

and physical chemists, possibly because it is difficult to go beyond the yes/no stages in interpretation of the results; greater detail is not easily won. Collins and Bowman's book does much to expose the richness and power of the method; successive labeling and temperature dependence studies are virtually untapped resources; perhaps recent improvements in mass spectrometry and simplifications in techniques for large-scale model calculations will encourage new workers to try their hands at this rewarding scientific game.

PETER E. YANKWICH

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## Toxic Metal

**Cadmium in the Environment.** LARS FRIBERG, MAGNUS PISCATOR, and GUNNAR NORDBERG. CRC Press, Cleveland, Ohio, 1971. 176 pp., illus. \$25.

Cadmium is one of the five most toxic of the environmental metals to which industrialized man has unwittingly exposed himself. Lacking a homeostatic mechanism, mammals can only sequester this metal and accumulate it in kidney, liver, and blood vessels, where it remains apparently for life.

This volume attempts to compile "information essential to the understanding of the toxic action of cadmium and the relationship between dose and effects on human beings and animals." It is based on the authors' long experience with a relatively small group of workers exposed industrially to cadmium fumes and dusts, and on the experimental literature. It is therefore misnamed, for factories do not represent the environment nor exposed workers the population.

The book, which contains many data, has several defects. There is no index; a complicated five-page table of contents has to serve—but does not. There is no way to track down an intriguing reference without reading the whole book. Through an error, pagination is off by 12 pages, a constant irritation. Of the 90 tables and figures, 25 are "unpublished observations" of the authors or, surprisingly, of other workers here and abroad, and there are many such references in the text. The text at times is wordy and repetitive. The relation of cadmium to zinc, probably the basis of its toxicity, is sparsely covered.

Animal experiments are well docu-

mented, although there is a tendency to apply effects from injected cadmium to disease in the population at large. For example, injected cadmium causes sarcomata, as do six other metals; ingested cadmium does not. This section ends with an uncritical discussion of the high rate of stomach cancer in Japanese. Some good work has been reported on cadmium teratogenesis which is not mentioned; this section is poor.

The treatment of the effects of cadmium on human health is largely confined to exposed and poisoned workers, and a great deal of attention is paid to proteinuria with little to renal function. Effects on blood, bone, liver, and other organs are discussed in respect to heavy air exposures. Respiratory effects are well considered, but the authors judge too adversely the hypothesis that cadmium from air and cigarettes could cause pulmonary emphysema in the general population. They are also too critical of the hypothesis that cadmium is a cause of hypertension, which has confirmation from the epidemiological, pathological, and experimental evidence although this disorder does not accompany overt poisoning. They imply that cadmium exposures of the general population come mainly from air, which is not the case in this country, nor was it in "itai-itai" osteoporosis in Japan.

This book contains much of what one wants to know about overt cadmium toxicity in animals and man—if one can find it. It should be useful to students and workers in this area of toxicology, if read with a critical eye. The overall situation is not nearly as bad as one is led to believe.

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## Element 81

**The Chemistry of Thallium.** A. G. LEE. Elsevier, New York, 1971. xii, 336 pp., illus. \$19.95. Topics in Inorganic and General Chemistry, Monograph 14.

It is stated in the preface that this book was written "to provide a comprehensive and critical review of the chemistry of thallium, paying special attention to the advances of the last decade." The author has, however, been successful in only one of his objectives. Within his terms of reference, Lee has certainly provided a compre-

hensive review of the field, and his book will serve as a useful source of references to the primary literature. Both inorganic and organometallic chemistry are described in detail and the organization of the content of the chapters is good. No attempt has been made to provide a "critical review of the chemistry of thallium," however; the facts are presented more or less correctly and critical appraisal by the author is carefully avoided.

There are three main features of this first monograph on the general chemistry of thallium which, singly or collectively, will infuriate most readers. First, the number of typographical errors is quite incredible. Second, and more serious, is the fact that in a significant number of instances large parts of the author's "discussion" are merely reproductions of discussions from the original literature, inserted without acknowledgment. And third, the index is inadequate. Because it is the only monograph on thallium available, this book will be a necessary purchase for specialists in this area—but only until a better volume is published.

