prisingly diverse, providing several instructive examples of autogenous control at the translational level. Yet another discovery of note is that ribonuclease P, the enzyme that cleaves the leader sequence from the 5′ end of precursor tRNA, is a ribonucleoprotein and, even more astonishing, that it is the RNA component that is catalytically active, at least in vitro.

Many mysteries about tRNA remain, however, from the extra base pair in the aminoacyl acceptor stem of histidine-specific tRNAs to the oddly truncated tRNA species found in certain mitochondria. In addition, the function of most base modifications outside the anticodon loop is still unknown, although there is evidence that some serve as sensors of environmental stress. It has also been suggested that besides its role in tRNA transport, EFTu—as well as its eukaryotic counterpart eIF-1α—may be in a position to report on the status of the translational machinery to other parts of the cell. One may hope that these and other puzzles will be resolved before the next tRNA book appears.

The present work is well produced, with a pleasing two-column layout, an easy-to-read typeface, abundant illustrations, an adequate index, and a minimum of typographical errors. It will unquestionably become a basic primer in the field of RNA structure and function and will surely find a prominent place on the bookshelves of those who study and teach the molecular biology of tRNA.

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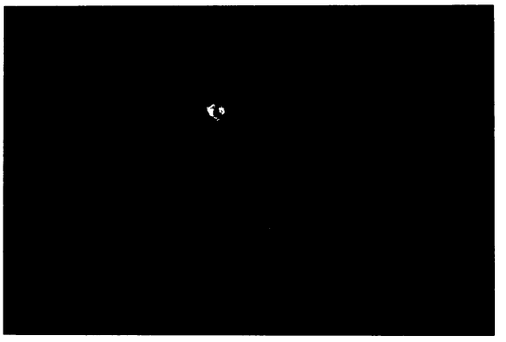
Also Noteworthy

Cephalopod Neurobiology. Neuroscience Studies in Squid, Octopus, and Cuttlefish. N. JOAN ABBOTT, RODDY WILLIAMSON, and LINDA MADDOCK, Eds. Oxford University Press, New York, 1995. xviii, 542 pp., illus. $125 or £70.

Noting that cephalopods are of neurobiological interest both because of their own highly developed (by invertebrate standards) capabilities and because they provide useful preparations for the study of more general processes, the editors describe the present work as "a book to be enjoyed by both vertebrate and invertebrate neuroscientists, and by anyone interested in the basic principles that control neural function." The book attempts no synthesis of cephalopod neurobiology but sets forth 32 papers on specific research topics, including some advances in technique. An



The squid *Loligo pealei* with egg mass. [Steinhart Aquarium; Andrew J. Martinez]

opening group of four papers deals with squid axon structure, biochemistry, and transport, including an account of the cytoskeleton and a discussion of the nervous system of *Loligo pealei* as a model of organelle motility. An ensuing nine papers deal with squid axon ion channels. Three each are then devoted to interactions between squid axons and Schwann cells and the squid giant synapse. Broadening the range of genera considered is a group of three papers on neuromuscular control, with emphasis on the chromatophore system, unique to the Cephalopoda. A group of six papers on the central nervous system includes accounts of diffusion characteristics of extracellular space, electrophysiological recording, cerebrovascular organization and dynamics, the blood-brain barrier, and the two interacting memory systems (visual and touch) that make learning possible. The final four papers in the book take up sensory function—visual pigments and olfactory physiology in squid and muscular function and the organs (statocysts) that facilitate balance and orientation in Cephalopoda generally. The book, which had its origins in a symposium held in Plymouth, England, at an unspecified date, has an international authorship, with contributions from Western Europe, North and South America, and Japan as well as the United Kingdom. Each paper has an abstract, and a subject index is provided.

Katherine Livingston

The Cortical Neuron. MICHAEL J. GUTNICK and ISTVAN MODY, Eds. Oxford University Press, New York, 1995. xvi, 406 pp., illus. $75 or £49.50.

