

before the last chapter, where Wise presents his suggestions for future research. If they hurry, there might still be some *Arachnophobia* posters left for their office walls.

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## Perspectives on Poisons

**Natural and Synthetic Neurotoxins.** A. L. HARVEY, Ed. Academic Press, San Diego, CA, 1993. xviii, 359 pp., illus. \$45 or £45. Neuroscience Perspectives.

It has been more than a century since Claude Bernard, in his *Experimental Science*, provided a definition of poisons in modern terms and indicated their special usefulness for the physiologist. Bernard suggested that by dissecting the mechanisms that result in death we could learn much about the physiological processes of life. The 19th-century reader of Bernard's book could not have imagined the impact this suggestion would have, the extent of the information that would accumulate, or the number of books and articles on the subject that would appear. *Natural and Synthetic Neurotoxins* is the latest such endeavor. Its individual contributions review the fundamental chemistry and pharmacology of neurotoxins, describe their main interactions with their target structures, and indicate their many interesting uses as experimental tools.

The book centers around a well-written and pedagogically valuable chapter on neurotoxins that act on acetylcholine receptors. Here Chiappinelli gradually reveals the problems, offering an optimistic yet realistic outlook on future research. The chapter contains a history of work on this topic, rich in learned citations, as well as a systematic analysis of the structure and mode of action of the toxins known to be active on nicotinic and muscarinic acetylcholine receptors. Equally effective is Simpson's chapter on the action of clostridial neurotoxins on the storage and release of neurotransmitters, although an explosion of new data on the putative mode of action of these toxins has undermined some of the ideas in it. I also enjoyed Lobban and Milligan's chapter on the structure and function of bacterial exotoxins (essentially cholera and pertussis toxins) and their action on the second intracellular messenger pathway. Irwin and Langston review the toxicology of 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine (MPTP), which induces a parkinsonian syndrome in humans that is

very useful for developing animal models of that disease. Equally stimulating are the chapters on the neurotoxins that allow a mapping of neuronal pathways by lesioning that both elucidates the toxins' physiological and behavioral effects and facilitates the establishment in animal models of syndromes that mimic human diseases. Vornov *et al.* have contributed a well-documented chapter describing the neurotoxicity of excitatory neurotransmitters.

The authors of the rest of the chapters tend to present their data by way of an iterative formula: "toxin-toxin structure-target structure-putative organization of the target." Although informative, these contributions are too schematic to really engage the reader. A more serious criticism I have of the book is that some chapters seem to contain categorical statements about matters that are still under investigation (for instance, in the coverage of the effects of cannabinoids, social and behavioral aspects are ignored).

Overall I found this book a balanced compendium but rather inharmonious in style and awkward in structure. Problems of this sort can be forgiven in a book of such wide scope. Less acceptable are the numerous small errors scattered about (for example, "internationalization" for "internalization," "aspecific" for "a specific"), which could have been prevented by more careful proofreading.

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## Books Received

**Analysis and Geometry on Groups.** N. Th. Varopoulos, L. Saloff-Coste, and T. Coulhon. Cambridge University Press, New York, 1993. xii, 156 pp. \$44.95. Cambridge Tracts in Mathematics, 100.

**Applied Factor Analysis in the Natural Sciences.** Richard A. Reymont and K. G. Jöreskog. 2nd ed. Cambridge University Press, New York, 1993. xii, 371 pp., illus. \$79.95.

**Apricots and Oncogenes.** On Vegetables and Cancer Prevention. Eileen Jennings. McGuire and Beckley, Cleveland, OH, 1993. viii, 309 pp. Paper, \$13.95.

**Aquariums.** Windows to Nature. Leighton Taylor. Prentice Hall General Reference, New York, 1993. xxii, 170 pp., illus. \$35.

**The Arenaviridae.** Maria S. Salvato, Ed. Plenum, New York, 1993. xxvi, 401 pp., illus. \$85. Viruses.

**The Asian Elephant.** Ecology and Management. R. Sukumar. Cambridge University Press, New York, 1993. xviii, 255 pp., illus. Paper, \$34.95. Cambridge Studies in Applied Ecology and Resource Management. Reprint, 1989 ed.

**Bacterial Conjugation.** Don B. Clewell, Ed. Plenum, New York, 1993. xvi, 413 pp., illus. \$89.50.

**Bad Science.** The Short Life and Weird Times of Cold Fusion. Gary Taubes. Random House, New York, 1993. xxii, 503 pp. \$24.50.

