guistic analysis, folklore, and critical examination of various other hypotheses. He conjectures that camels were first domesticated for their milk by seafarers along the South Arabian coast and then came to be used as pack animals for changing settlements. The author never loses sight of the relationship between the camel and the camel breeder and their relation to larger society. Key factors in his analysis are camel saddles and packs and utilization of camel products. One might wish for a comparative discussion of social structures of the various camel breeders, but perhaps unfairly, for such a discussion would change the scope and the focus of the book.

Bulliet also discusses the camel as a draft animal, raising the possibility of the Tunisian camel harness design and single-animal harnessing as the prototype for the European harness. In addition the book touches on other aspects of the subject, including more recent Western experiments and failures. The Australian one has ended today with an ecological threat posed by the camel in its reversion to a wild form. Bulliet concludes with the final victory of the wheel over the camel in this century, and the reader is slightly saddened, after having gained a new esteem for the ship of the desert, by what appears to be the final outcome of this process. Bulliet is to be commended for his appreciation of the complexity of the historical problem and his ability to delineate clearly all aspects of it.

GENE R. GARTHWAITE
Department of History,
Dartmouth College,
Hanover, New Hampshire

Interdependences

Insects, Science, and Society. Proceedings of a symposium, Ithaca, N.Y., Oct. 1974. DAVID PIMENTEL, Ed. Academic Press, New York, 1975. xxviii, 284 pp., illus. $15.

The occasion was the centennial celebration of the first department of entomology in the United States. Edward H. Smith, the new chairman of the department at Cornell University, organized the program and dedicated it to the department's founder, John Henry Comstock (1849–1931). Eleven speakers were chosen by the faculty to represent the best of the science and its administration, both nationally and internationally. The theme that emerged was that multidisciplinary approaches are rapidly being developed for insect pest control and basic insect biology.

In his introduction to this volume, David Pimentel describes the special role of entomology in meeting the challenges of human overpopulation, food shortages, fuel shortages, and environmental degradation. At the focus of its applied mission is pest management. According to L. Dale Newsom, this is an ecologically based strategy for regulating pest populations at levels below economic-injury thresholds by use of the best tactics available.

In a historical sketch of Comstock's varied interests, Howard E. Evans concludes that the old master would have been delighted, but not surprised, to see the modern array of control strategies that depend on sound studies of insect taxonomy, physiology, and ecology. Comstock sensed the unity in insect biology and control. Yet his legacies and that of the first integrator of techniques, Dwight Isley, were swept aside by the advent of DDT. For over two decades, chemical pesticides dominated pest control because they were cheap and dependable. The ecological and evolutionary consequences were seen only dimly until pest after pest evolved resistant populations and the environmental hazards were dramatically publicized.

Neglected during the pesticide era and now among the tactics being refined are the selection of crop plants resistant to insect attack, biological control of pests by natural enemies, and disruption of pest reproduction. Each of these is delineated with textbook clarity in papers that provide excellent introductions to the subjects. Mano D. Pathak gives a lucid account of heritable qualities of plants that confer resistance to insect feeding. He further adds an account of those instances in which insects have coevolved to overcome the plant's defense. The complex trophic relationships among predators, parasitoids, and their hosts are described by Powers S. Messenger, who points out that unexpected features in population dynamics may hinge on seemingly minor details of behavior and species interaction. Wendell L. Roelofs defends a new role for chemicals in pest management, namely, as species-specific sex pheromones useful in attracting pests to traps or in disrupting their mating.

The development, integration, and application of these and other strategies require extraordinary organization and financial support. John J. McKelvey, Jr., describes international efforts to coordinate programs in a presentation enhanced by interesting sidelights. Directly to the point are the cost/loss analyses of Waldemar Klassen. He describes a series of federal programs in pest management totaling more than $100 million a year.

The contributions of Richard D. Alexander, John S. Kennedy, T. R. E. Southwood, and Edward O. Wilson emphasize basic evolutionary and ecological theory. Wilson outlines the traits of social insects and the role of kin selection in social evolution. The selective advantages of chorusing behavior in acoustical insects are reinterpreted by Alexander in terms of individual rather than group benefits. Kennedy evaluates the adaptive functions of migration for *r*-strategists. A fine summary of population dynamics in theory and in fact is provided by Southwood.