A. MCKILLOP

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## Books Received

**Acoustique et Musique.** Données Physiques et Technologiques. Problèmes de l'Audition des Sons Musicaux. Principes de Fonctionnement et Signification Acoustique des Principaux Archetypes d'Instruments de Musique. Les Musiques Expérimentales. L'Acoustique des Salles. E. Leipp. Masson, Paris, 1971. iv, 340 pp., illus. Paper, 80 F.

**The Analysis of Subjective Culture.** Harry C. Triandis, in association with Vasso Vassiliou, George Vassiliou, Yasumasa Tanaka, and A. V. Shanmugam and with the assistance of Earl E. Davis, Keith M. Kilty, Howard McGuire, Tulsi Saral, and Kuo-shu Yang. Wiley-Interscience, New York, 1972. xiv, 384 pp., illus. \$16.95.

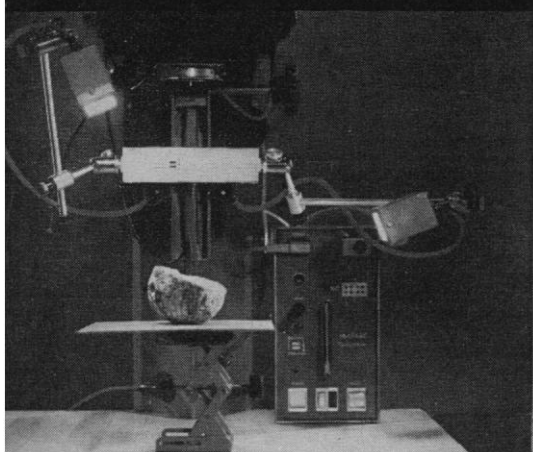
**Analytic Properties of Feynman Diagrams in Quantum Field Theory.** I. T. Todorov. Translated from the Russian by Clifford Risk. Pergamon, New York, 1971. xvi, 152 pp., illus. \$10.50. International Series of Monographs in Natural Philosophy, vol. 38.

**Annual Review of Psychology.** Vol. 23. Paul H. Mussen and Mark R. Rosenzweig, Eds. Annual Reviews, Palo Alto, Calif., 1972. x, 786 pp. \$10.

**The Ascent of Man.** An Introduction to

(Continued on page 439)

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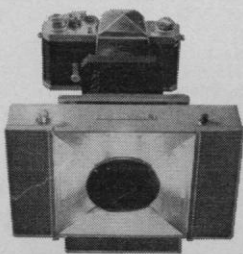
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### BOOKS RECEIVED

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**Human Evolution.** David Pilbeam. Macmillan, New York, 1972. x, 208 pp., illus. Paper, \$3.25.

**An Atlas of Mammalian Chromosomes.** Vol. 6. T. C. Hsu and Kurt Benirschke. Springer-Verlag, New York, 1971. 50 folios, \$14.80. Loose-leaf binder for individual volume, \$2.

**Beyond the Observatory.** Harlow Shapley. Scribner, New York, 1972. 224 pp. Paper, \$2.65. Reprint of the 1967 edition.

**Biochemical and Pharmacological Aspects of Dependence and Reports on Marihuana Research.** A symposium, Amsterdam, Sept. 1971. H. M. Van Praag, Ed. Bohn, Haarlem, the Netherlands, 1972. viii, 214 pp., illus. Paper, 35 Hfl.

**Biochemistry of the Acute Allergic Reactions.** Second International Symposium. Augusta, Mich. K. Frank Austen and Elmer L. Becker, Eds. Blackwell, Oxford, England, 1971 (U.S. distributor, Davis, Philadelphia). xii, 356 pp., illus. \$14.

**Biosynthesis of Macromolecules.** Vernon M. Ingram. Benjamin, Menlo Park, Calif., ed. 2, 1972. xiv, 302 pp., illus. Cloth, \$10.95; paper, \$5.95.

**A Biosystematic Study of the Genus Brodiaea (Amaryllidaceae).** Theodore F. Niehaus. University of California Press, Berkeley, 1971. vi, 66 pp. + plates. Paper, \$3. University of California Publications in Botany, vol. 60.