**Bedouins of Qatar.** Klaus Ferdinand. Ida Nicolaisen, Ed. Rhodos International Science and Art, Copenhagen,

and Thames and Hudson, New York, 1993 (distributor, Norton, New York). 399 pp., illus. \$50. Carlsberg Foundation's Nomad Research Project.

**Biological Physics.** Eugenie V. Mielczarek, Elias Greenbaum, and Robert S. Knox, Eds. American Institute of Physics, New York, 1993. x, 423 pp., illus. \$58. Key Papers in Physics.

**Biomechanics.** Mechanical Properties of Living Tissues. Y. C. Fung. 2nd ed. Springer-Verlag, New York, 1993. xviii, 568 pp., illus. \$49.50.

**Birds in Brazil.** A Natural History. Helmut Sick. Paul Barruel, illustrator. Princeton University Press, Princeton, NJ, 1993. xviii, 708 pp., illus., + plates. \$95 or P70. Translated from the Portuguese edition (1984) by William Belton.

**Blood Cell Biochemistry.** Vol. 5, Macrophages and Related Cells. Michael A. Horton, Ed. Plenum, New York, 1993. xx, 434 pp., illus. \$89.50.

**Cellular Communication in Plants.** Richard M. Amasino, Ed. Plenum, New York, 1993. x, 181 pp., illus. \$69.50. From a symposium, Madison, WI, May 1992.

**Coming Attractions.** The Making of an X-Rated Video. Robert J. Stoller, and I. S. Levine. Yale University Press, New Haven, CT, 1993. x, 246 pp. \$30.

**Computer Analysis of Electrophysiological Signals.** John Dempster. Academic Press, San Diego, CA, 1993. xvi, 221 pp., illus. Spiral bound, \$29.50. Biological Techniques.

**Condensed Matter Theories.** Vol. 8. Lesser Blum and F. Bary Malik, Eds. Plenum, New York, 1993. xii, 684 pp., illus. \$149.50. From a workshop, San Juan, Puerto Rico, June 1992.

**Control of Messenger RNA Stability.** Joel G. Belasco and George Brawerman, Eds. Academic, San Diego, CA, 1993. xviii, 517 pp., illus. \$79.95.

**Controversial Science.** From Content to Contention. Thomas Brante, Steve Fuller, and William Lynch, Eds. State University of New York Press, Albany, 1993. xx, 326 pp., illus. \$19.95.

**Cormorants, Darters, and Pelicans of the World.** Paul A. Johnsgard. Smithsonian Institution Press, Washington, DC, 1993. xvi, 445 pp., illus., + plates. \$49.

**Correspondence, Invariance and Heuristics.** Essays in Honour of Heinz Post. Steven French and Harmke Kamminga, Eds. Kluwer, Norwell, MA, 1993. xxiv, 356 pp. \$137, P97, or Dfl.235. Boston Studies in the Philosophy of Science, vol. 148.

**The Correspondence of Charles Darwin.** Vol. 8, 1860. Frederick Burkhardt *et al.*, Eds. Cambridge University Press, New York, 1993. xi, 766 pp., illus. \$59.95.

**Cytokine Therapy.** David W. Galvani and John C. Cawley, Eds. Cambridge University Press, New York, 1993. xii, 193 pp., illus. \$65; paper, \$24.95.

**Dailey's Notes on Blood.** John F. Dailey. 2nd ed. Medical Consulting, Somerville, MA, 1993. viii, 178 pp., illus. \$26; paper, \$18.

**The Darwinian Paradigm.** Essays on Its History, Philosophy, and Religious Implications. Michael Ruse. Routledge, New York, 1993. x, 299 pp., illus. Paper, \$17.95. Reprint, 1989 ed.

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**Fisheries.** Control and Management via Application of Management Science (with a Comprehensive Annotated Bibliography of Applications). Bruce L. Golden and Edward A. Wasil, Eds. American Sciences Press, Columbus, OH, 1992. ii, 150 pp., illus. Paper, \$98.75. American Series in Mathematical and Management Sciences, vol. 32. Published as *American Journal of Mathematical and Management Sciences*, vol. 12, nos. 2.

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**The Harper Book of Quotations.** Robert I. Fitzhenry, Ed. 3rd ed. HarperPerennial, New York, 1993. xvi, 528 pp. \$10.