A human endeavor of great complexity and far-reaching importance is taking shape in the pest management field. The gap between theoretical biology and practical applications is closing fast. This book is a benchmark in the revival of the study of insect biology in relation to human welfare. Let us hope that the interdependences seen so clearly by Comstock will not be obscured again.

HOWELL V. DALY
Department of Entomological Sciences,
University of California, Berkeley

Books Received

Advances in Cryogenic Engineering. Vol. 20. Papers from meetings, 1973 and 1974. K. D. Timmerhaus, Ed. Plenum, New York, 1975. xii, 518 pp., illus. $39.50. A Cryogenic Engineering Conference Publication.

Biochemical and Biophysical Perspectives in Marine Biology. Vol. 2. D. C. Malins and J. R. Sargent, Eds. Academic Press, New York, 1975. xvi, 360 pp., illus. $30.

Explorations in Child Psychiatry. E. James Anthony, Ed. Plenum, New York, 1975. xx, 500 pp. $25.

Fiber Deficiency and Colonic Disorders. Papers from a conference, Chicago, May 1974. Richard W. Reilly and Joseph B. Kirsner, Eds. Plenum, New York, 1975. x, 186 pp., illus. $19.50.

Ion Implantation in Semiconductors. Science and Technology. Proceedings of a conference, Osaka, Japan, Aug. 1974. Susumu Namba, Ed. Plenum, New York, 1975. xvi, 742 pp., illus. $49.50.

Kinetics of Enzyme Mechanisms. J. Tze-Fei Wong. Academic Press, New York, 1975. xiv, 294 pp., illus. $20.25.

Lemur Biology. Ian Tattersall and Robert W, Sussman, Eds. Plenum, New York, 1975. xiv, 366 pp., illus. $22.95.

The Life-Giving Sea. David Bellamy. Crown, New York, 1975. 320 pp., illus. $15.95.

Lunar Mineralogy. Judith W. Frondel. Wiley-Interscience, New York, 1975. xii, 324 pp., illus. $18.95.

Man-Environment Interactions. Evaluations and Applications. Papers from a conference, Milwaukee, May 1974. Daniel H. Carson, Ed. Dowden, Hutchinson and Ross, Stroudsburg, Pa., 1975 (distributor, Halsted [Wiley], New York). 3 vols., illus. xiv, 198 pp.; xiv, 288 pp.; and xiv, 212 pp. $50. Community Development Series, 22.

Methods in Membrane Biology. Vol. 4, Biophysical Approaches. Edward D. Korn, Ed. Plenum, New York, 1975. xx, 298 pp., illus. $22.50.

(Continued on page 1320)

BOOKS RECEIVED

(Continued from page 1290)

New Theory of Faster-than-Light Relativity (Classical and Quantum) with Wonders of Implied Results for Public Interest and Understanding. B. B. P. Sinha. P. Institute of Sciences and Mathematics, Ontario, Canada, 1975. 92 pp. Paper, $2.80. Philosophical Memoirs of Sciences and Mathematics, vol. 1.

Progress in Soil Zoology. Proceedings of a colloquium, Prague, Sept. 1973. Jan Vanek, Ed. Junk, The Hague, and Academia, Prague, 1975. 630 pp., illus. Dfl. 100.

Radionuclide Studies of the Spleen. Richard P. Spencer and Howard A. Pearson. CRC Press (Chemical Rubber Co.), Cleveland, 1975. xii, 210 pp., illus. $34.95.

Review of Child Development Research. Vol. 4. Frances Degen Horowitz, E. Mavis Hetherington, Sandra Scarr-Salapatek, and Gerald M. Siegel, Eds. University of Chicago Press, Chicago, 1975. x, 690 pp., illus. $17.50.

The Science of Animals That Serve Mankind. John R. Campbell and John F. Lasley. McGraw-Hill, New York, ed. 2, 1975. xx, 732 pp., illus. $13.95. McGraw-Hill Publications in the Agricultural Sciences.

The Seas. An Introduction to the Study of Life in the Sea. Frederick S. Russell and Maurice Yonge. Warne, New York, ed. 4, 1975. x, 284 pp. + plates. $25.