**The Calculation of Atomic Collision Processes.** Kenneth Smith. Wiley-Interscience, New York, 1971. xii, 218 pp., illus. \$13.95.

**Carotenoids.** Otto Isler, Hugo Gutmann, and Ulrich Solms, Eds. Birkhäuser, Basel, 1971. 932 pp., illus. 118 Sw Fr. Chemische Reihe, vol. 23.

**Coastal Zone Management.** Multiple Use with Conservation. J. F. Peel Brahtz, Ed. Wiley, New York, 1972. xiv, 352 pp., illus. \$19.50. University of California Engineering and Physical Sciences Extension Series.

**Comparative Guide to Engineering Programs.** James Cass and Max Birnbaum. Harper and Row, New York, 1972. xvi, 328 pp. Paper, \$4.95. Reprinted from *Comparative Guide to Science and Engineering Programs*.

**Comparative Guide to Programs in Biological Sciences and Chemistry.** James Cass and Max Birnbaum. Harper and Row, New York, 1972. xviii, 386 pp. Paper, \$4.95. Reprinted from *Comparative Guide to Science and Engineering Programs*.

**Comparative Guide to Programs in Earth Sciences, Physics and Astronomy.** James Cass and Max Birnbaum. Harper and Row, New York, 1972. xviii, 246 pp. Paper, \$4.95. Reprinted from *Comparative Guide to Science and Engineering Programs*.

**Comptes-Rendus de la Semaine d'Etude de la Catalyse.** Liège, Belgium, Sept. 1970. L. d'Or and E. G. Derouane, Eds. Société Royale des Sciences, Liège, 1971. 320 pp., illus. Paper, 600 BF.

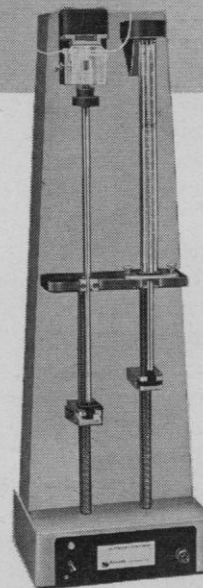
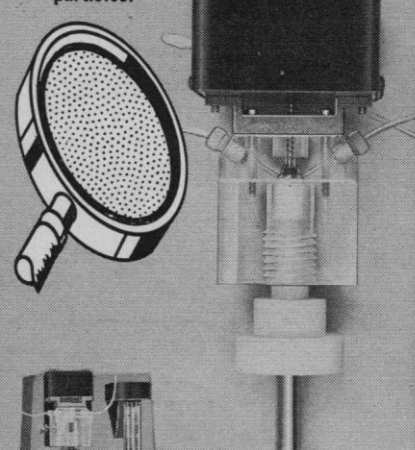
**Computer Appreciation.** T. F. Fry. Philosophical Library, New York, 1971. viii, 238 pp., illus. \$15.

**Concepts of Chemistry.** William W. Por-

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terfield. Norton, New York, 1972. xii, 948 pp., illus. \$12.95.

**Conservation of Nonhuman Primates in 1970.** Barbara Harrison. Karger, Basel, 1971 (U.S. distributor, Phiebig, White Plains, N.Y.). vi, 100 pp. \$6.70. Primates in Medicine, vol. 5.

**Coordination Chemistry.** Vol. 1. Arthur E. Martell, Ed. Van Nostrand Reinhold, New York, 1971. xxii, 578 pp., illus. \$32.50. American Chemical Society Monograph 168.

**Cosmic Rays and Nuclear Interactions at High Energies.** D. V. Skobel'tsyn, Ed. Translated from the Russian edition (Moscow, 1970) by Frank L. Sinclair. Consultants Bureau, New York, 1971. vi, 228 pp., illus. Paper, \$29.50. Lebedev Physics Institute Series.

**A Course in Homological Algebra.** P. J. Hilton and U. Stambach. Springer-Verlag, New York, 1971. x, 340 pp., illus. Paper, \$12.80. Graduate Texts in Mathematics, 4.