This book is a presentation of state-of-the-art research about neurons and local neuronal circuits in the mammalian cortex. A compilation of 22 chapters by 33 authors that had its origin in a symposium honoring the 60th birthday of David Prince, an early pioneer in the study of cortical neurons as related to epilepsy, it addresses a wide range of topics. A general overview by Prince is followed by sections on cellular and synaptic properties of cortical neurons, neurons in networks, development of cortical neurons, and cortical neurons in disease. Because of Prince's interest in epilepsy this disease is emphasized more than others. One of the striking features of epileptic seizures is that they are sudden and often occur in what would otherwise appear to be normally functioning individuals. During a seizure cortical neurons undergo sudden depolarizations and rapid firings followed by relatively normal modes of activity. In studying cortical neurons in animal models of epilepsy much is therefore learned about normal neurophysiology, and basic research in cortical electrophysiology owes a great deal to this disease. In addition to epilepsy, there are a number of other important themes that permeate the book, including synaptic plasticity, neurotransmitter function, and local circuit inhibition. Gutnick and Crill provide a particularly nice review of the basic electrophysiology of cortical neurons and of the differences between regular spiking, fast spiking, and intrinsic bursting neurons. The chapter by Bush and Sejnowski is noteworthy for its presentation of a scheme for simplifying computer models of single cortical neurons for use in more complex neuronal network models. Overall, the book provides a valuable "snapshot" of various aspects of neuroscience research related to cortical neurons.

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Books Received

Aspartic Proteinases. Structure, Function, Biology, and Biomedical Implications. Kenji Takahashi, Ed. Plenum, New York, 1995. xxiv, 629 pp., illus., + plates. $39.50. Advances in Experimental Medicine and Biology, vol. 362. From a conference, Gifu, Japan, Sept. 1993.

At Home in the Universe. The Search for Laws of Self-Organization and Complexity. Stuart Kauffman. Oxford University Press, New York, 1995. xii, 321 pp., illus. $25.

At the Nuclear Crossroads. Choices about Nuclear Weapons and Extension of the Non-Proliferation Treaty. John B. Rhinelander and Adam M. Scheinman, Eds. Lawyers Alliance for World Security, Washington, DC, and University Press of America, Lanham, MD, 1995. xvi, 113 pp., illus. $37.50; paper, $21.50.

Atlas of Human Cross-Sectional Anatomy. With CT and MR Images. Donald R. Cahill, Matthew J. Orland, and Gary M. Miller. 3rd ed. Wiley-Liss, New York, 1995. xii, 312 pp. $159.95.

Atlas of the Human Brainstem. George Paxinos and Xu-Feng Huang. Academic Press, San Diego, 1995. Variously paged. Spiralbound, $99.

Copepoda. Introduction to the Copepoda. B. H. Dussart and D. Defaye. SPB Academic, Amsterdam, 1995. viii, 277 pp., illus. Paper, $69. Guides to the Identification of the Microinvertebrates of the Continental Waters of the World, 7.

The Coronaviridae. Stuart G. Siddell, Ed. Plenum, New York, 1995. xviii, 418 pp., illus. $89.50. Viruses.

Cosmic Questions. Galactic Halos, Cold Dark Mat-

Vignettes: Dislocations

It is the computer that has put the "post" in postmodernity. No other technology so dominates discussion of the changes our society is undergoing today. No other technology so shapes the image of the future by its promise and its threat. Perhaps the same would have been said of nuclear power or space exploration a generation ago, but these technological marvels promised more and better modernity, growth within the paradigm, not change in the meaning of the modern. This is where the computer is unique: it cancels centuries of certainty about who we are and what we want as members of a modern society.

—*Andrew Feenberg*, in *Alternative Modernity: The Technical Turn in Philosophy and Social Theory* (University of California Press)

Virtual reality is central to postmodern ontology. While its ubiquitous presence is intimately linked to the rapid growth and increased accessibility of computing power, the presuppositions underlying the VR ideology have their roots in the more general modular orientation that has long been an intimate part of modern industrial life. . . .

For example, most of us have participated in another kind of virtual reality which is far more common than that generated by computer. This is the experience of air travel. The modern jet has made possible an experience of placelessness that would be impossible to achieve without its technological base. Most modern air travel has "shrunk" the world in such a way that the body no longer experiences any sense of significant transition from place to place. At one with modern telecommunications, modern air travel conveys a sense of total geographical simultaneity, of everywhere as nowhere special, of anyplace as everyplace.

—*Bradd Shore*, in *Culture in Mind: Meaning Construction and Cultural Cognition* (Oxford University Press)

ter and the End of Time. Richard Morris. Wiley, New York, 1995. vi, 200 pp., illus. Paper, $16.95. Reprint, 1993 ed.

Creations of Fire. Chemistry's Lively History from Alchemy to the Atomic Age. Cathy Cobb and Harold Goldwhite. Plenum, New York, 1995. xvi, 475 pp., illus. $28.95.

The Creative Loop. How the Brain Makes a Mind. Erich Harth. Addison-Wesley, Reading, MA, 1995. xxvi, 197 pp., illus. Paper, $13. Reprint, 1993 ed.

