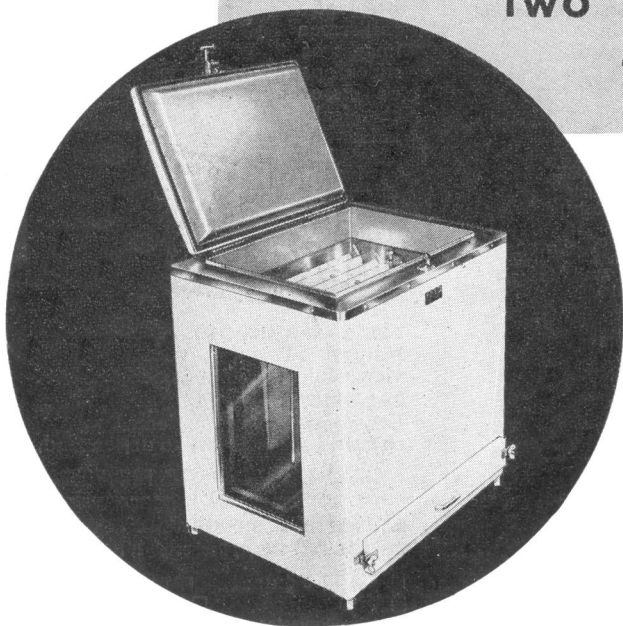
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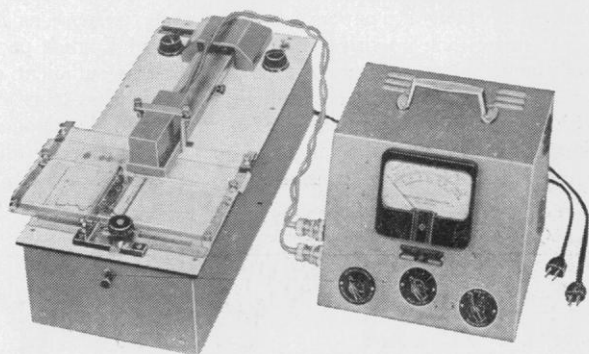
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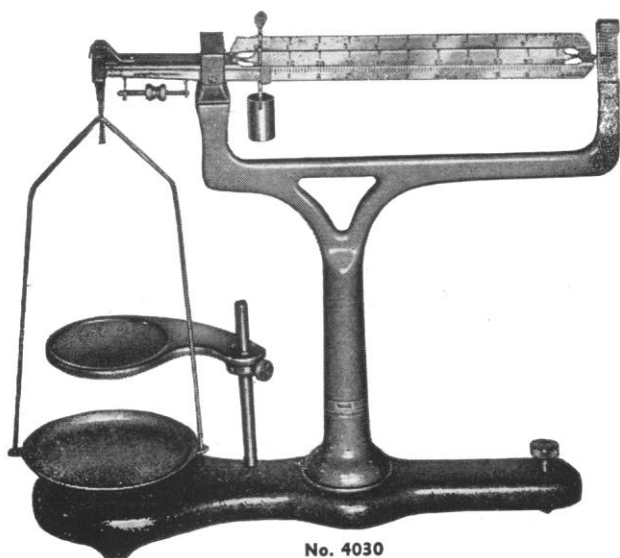
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