**Cultural Frontiers in Ancient East Asia.** William Watson. Edinburgh University Press, Edinburgh, Scotland, 1972 (U.S. distributor, Aldine-Atherton, Chicago). 188 pp. + plates. \$14.50.

**Current Topics in Experimental Endocrinology.** Vol. 1. L. Martini and V. H. T. James, Eds. Academic Press, New York, 1971. xiv, 294 pp., illus. \$16.50.

**Czechoslovakia. A Short History.** J. F. N. Bradley. Edinburgh University Press, Edinburgh, Scotland, 1972 (U.S. distributor, Aldine-Atherton, Chicago). xii, 212 pp. + plates. \$8.95. Short Histories of Europe, 2.

**Differential and Integral.** A Constructive Introduction to Classical Analysis. Paul Lorenzen. Translated from the German edition by John Bacon. University of Texas Press, Austin, 1972. xiv, 304 pp., illus. \$10.

**Documents on Disarmament, 1970.** U.S. Arms Control and Disarmament Agency, Washington, D.C., 1971 (available from Superintendent of Documents, Washington, D.C.). xx, 808 pp., illus. Paper, \$3.50. Publication 60.

**The Domesday Geography of Eastern England.** H. C. Darby. Cambridge University Press, New York, ed. 3, 1972. xiv, 400 pp., illus. \$32.50.

**Drug Design.** Vol. 2. E. J. Ariens, Ed. Academic Press, New York, 1971. xx, 646 pp., illus. \$35. Medicinal Chemistry, vol. 11-2.

**Dynamics of Populations.** An Institute, Oosterbeek, the Netherlands, Sept. 1970. P. J. den Boer and G. R. Gradwell, Eds. Centre for Agricultural Publishing and Documentation, Wageningen, 1971. 612 pp., illus. 65 Dfl.

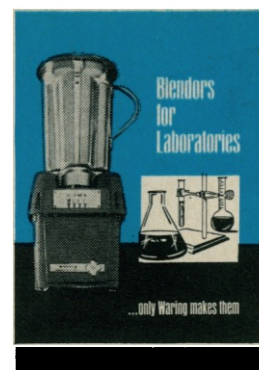
**Ecology, Pollution, Environment.** Amos Turk, Jonathan Turk, and Janet T. Wittes. Saunders, Philadelphia, 1972. x, 218 pp., illus. Paper, \$3.95.

**Electromagnetic Fields and the Life Environment.** Karel Marha, Jan Musil, and Hana Tuhá. Translated from the Czech edition (Prague, 1968). San Francisco Press, San Francisco, 1971. vi, 138 pp., illus. \$6.50.

**Electron Microscopy in Material Science.** A NATO Advanced Study Institute, Erice, Italy, Apr. 1971. U. Valdrè, Ed. Academic Press, New York, 1971. xxiv, 758 pp.,

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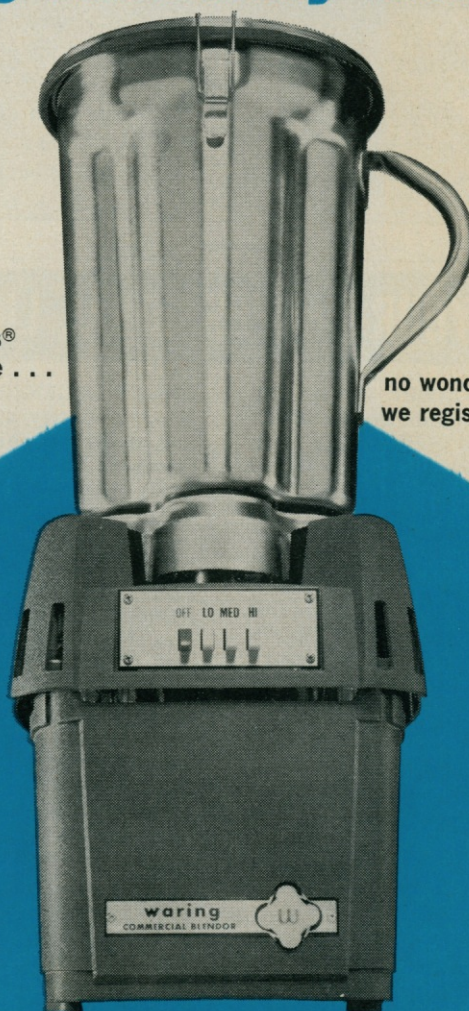