Seven Families in Pueblo Pottery. Maxwell Museum of Anthropology. University of New Mexico Press, Albuquerque, 1975. iv, 112 pp., illus. Paper, $4.95.

The Social Basis of Drug Abuse Prevention. Richard Jacobson and Norman E. Zinberg. Drug Abuse Council, Washington, D.C., 1975. vi, 126 pp. Paper, $1.25. Special Studies, 5.

Solid State Chemistry. L. E. J. Roberts, Ed. Butterworths, London, and University Park Press, Baltimore, 1975. xii, 264 pp., illus. $37.50. International Review of Science. Inorganic Chemistry, Series Two, vol. 10.

Spores VI. Papers from a conference, East Lansing, Mich., Oct. 1974. Philip Gerhardt, Ralph N. Costilow, and Harold L. Sadoff, Eds. American Society for Microbiology, Washington, D.C., 1975. xiv, 620 pp., illus. $15.

The Standard Handbook of Textiles. A. J. Hall. Halsted (Wiley), New York, ed. 8, 1975. viii, 442 pp., illus. $24.50.

The Story of Archaeological Decipherment. From Egyptian Hieroglyphs to Linear B. Maurice Pope. Scribner, New York, 1975. 216 pp., illus. Cloth, $12.50; paper, $4.95.

Stress and Anxiety. Vol. 2. Irwin G. Sarason and Charles D. Spielberger, Eds. Hemisphere, Washington, D.C., and Halsted (Wiley), New York, 1975. xiv, 398 pp., illus. $17.95. The Series in Clinical Psychology.

Structure of Metallic Catalysts. J. R. Anderson. Academic Press, New York, 1975. x, 470 pp., illus. $33.75.

Studies of Thermodynamics. Antonino Giacalone. I.R.E.S., Palermo, Italy, 1975. 108 pp. Paper, $8.

Supernutrition. Richard A. Passwater. Dial Press, New York, 1975. xxii, 224 pp., illus. $7.95.

Sur la Nature et l'Origine des Chromosomes Humains. Bernard Dutrillaux. L'Expansion Scientifique, Paris, 1975. x, 104 pp., illus. Paper, 54 F. Monographies des Annales de Génétique.

Synaptic Receptors. Isolation and Molecular Biology. Eduardo De Robertis. Dekker, New York, 1975. xvi, 388 pp., illus. $29.50. Modern Pharmacology-Toxicology, vol. 4.

Synthesis of Amino Acids and Proteins. H. R. V. Arnstein, Ed. Butterworths, London, and University Park Press, Baltimore, 1975. xii, 416 pp., illus. $19.50. MTP International Review of Science. Biochemistry, Series One, vol. 7.

Theory of Plasmas. D. V. Skobel'tsyn, Ed. Translated from the Russian edition (Moscow, 1972) by Julian B. Barbour. Consultants Bureau (Plenum), New York, 1975. viii, 256 pp. Paper, $37.50. The Lebedev Physics Institute Series, vol. 61.

Theory of Probability. A Critical Introductory Treatment. Vol. 2. Bruno de Finetti. Translated from the Italian edition (Torino, 1970) by Antonio Machí and Adrian Smith. Wiley, New York, 1975. xviii, 376 pp. $29.50.

Transition Metals—Part 2. M. J. Mays, Ed. Butterworths, London, and University Park Press, Baltimore, 1975. xii, 370 pp., illus. $37.50. International Review of Science. Inorganic Chemistry, Series Two, vol. 6.

Ultra-Violet and Visible Spectroscopy. Chemical Applications. C. N. R. Rao. Butterworths, London, ed. 3, 1975. xiv, 242 pp., illus. $9.

Underwater Medicine and Related Sciences. A Guide to the Literature. Vol. 2. An Annotated Bibliography, Key Word Index and Microthesaurus. Margaret F. Werts and Charles W. Shilling. IFI/Plenum, New York, 1975. x, 662 pp. $39.50.

What Is Economics. Jim Eggert. Kaufmann, Los Altos, Calif., 1975. vi, 138 pp., illus. Paper, $3.95.