Creativity and the Mind. Discovering the Genius Within. Thomas B. Ward, Ronald A. Finke, and Steven M. Smith. Plenum, New York, 1995. x, 274 pp., illus. $24.95.

Epigenetic Inheritance and Evolution. The Lamarckian Dimension. Eva Jablonka and Marion J. Lamb. Oxford University Press, New York, 1995. xiv, 346 pp., illus. $49.95.

The Foraging Spectrum. Diversity in Hunter-Gatherer Lifeways. Robert L. Kelly. Smithsonian Institution Press, Washington, DC, 1995. xvi, 446 pp., illus. $24.95.

The Formation of the Milky Way. E. J. Alfaro and A. J. Delgado, Eds. Cambridge University Press, New York, 1995. xvi, 360 pp., illus. $59.95. From a workshop, Granada, Spain, Sept. 1994.

Fourier Transforms. Ian N. Sneddon. Dover, New York, 1995. xii, 542 pp., illus. Paper, $14.95. Reprint, 1951 ed.

The Frankenstein Syndrome. Ethical and Social Issues in the Genetic Engineering of Animals. Bernard E. Rollin. Cambridge University Press, New York, 1995. xiv, 241 pp., $49.95; paper, $18.95. Cambridge Studies in Philosophy and Public Policy.

The Good Servant. Making Peace with the Bomb at Los Alamos. Janet Bailey. Simon and Schuster, New York, 1995. 189 pp., illus. $22 or $C29.50.

Greening Environmental Policy. The Politics of a Sustainable Future. Frank Fischer and Michael Black, Eds. St. Martin's, New York, 1995. xviii, 221 pp. $49.95; paper, $19.95.

A Guide to Quantum Groups. Vyjayanthi Chari and Andrew Pressley. Cambridge University Press, New York. 1994. xvi, 651 pp., illus. $84.95.

Modern Instrumentation. A Computer Approach. Gordon Silverman and Howard Silver. Institute of Physics, Philadelphia, 1995. xii, 455 pp., illus. $80 or £40.

Modern Physics. Kenneth S. Krane. 2nd ed. Wiley, New York, 1995. xvi, 581 pp., illus., + plates. $77.95.

Modulational Interactions in Plasmas. Sergey V. Vladimirov *et al.* Kluwer, Norwell, MA, 1995. 539 pp., illus. $242 or £147 or Dfl. 340. Astrophysics and Space Science Library, vol. 201.

Molecular and Clinical Aspects of Bacterial Vaccine Development. Dlawer A. A. Ala'Aldeen and Carlos E. Hormaeche, Eds. Wiley, New York, 1995. x, 366 pp., illus. $124.95.

Molecular Mechanisms of Muscarinic Acetylcholine Receptor Function. Jürgen Wess. Springer, New York, and Landes, Austin, TX, 1995 (distributor, CRC Press, Boca Raton, FL). xviii, 272 pp., illus. $80. Molecular Biology Intelligence Unit.

New Trends in Kramers' Reaction Rate Theory. Peter Talkner and Peter Hänggi, Eds. Kluwer, Norwell, MA, 1995. x, 251 pp., illus. $125 or £82 or Dfl. 195. Understanding Chemical Reactivity, vol. 11.

Persuasion. Psychological Insights and Perspectives. Sharon Shavitt and Timothy C. Brock, Eds. Allyn and Bacon, Needham Heights, MA, 1994. xii, 337 pp., illus. Paper, $35.

Physics by Inquiry. An Introduction to Physics and the Physical Sciences. Lillian C. McDermott *et al.* Wiley, New York, 1995. 2 vols. Vol. 1, pp. x + 1-390 pp., illus., + supplementary material. Vol. 2, pp. xii, pp. 383-823, + index. Each vol., paper, $31.95.

Physics of Ionized Gases. D. Veza, Ed. Nova, Commack, NY, 1995. xiv, 601 pp., illus. $145. From a symposium, Dubrovnik, Yugoslavia, Sept. 1990.

The Pineal Gland and Its Hormones. Fundamentals and Clinical Perspectives. Franco Fraschini, Russel J. Reiter, and Bojidar Stankov, Eds. Plenum, New York, 1995. x, 233 pp., illus. $85. NATO ASI Series A, vol. 277. From an institute, Erice, Italy, June 1994.

Plant Cell Electroporation and Electrofusion Protocols. Jac A. Nickoloff, Ed. Humana, Totowa, NJ, 1995. xiv, 205 pp., illus. Spiralbound, $49.50. Methods in Molecular Biology, 55.