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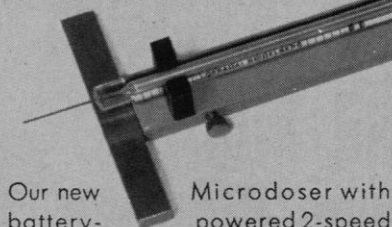
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**PSYCHOTROPIC DRUGS IN THE YEAR 2000: Use By Normal Humans** compiled and edited by Wayne O. Evans, *U. S. Army Research Institute of Environmental Medicine, Natick, Massachusetts*, and Nathan S. Kline, *Rockland State Hospital, Orangeburg, New York*. (16 Contributors) '71, 192 pp., 6 tables, \$7.75

**A SOURCE-BOOK OF BIOLOGICAL NAMES AND TERMS** (3rd Ed., 5th Ptg.) by Edmund C. Jaeger, *Riverside, California*. '72, 360 pp. (6 1/4 x 9 1/2), 106 il., \$8.75

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**MAMMALS OF THE SEA: Biology and Medicine** edited by Sam H. Ridgway, *Naval Undersea Research and Development Center, San Diego, California*. (12 Contributors) '72, 830 pp. (6 3/4 x 9 3/4), 434 il. (8 in full color), 43 tables, \$45.00

**THE PSYCHODYNAMIC IMPLICATIONS OF THE PHYSIOLOGICAL STUDIES ON PSYCHOMIMETIC DRUGS** edited by Leo Madow and Laurence H. Snow, *both of The Medical College of Pennsylvania, Philadelphia*. (5 Contributors) '71, 96 pp., \$7.75

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**Environment and Man**. Richard H. Wagner. Norton, New York, 1971. xiv, 492 pp., illus. \$7.50.

**Evolution of Botany. More Fact Than Theory**. Benjamin Zarr. Published by the author, P.O. Box 495, Worcester, Mass., 1971. 218 pp., illus., with **Preview to Evolution of Biology**, 32 pp., illus. Paper, \$6.95.

**The Fermi Surfaces of Metals. A Description of the Fermi Surfaces of the Metallic Elements**. Arthur P. Cracknell. Taylor and Francis, London; Barnes and Noble, New York, 1971. x, 284 pp., illus. Paper, \$11.25. Taylor and Francis Monographs on Physics. Reprinted from *Advances in Physics*, vol. 18, No. 76 (1969), and vol. 20, No. 83 (1971).

**Fluorescein Angiography. Angiographie Fluorescéinique**. A symposium, Albi, France, June 1969. P. Amalric, Ed. Karger, Basel, 1971 (U.S. distributor, Phiebig, White Plains, N.Y.). xxiv, 684 pp. + plates. \$49.

**Forty Years of Research in Human Fertility. Retrospect and Prospect**. A conference, New York, May 1971. Clyde V. Kiser, Ed. Milbank Memorial Fund, New York, 1971. 254 pp. \$3. *Milbank Memorial Fund Quarterly*, vol. 49, No. 4, part 2.

**Galactic Astronomy**. An institute, Stony Brook, N.Y., June 1968. Hong-Yee Chiu and Amador Muriel, Eds. Gordon and Breach, New York, 1970. Two volumes; vol. 1, x, 334 pp., illus. \$12.50; to libraries, \$22.50; vol. 2, viii, 300 pp., illus. \$10.50; to libraries, \$21.

**Genetic Diversity and Natural Selection**. James Murray. Oliver and Boyd, Edinburgh, Scotland, 1972. viii, 128 pp., illus. Paper, £2.50.

**Genetical, Functional, and Physical Studies of Hemoglobins**. A symposium, Caracas, Dec. 1969. T. Arends, G. Bemski, and R. L. Nagel, Eds. Karger, Basel, 1971 (U.S. distributor, Phiebig, White Plains, N.Y.). viii, 294 pp., illus. \$19.20.