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**The History of Science and Technology in the United States.** A Critical and Selective Bibliography. Vol. 2. Marc Rothenberg. Garland, New York, 1993. xviii, 197 pp. \$32. Bibliographies on the History of Science and Technology, vol. 17. Garland Reference Library of the Humanities, vol. 815.

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**Illustrated Glossary of Protoctista.** Vocabulary of the Algae, Apicomplexa, Ciliates, Foraminifera, Microspora, Water Molds, Slime Molds, and the Other Protoctists. Lynn Margulis, Heather I. McKhann, and Lorraine Olendzenski, Eds. Jones and Bartlett, Boston, 1993. xlviii, 288 pp. \$50. Abbreviated version of

**Institutions for the Earth.** Sources of Effective International Environmental Protection. Peter M. Haas, Robert O. Keohane, and Marc A. Levy, Eds. MIT Press, Cambridge, MA, 1993. xii, 448 pp. \$37.50; paper, \$17.95. Global Environmental Accords Series.

**International Encyclopedia of Pharmacology and Therapeutics.** Section 139, Intracellular Messengers. Colin W. Taylor, Ed. Pergamon, Tarrytown, NY, 1993. xvi, 491 pp., illus. \$270.

**Interpretation of Mass Spectra.** Fred W. McLafferty and František Tureček. 4th ed. University Science, Mill Valley, CA, 1993. xx, 371 pp., illus. \$27.

**Introduction to Cosmology.** Jayant V. Narlikar. 2nd ed. Cambridge University Press, New York, 1993. xvi, 415 pp., illus. \$79.95; paper, \$34.95.

**An Introduction to Free Radicals.** John E. Leffler. Wiley, New York, 1993. xii, 287 pp., illus. \$64.95.

**Introduction to Mineral Sciences.** Andrew Putnis. Cambridge University Press, New York, 1993. xxii, 457 pp., illus. \$100; paper, \$39.95.

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**Light and Color in the Outdoors.** Marcel Minnaert. Springer-Verlag, New York, 1993. xviii, 417 pp., illus., + plates. \$44.50. Translated from the Dutch edition (Zutphen, 1974) by Len Seymour.

**Microorganisms to Combat Pollution.** E. Rosenberg, Ed. Kluwer, Norwell, MA, 1993. vi, 280 pp., illus. \$151.50, P107, or Dfl.260. From a workshop, May 1992. Reprinted from *Biodegradation*, vol. 3, nos. 2/3.

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**Modern NMR Spectroscopy.** A Guide for Chemists. Jeremy K. M. Sanders and Brian K. Hunter. 2nd ed. Oxford University Press, New York, 1993. xiv, 314 pp., illus. \$80.

**Molecular Biology of Membranes.** Structure and Function. Howard R. Petty. Plenum, New York, 1993. xx, 404 pp., illus. \$59.50.

**Moral Imagination.** Implications of Cognitive Science for Ethics. Mark Johnson. University of Chicago Press, Chicago, 1993. xiv, 287 pp. \$29.95.

**Multiple Bonds Between Metal Atoms.** F. Albert Cotton and Richard A. Walton. 2nd ed. Clarendon (Oxford University Press), New York, 1993. xxii, 787 pp., illus. \$95.

**Mutants at *xantha* and *albina* Loci in Relation to Chloroplast Biogenesis in Barley (*Hordeum vulgare* L.).** Knud W. Henningsen, John E. Boynton, and Diter von Wettstein. Royal Danish Academy of Sciences and Letters, Copenhagen, 1993. 349 pp., illus. Paper, DKr700. Biologiske Skrifter 42.

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**Paradigms and Barriers.** How Habits of Mind Govern Scientific Beliefs. Howard Margolis. University of Chicago Press, Chicago, 1993. xii, 267 pp., illus. \$40; paper, \$15.95.

**Polycyclic Aromatic Compounds.** Synthesis, Properties, Analytical Measurements, Occurrence and Biological Effects. Philippe Garrigues and Michel Lamotte, Eds. Gordon and Breach, Philadelphia, 1993. xxiv, 1264 pp., illus. \$190 or P117. From a symposium, Bordeaux, France, Oct. 1991.

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**Potomac Journey.** Fairfax Stone to Tidewater. Richard L. Stanton. Smithsonian Institution Press, Washington, DC, 1993. xviii, 218 pp., illus. \$24.95.