Plant Cell, Tissue and Organ Culture. Fundamental Methods. O. L. Gamborg and G. C. Phillips, Eds. Springer-Verlag, New York, 1995. xxiv, 358 pp., illus. Spiralbound, $89. Springer Lab Manual.

Plant Hormones. Physiology, Biochemistry and Molecular Biology. Peter J. Davies. Kluwer, Norwell, MA, 1995. xii, 833 pp., illus. $59.50 or £39 or Dfl. 95.

Plant Invasions. General Aspects and Special Problems. Petr Pyšek *et al.*, Eds. SPB Academic, Amsterdam, 1995. xii, 263 pp., illus. Paper, $50 or Dfl. 80. Based on a workshop, Kostelec nad Černými lesy, Czechoslovakia, Sept. 1993.

Plant Stems. Physiology and Functional Morphology. Barbara L. Gartner, Ed. Academic Press, San Diego, 1995. xvi, 441 pp., illus., + plates. $89.95. Physiological Ecology.

Positron Annihilation in Chemistry. Ole Erik Mogensen. Springer-Verlag, New York, 1995. x, 268 pp., illus. $99. Springer Series in Chemical Physics, vol. 59.

Predictive Limnology. Methods for Predictive Modelling. Lars Håkanson and Robert H. Peters. SPB Academic, Amsterdam, 1995. xii, 464 pp., illus. $187.50.

Principles of Condensed Matter Physics. P. M. Chaikin and T. C. Lubensky. Cambridge University Press, New York, 1995. xx, 699 pp., illus. $49.95.

Proteolytic Enzymes. Aspartic and Metallo Peptidases. Alan J. Barrett, Ed. AP Professional (Academic), Cambridge, MA, 1995. xxxii, 873 pp., illus. $115. Methods in Enzymology, vol. 248.

The Pursuit of Knowledge Under Difficulties. From Self-Improvement to Adult Education in America, 1750-1990. Joseph F. Kett. Stanford University Press, Stanford, CA, 1995. xx, 581 pp. $55.

Remembering. A Study in Experimental and Social Psychology. Frederic C. Bartlett. Cambridge University Press, New York, 1995. xx, 317 pp., illus. $49.95; paper, $16.95. Reprint, 1932 ed.

Resistance to New Technology. Nuclear Power, Information Technology and Biotechnology. Martin Bauer, Eds. Cambridge University Press, New York, 1995. xiv, 422 pp., illus. $74.95. From a conference, London, April 1993.

The Retroviridae. Vol. 4. Jay A. Levy, Ed. Plenum, New York, 1995. xiv, 670 pp., illus. $129.50. Viruses.

Rifted Ocean-Continent Boundaries. E. Banda, M. Torné, and M. Talwani, Eds. Kluwer, Norwell, MA, 1995. xviii, 387 pp., illus., + plates. $185 or £117 or Dfl. 260. NATO ASI Series C, vol. 463. From a workshop, Mallorca, Spain, May 1994.

Science, Nonscience, and Nonsense. Approaching Environmental Literacy. Michael Zimmerman. Johns Hopkins University Press, Baltimore, 1995. xx, 220 pp. $25.95.

The Scientific Letters and Papers of James Clerk Maxwell. Vol. 2, 1862-1873. P. M. Harman, Ed. Cambridge University Press, New York, 1995. xxx, 999 pp., illus. $285.

The Stork and the Plow. The Equity Answer to the Human Dilemma. Paul R. Ehrlich, Anne H. Ehrlich, and Gretchen C. Daily. Putnam, New York, 1995. xviii, 365 pp. $30 or $C40.50.

Sun, Earth and Sky. Kenneth R. Lang. Springer-Verlag, New York, 1995. xvi, 282 pp., illus. $34.95.

Sun Power. The Global Solution for the Coming Energy Crisis. Ralph Nansen. Ocean Press, Ocean Shores, WA, 1995. xii, 252 pp., illus. Paper, $14.95.

Thin Films for Optical Systems. Francois R. Flory, Ed. Dekker, New York, 1995. xiv, 585 pp., illus. $165. Optical Engineering, 49.

Three-Dimensional Systems. Henry E. Kandrup, Stephen T. Gottesman, and James R. Ipser, Eds. New York Academy of Sciences, New York, 1995. viii, 229 pp., illus. $60. Annals of the New York Academy of Sciences, vol. 751. From a workshop, Gainesville, FL, Oct. 1993.

Transgenic Modification of Germline and Somatic Cells. R. B. Flavell and R. B. Heap, Eds. Published on behalf of The Royal Society, London, by Chapman and Hall, New York, 1993. xii, 119 pp., illus. From a meeting, London, July 1992.