**Genetics**. D. J. Cove. Cambridge University Press, New York, 1972. iv, 216 pp., illus. Cloth, \$10; paper, \$3.95.

**Gifford Pinchot**. A Bio-Bibliography. Hazel Dawson. U.S. Department of the Interior Information Services Division, Washington, D.C., 1972 (available from National Technical Information Service, Springfield, Va.). vi, 37 pp. Paper, \$3.

**Glass**. G. O. Jones. Chapman and Hall (Science Paperback), London, ed. 2, 1971 (U.S. distributor, Barnes and Noble, New York). viii, 128 pp., illus. Cloth, \$5; paper, \$3.25.

**How to Know the Spiders**. B. J. Kaston. Brown, Dubuque, Iowa, ed. 2, 1972. x, 290 pp., illus. \$5.25. Pictured Key Nature Series.

**Images from Life**. British Museum (Natural History), London, 1971. Unpaged, illus. Paper, £1.50.

**Industrial Pollution Control and Inter-**

**national Trade.** General Agreement on Tariffs and Trade, Geneva, 1971 (U.S. distributor, Unipub, New York). 26 pp. \$1.50. GATT Studies in International Trade, No. 1.

**Inequalities—III.** A symposium, Los Angeles, Sept. 1969. Oved Shisha, Ed. Academic Press, New York, 1972. xxii, 368 pp., illus. \$19.50.

**Inner Speech and Thought.** A. N. Sokolov. Translated from the Russian edition (Moscow, 1968) by George T. Onischenko. Translation edited by Donald B. Lindsley. Plenum, New York, 1972. x, 284 pp., illus. \$22.50. Monographs in Psychology.

**International Conference on Alternative Insecticides for Vector Control.** Atlanta, Ga., Feb. 1971. World Health Organization, Geneva, 1971 (U.S. distributor, American Public Health Association, Washington, D.C.). vi, 472 pp., illus. \$10. Bulletin of the World Health Organization, vol. 44, Nos. 1-3.

**An Introduction to On-Line Computers.** W. Wayne Black. Gordon and Breach, New York, 1971. xii, 450 pp., illus. \$12.50; to libraries, \$22.50.

**Introduction to the Finite Element Method.** A Numerical Method for Engineering Analysis. Chandrakant S. Desai and John F. Abel. Van Nostrand Reinhold, New York, 1972. xviii, 476 pp., illus. \$18.50.

**Laboratory Manual of General Ecology.** George W. Cox. Brown, Dubuque, Iowa, ed. 2, 1972. xii, 196 pp., illus. Spiral bound, \$3.95. Biology Series.

**The Language of Trust.** Dialogue of the Generations. Douglas Holmes, Monica Bychowski Holmes, and Lisa Appignanesi. Science House, New York, 1972. xvi, 164 pp. \$10.

**Leaf Protein.** Its Agronomy, Preparation, Quality and Use. N. W. Pirie, Ed. Published for International Biological Programme by Blackwell, Oxford, England, 1971 (U.S. distributor, Davis, Philadelphia). viii, 192 pp. + plates. Paper, \$9. IBP Handbook, No. 20.

**The Limits to Growth.** A Report for the Club of Rome's Project on the Predicament of Mankind. Donella H. Meadows, Dennis L. Meadows, Jørgen Randers, and William W. Behrens, III. Universe Books, New York, 1972. 206 pp., illus. Cloth, \$6.50; paper, \$2.75. A Potomac Associates Book.

**An MMPI Handbook.** Vol. 1, Clinical Interpretation. W. Grant Dahlstrom, George Schlager Welsh, and Leona E. Dahlstrom. University of Minnesota Press, Minneapolis, ed. 2, 1972. xxvi, 508 pp., illus. \$18.75.

**The Making of a Library.** The Academic Library in Transition. Robert S. Taylor. Wiley-Becker-Hayes, New York, 1972. xvi, 250 pp., illus. \$12.95. Hampshire College Working Paper No. 2. Information Sciences Series.

