

kaolinite, this paper and ink have a high kaolinite content, and for the cramps you drink a solution of kaolinite; your soap, if it is an efficient dirt remover, may contain 10 to 40 percent sepiolite; the impurities have been adsorbed from your dinner wine by montmorillonite, your shoe polish contains montmorillonite, and your grapes can be kept in perfect condition for at least 5 months if they are properly packed in montmorillonite.

Although the use of clay minerals in industrial processes is growing rapidly, more fundamental research is needed in order to make maximum use of these magical minerals.

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New Books

Mathematics, Physical Sciences, and Engineering

Algebraical and Topological Foundations of Geometry. Hans Freudenthal, Ed. Pergamon, New York, 1962. 215 pp. Illus. \$10. Proceedings (27 papers in English, German, or French) of a colloquium held at Utrecht in August 1959, which was sponsored by the International Mathematical Union on behalf of the Netherlands Mathematical Society.

Algebraic Logic. Paul R. Halmos. Chelsea, New York, 1962. 271 pp. \$3.75. A collection of ten papers, reprinted from various journals, originally published between 1954 and 1959.

Alkyd Resin Technology. Formulating techniques and allied calculations. T. C. Patton. Interscience, New York, 1962. 206 pp. Illus. \$9.75.

Analogue Computation. Techniques and components. R. W. Williams. Academic Press, New York, 1961. 271 pp. Illus. \$9.50.

The Analysis of Titanium, Zirconium, and Their Alloys. W. T. Elwell and D. F. Wood. Wiley, New York, 1962. 209 pp. Illus. \$7.75.

Calculus of Variations. vol. 19, International Series of Monographs in Pure and Applied Mathematics. L. E. Elsgolc. Translated from the Russian. Pergamon, London; Addison-Wesley, Reading, Mass., 1962. 178 pp. Illus. \$4.50.

Dictionary of Geological Terms. Prepared under the direction of the American Geological Institute. Doubleday, Garden City, N.Y., 1962. 558 pp. Paper, \$1.95. An abridged and revised edition of the AGI's *Glossary of Geology and Related Sciences* (ed. 2, 1960). The *Dictionary* contains some 7500 terms, while the *Glossary* contains nearly 17,000 terms.

A Dictionary of Geology. John Challinor. Univ. of Wales Press, Cardiff; Oxford Univ. Press, New York, 1962. 251 pp. \$5.

Differential and Integral Calculus. Clyde

R. Love and Earl D. Rainville. Macmillan, New York, ed. 6, 1962, 596 pp. Illus. \$7.50.

Forces and Fields. The concept of action at a distance in the history of physics. Mary B. Hesse. Philosophical Library, New York, 1962. 328 pp. \$10.

Functions of a Complex Variable. And some of their applications. vol. 2. B. A. Fuchs and V. I. Levin. Translated from the Russian by J. Berry. T. Kövari, Ed. Addison-Wesley, Reading, Mass., 1961. 296 pp. Illus. \$7.

Heat Engines. John F. Sandfort. Doubleday, Garden City, N.Y., 1962. 317 pp. Illus. Paper, \$0.95.

Hypersonic Flow Research. vol. 7, Progress in Astronautics and Rocketry. Frederick R. Riddell, Ed. Academic Press, New York, 1962. 768 pp. Illus. \$10.50. The papers are based mainly on those presented at a symposium of the American Rocket Society held at Massachusetts Institute of Technology in August 1961.

An Index of Mathematical Tables. vol. 1, *Index According to Functions*. vol. 2, *Bibliography, Lists of Errors in Published Tables, References*. A. Fletcher, J. C. P. Miller, L. Rosenhead, and L. J. Comrie. Scientific Computing Service, London; Addison-Wesley, Reading, Mass., ed. 2, 1962. 1005 pp. 2 vols., \$42.

Introduction to the Physics of Vibrations and Waves. Norman Feather. Edinburgh Univ. Press, Edinburgh, 1961 (order from Aldine, Chicago, Ill.). 338 pp. Illus. \$6.

An Introduction to Probability and Mathematical Statistics. Howard G. Tucker. Academic Press, New York, 1962. 240 pp. \$5.75.

Introduction to Thermodynamics of Irreversible Processes. I. Prigogine. Interscience, New York, ed. 2, 1961. 130 pp. \$5.

Introductory Organic Quantum Chemistry. Georg Karagounis. Translated from the German and edited by F. C. Nachod. Academic Press, New York, 1962. 212 pp. Illus. \$6.50.

Invitation to Mathematics. William H. Glenn and Donovan A. Johnson. Doubleday, Garden City, N.Y., 1962. 373 pp. Illus. \$4.95.