**A Practical Philosophy for the Life Sciences.** Wim J. van der Steen. State University of New York Press, Albany, 1993. xii, 208 pp. \$16.95. SUNY Series in Philosophy and Biology.

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**Proof Theory.** Peter Aczel, Harold Simmons, and Stanley S. Wainer, Eds. Cambridge University Press, New York, 1993. x, 306 pp. \$49.95. From a conference, Aug. 1990.

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**Rules of the Mind.** John R. Anderson. Erlbaum, Hillsdale, NJ, 1993. x, 320 pp., illus., + diskette. \$59.95; paper, \$24.95.

**Set Phasers on Stun.** And Other True Tales of Design, Technology, and Human Error. Steven Casey. Aegean, Santa Barbara, CA, 1993. 219 pp. \$24.95.

**The Social Engagement of Social Science.** A Tavistock Anthology. Vol. 2, The Socio-Technical Perspective. Eric Trist, Hugh Murray, and Beulah Trist, Eds. University of Pennsylvania Press, Philadelphia, 1993. xii, 695 pp., illus. \$44.95.

**Soil Color.** J. M. Bigham and E. J. Ciolkosz, Eds. Soil Science Society of America, Madison, WI, 1993. xii, 159 pp., illus., + plates. Paper, \$25. SSSA Special Publication no. 31. From a symposium, San Antonio, TX, Oct. 1990.

**Spectroscopy of Defects in Organic Crystals.** N. I. Ostapenko, V. I. Sugakov, and M. T. Shpak. Kluwer, Norwell, MA, 1993. viii, 261 pp., illus. \$123, P82, or Dfl.200. Translated from the Russian by Alexander I. Onipko.

**Spirals.** From Theodorus to Chaos. Philip J. Davis with Walter Gautschi and Arieh Iserles. Peters, Wellesley, MA, 1993. x, 237 pp., illus. \$29.95.

**Stability and Characterization of Protein and Peptide Drugs.** Case Histories. Y. John Wang and Rodney Pearlman, Eds. Plenum, New York, 1993. xxii, 353 pp., illus. \$69.50. Pharmaceutical Biotechnology, vol. 5.

**Street Mathematics and School Mathematics.** Terezinha Nunes, Analucia Dias Schliemann, and David William Carraher. Cambridge University Press, New York, 1993. viii, 170 pp., illus. \$49.95; paper, \$16.95. Learning in Doing.

**Surface Electrochemistry.** A Molecular Level Approach. John O'M. Bockris and Shahed U. M. Khan. Plenum, New York, 1993. xxxii, 1014 pp., illus. \$79.50.

**Thinking in Sound.** The Cognitive Psychology of Human Audition. Stephen McAdams and Emmanuel Bigand, Eds. Oxford University Press, New York, 1993. xiv, 354 pp., illus. \$67.50; paper, \$26.95.

**Time and Money.** The Making of Consumer Culture. Gary Cross. Routledge, New York, 1993. x, 294 pp. \$49.95; paper, \$17.95.

**Trace Gas Exchange in a Global Perspective.** Dennis S. Ojima and Bo H. Svensson, Eds. Munksgaard, Copenhagen, 1992. 206 pp., illus. DKr 250. Ecological Bulletins, no. 42.

**A Treatise on Limnology.** Vol. 4, The Zoobenthos. G. Evelyn Hutchinson. Yvette H. Edmondson, Ed. Wiley, New York, 1993. xx, 944 pp., illus., + plate. \$125.

**The Underlying Molecular, Cellular, and Immunological Factors in Cancer and Aging.** Stringner Sue Yang and Huber R. Warner, Eds. Plenum, New York, 1993. xiv, 336 pp., illus. \$85. Advances in Experimental Medicine and Biology, vol. 330. From a workshop, Annapolis, MD, June 1990.

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**Virtual Reality.** Applications and Explorations. Alan Wexelblat, Ed. Academic, San Diego, CA, 1993. xviii, 245 pp., illus. \$39.95.

**Working-Class Women in the Academy.** Laborers in the Knowledge Factory. Michelle M. Tokarczyk and Elizabeth A. Fay, Eds. University of Massachusetts Press, Amherst, 1993. viii, 335 pp. \$45; paper, \$18.95.

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**X-Ray Microanalysis in Biology.** Experimental Techniques and Applications. David C. Sigeo *et al.*, Eds. Cambridge University Press, New York, 1993. xiv, 337 pp., illus. \$89.95. Based on a meeting, Manchester, U.K., April 1991.