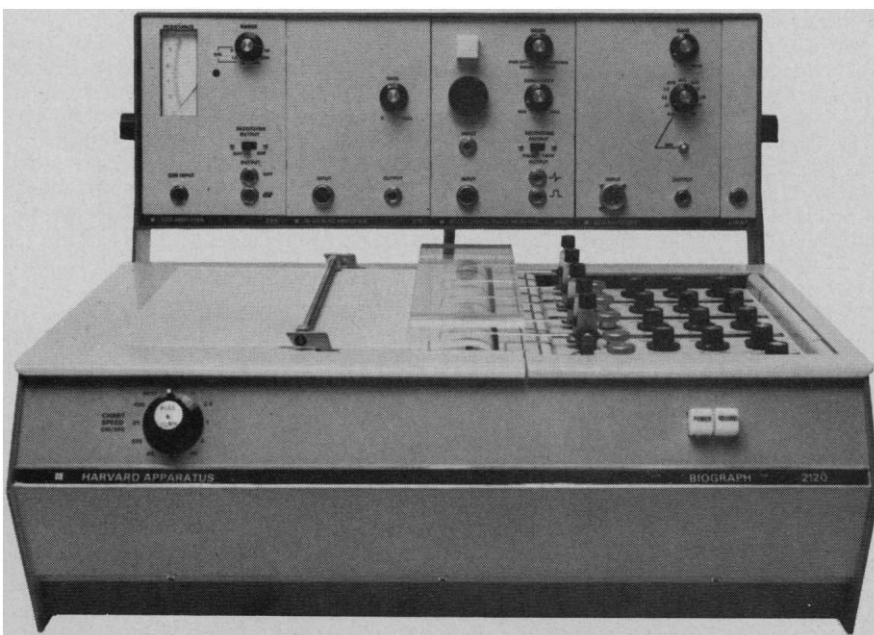
**Markov Processes.** Structure and Asymptotic Behavior. Murray Rosenblatt. Springer-Verlag, New York, 1971. xiv, 268 pp. \$20.20. Grundlehren der mathematischen Wissenschaften, vol. 184.

**Mathematics in the Archaeological and Historical Sciences.** A conference, Mamaia, Romania, 1970. F. R. Hodson, D. G. Kendall, and P. Tautu, Eds. Edinburgh University Press, Edinburgh, Scotland,

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1971 (U.S. distributor, Aldine-Atherton, Chicago). x, 566 pp. + fold-out chart. \$36.

**Memory Consolidation.** James L. McGaugh and Michael J. Herz. Albion, San Francisco, 1972. viii, 204 pp., illus. \$10.

**Metabolism of the Nerve Tissue in Relation to Ion Movements in Vitro and in Situ.** Michal Ruščák and Dagmar Ruščáková. University Park Press, Baltimore, 1972. 172 pp. + plates. \$11.50.

**Microbiology.** Philip L. Carpenter. Saunders, Philadelphia, ed. 3, 1972. xii, 494 pp., illus. \$9.50.

**Neuropsychologie de la Perception Visuelle.** Henry Hecaen, Ed. Masson, Paris, 1972. 320 pp., illus. Paper, 110 F.

**North American Freshwater Leeches, Exclusive of the Piscicolidae, with a Key to All Species.** Roy T. Sawyer. University of Illinois Press, Urbana, 1972. vi, 154 pp., illus. Paper, \$8.50. Illinois Biological Monographs, 46.

**Our Blue Planet.** The Story of the Earth's Evolution. Heinz Haber. Translated from the German edition (Stuttgart, 1965) by Ernst Stuhlinger. Scribner, New York, 1972. viii, 88 pp. Paper, \$1.95.

**Patterns of Change in Tropical Plants.** G. P. Chapman. University of London Press, London, 1970 (U.S. distributor, Thomas, Springfield, Ill.). 112 pp. + plates. Paper, \$4.50.

**The Physics of Pulsars.** Allen M. Lenchek. Ed. Gordon and Breach, New York, 1972. x, 174 pp., illus. \$14.50. Topics in Astrophysics and Space Physics.