Les Livres Arithmétiques d'Euclide. Jean Itard. Hermann, Paris, 1961. 231 pp. Plates. Paper, NF. 15.

Microminiaturization. G. W. A. Dummer, Ed. Pergamon, New York, 1962. 365 pp. Illus. \$15. Proceedings (25 papers and discussion, in English or French) of the AGARD conference held at Oslo in July 1961.

The Moon: A Russian View. A. V. Markov, Ed. Univ. of Chicago Press, Chicago, 1962. 400 pp. Illus. Plates. \$8.

Moving Field Radiation Therapy. Felix Wachsmann and Gunther Barth. Translated from the German by Elisabeth F. Lanzl; adapted and expanded by Lawrence H. Lanzl and James W. J. Carpender. Univ. of Chicago Press, Chicago, 1962. 283 pp. Illus. \$10.95.

New Ways in Math. Arthur Jonas. Prentice-Hall, Englewood Cliffs, N.J. 70 pp. Illus. \$2.95.

Numerical Methods for Scientists and Engineers. R. W. Hamming. McGraw-Hill, New York, 1962. 428 pp. Illus. \$11.

On the External Characters of Minerals. A. G. Werner. Translated from the German by Albert V. Carozzi. Univ. of Illinois Press, Urbana, 1962. 149 pp. \$4.50.

Physical Principles and Applications of Junction Transistors. J. H. Simpson and R. S. Richard. Oxford Univ. Press, New York, 1962. 533 pp. Illus. \$10.10.

Physics and Astronomy of the Moon. Zdeněk Kopal, Ed. Academic Press, New York, 1962. 533 pp. Illus. \$16.50. Thirteen chapters, written by 15 authors, including Kopal.

Polyolefines. A. V. Topchiev and B. A. Krentsel. Translated from the Russian by A. D. Norris. Pergamon, New York, 1962. 103 pp. Illus. \$3.50. (A translation of *Poliolefiny—Novyye sinteticheskiye materialy*, Academy of Sciences of the U.S.S.R., Moscow, 1959.)

Principles of Physics. Earnest S. Greene. Prentice-Hall, Englewood Cliffs, N.J., 1962. 839 pp. Illus. \$9.75.

Principles of Structural Equilibrium. A study of equilibrium conditions by graphic, force-moment, and virtual displacement (virtual work) principles. G. C. Ernst, G. R. Swihart, A. R. Riveland. Univ. of Nebraska Press, Lincoln, 1962. 169 pp. Illus. \$4.50.

Radio Surface Waves. H. M. Barlow and J. Brown. Oxford Univ. Press, New York, 1962. 211 pp. Illus. \$6.75.

Rock-Forming Minerals. vol. 1, *Ortho and Ring Silicates*. W. A. Deer, R. A. Howie, J. Zussman. Longmans, Green, London; Wiley, New York, 1962. 341 pp. Illus. \$15.50.

Rutherford Jubilee International Conference, Manchester 1961, Proceedings. J. B. Birk, Ed. Academic Press, New York, 1961. 856 pp. Illus. \$32. The conference, which was held at Victoria University of Manchester in September 1961, was sponsored by the International Union of Pure and Applied Physics, the Royal Society, the Institute of Physics, the Physical Society, and Victoria University of Manchester.

Superconductive Devices. John W. Bremer. McGraw-Hill, New York, 1962. 196 pp. Illus. Plates. \$8.

Synthetic Lubricants. Reigh C. Gunderson and Andrew W. Hart, Eds. Reinhold, New York; Chapman and Hall, London, 1962. xiv + 497 pp. Illus. \$15 (11 contributed papers).

Theory of Molecular Excitons. A. S. Davydov. Translated from the first Russian edition by Michael Kasha and Max Oppenheimer, Jr. McGraw-Hill, New York, 1962. 183 pp. Illus. \$7.95.

The Theory of Probability. B. V. Gnedenko. Translated from the second Russian edition by B. D. Seckler. Chelsea, New York, 1962. 472 pp. Illus. \$8.75 (a translation of *Kurs Teori Veroyatnostei*).

Topology of 3-Manifolds and Related Topics. M. K. Fort, Jr., Ed. Prentice-Hall, Englewood Cliffs, N.J., 1962. Illus. Trade ed., \$10; text ed., \$7.50. Proceedings (47 papers, either summaries or full length reports) of papers presented at the institute held at the University of Georgia in 1961.

Valence. C. A. Coulson. Oxford Univ. Press, New York, ed. 2, 1961. 417 pp. Illus. \$6.