**Physik Griffbereit.** Definitionen, Gesetze, Theorien. B. M. Jaworski and A. A. Detlaf. Translated into German from the Russian edition (Moscow, 1968) by Ferdinand Cap. Vieweg, Braunschweig, Germany, 1972. 892 pp., illus. 24.80 DM.

**The Physiology of Insect Senses.** V. G. Dethier. Methuen, London, 1972 (U.S. distributor, Harper and Row, New York). x, 266 pp., illus. Cloth, \$7.50; paper, \$5. Methuen's Monographs on Biological Subjects. Reprint of the 1963 edition.

**Plasma Effects in Metals.** Helicon and Alfvén Waves. E. A. Kaner and V. G. Skobov. Taylor and Francis, London; Barnes and Noble, New York, ed. 2, 1971. viii, 142 pp., illus. Paper, \$8. Taylor and Francis Monographs on Physics. Reprinted from *Advances in Physics*, vol. 17, No. 69 (1968).

**Proceedings of the International Symposium on Atomic, Molecular and Solid-State Theory and Quantum Biology.** Sanibel Island, Fla., Jan. 1971. Per-Olov Löwdin, Ed. Interscience (Wiley), New York, 1972. xxxiv, 792 pp., illus. Paper, \$29.95. International Journal of Quantum Chemistry, Symposium No. 5.

**Profinite Groups, Arithmetic, and Geometry.** Stephen S. Shatz. Princeton University Press, Princeton, N.J.; University of Tokyo Press, Tokyo, 1972. x, 252 pp., illus. Paper, \$8.50. Annals of Mathematics Studies, No. 67.

**Progress in Molecular and Subcellular Biology.** Vol. 2, Proceedings of the Re-

search Symposium on Complexes of Biologically Active Substances with Nucleic Acids and Their Modes of Action. Washington, D.C., Mar. 1970. F. E. Hahn, T. T. Puck, G. F. Springer, W. Szybalski, and K. Wallenfels. Springer-Verlag, New York, 1971. x, 400 pp., illus. \$21.40.

**Progress in Quantum Electronics.** Vol. 1. J. H. Sanders and K. W. H. Stevens, Eds. Pergamon, New York, 1971. viii, 374 pp. + plates. \$19.50.

**Progress in Solid State Chemistry.** Vol. 6. H. Reiss and J. O. McCaldin, Eds. Pergamon, New York, 1971. xii, 206 pp., illus. \$23.50.

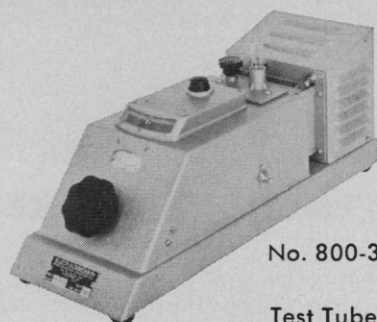
**Supplement to the Sociology of Invention.** S. Colum Gilfillan. San Francisco Press, San Francisco, 1971. x, 230 pp. \$9.50.

**Theory of Incomplete Cylindrical Functions and Their Applications.** M. M. Agrest and M. S. Maksimov. Translated from the Russian edition (Moscow, 1965) by H. E. Fettis, J. W. Goresch, and D. A. Lee. Springer-Verlag, New York, 1971. x, 330 pp., illus. \$25.20. Grundlehren der mathematischen Wissenschaften, vol. 160.

**Theory of the Unmagnetized Plasma.** David C. Montgomery. Gordon and Breach, New York, 1971. xii, 400 pp., illus. \$17.50.

**Thermodynamique Chimique.** René Buvet. Presses Universitaires de France, Paris, 1971. 216 pp., illus. Paper, 18 F. Collection SUP, section Le Chimiste, 5.

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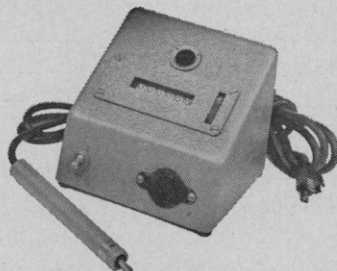


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