

In the first volume there is a fascinating and detailed dissertation by Gaulin and Konner entitled "On the natural diet of primates, including humans." The subject is treated largely from the evolutionary point of view. The chapter is compendious and erudite (there are 342 references) and is much more interesting than it would have been had it in fact been limited by the confines of its title to the primate order. It is required reading for all vegetarians. What it has to do with "nutrition and the brain," except in the general sense already discussed, is obscure. Similarly, the chapter "Cerebral nutrition and energy metabolism" by Sokoloff, Fitzgerald, and Kaufman, though a masterpiece, has very little to do with nutrition except in the general sense that the brain depends on glucose and at times can derive important amounts of energy from ketones. The discussion of the changing energy metabolism of the brain during ontogeny, which has been allotted only one page out of the 50 the chapter occupies, might have been somewhat more rewarding, and the contents of the chapter as a whole were already available in many a more suitable context. The authors are among those who still believe it is the blood-brain barrier that restricts brain metabolism and is responsible for its idiosyncracies. How do they know that the egg came before the hen? Pardridge's chapter on the availability of amino acids to the brain treats us to a repeat account of this elusive and probably mythical structure, with the difference that Pardridge writes about it as if he knew where it is in precise morphological terms. His incursions into the metabolism of almost every other major organ and tissue take us even further from the general title of the work; and he is dogmatic about the manner in which the concentration of tryptophan in plasma determines the concentration in the brain, a subject about which there is still, properly, much controversy.

The chapters by Ordóñez on the availability to the brain of folic acid, vitamin B<sub>12</sub>, and choline and by Dakshinamurti on B vitamins and nervous system function are generally well written but include yet another essay on the blood-brain barrier and a wealth of biochemistry that will be of interest only to biochemists.

Volume 2 opens with a voluminous chapter (145 pages with 827 references) on the control of eating behavior. Long as it is, this chapter is short for the size of its subject; but some sorts of nutritionists and neurobiologists will find it

useful. Shoemaker and Bloom's chapter on the effect of undernutrition on brain morphology is a brave effort. It deals with what is probably one of the most important aspects of the whole subject, and the one genuinely important growing point, but the technical difficulties of quantitative neurohistology have so far prevented any substantial incursions into the pathology of brain growth. This is not the authors' fault. But they have padded out their chapter with much undergraduate stuffing and a lot else about neurotransmitters that is not morphology; and they misunderstand and misrepresent the attitudes of your reviewer to a degree which, painfully aware as even he is of his own obscurities of thought and language, left him pale, trembling, and aghast.

The last two chapters of volume 2, on the effects of protein-calorie malnutrition on biochemical aspects of brain development (Nowak and Munro) and on protein-calorie malnutrition and behavior (Pollitt and Thomson), are both excellent. In spite of some oversimplification of the clinical syndromes of kwashiorkor and marasmus and their respective etiologies (surprising coming from such distinguished undernutritionists) Nowak and Munro's is an informative and authoritative summary of existing knowledge, though it has to do mainly with changes in brain chemical composition rather than with the processes of brain biochemistry. Pollitt and Thomson's chapter convincingly portrays the complexity of the task of evaluating environmental effects on developing human behavior. Nutritionists and biochemists will do well to heed this complexity and pay it more respect, since it infinitely exceeds that of their own already complex subjects. If behavioral scientists quarrel among themselves (and some will certainly quarrel with Pollitt and Thomson) this is understandable and even healthy, for the entanglements and intricacies of their problems are profound. Let no one ever again be so simplistic as to ask "Does early undernutrition cause mental retardation?"

There has been a sizable crop recently of books about nutrition and the brain, your reviewer probably being the only person in the field who has not written one yet. The Wurtmans' two volumes are in some ways a substantial addition, but are often too contrived and cannot justify their important title.

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## Books Received

**Actinomycetes.** The Boundary Microorganisms. Papers from a symposium, Tokyo, 1974. Tadashi Arai, Ed. Toppan, Tokyo, 1976 (U.S. distributor, University Park Press, Baltimore). x, 652 pp., illus. \$98.60.

**Biological Reactive Intermediates.** Formation, Toxicity, and Inactivation. Proceedings of a conference, Turku, Finland, July 1975. David J. Jollow, James J. Kocsis, Robert Snyder, and Harri Vainio, Eds. Plenum, New York, 1977. xii, 514 pp., illus. \$49.50.

**The Biology of Marsupials.** Bernard Stonehouse and Desmond Gilmore, Eds. University Park Press, Baltimore, 1977. viii, 486 pp., illus. \$39.50. Biology and Environment.

**Biomedical Computing.** W. J. Perkins, Ed. University Park Press, Baltimore, 1977. x, 362 pp., illus. \$39.50.

**Comprehensive Virology.** Vol. 8, Regulation and Genetics: Bacterial DNA Viruses. Heinz Fraenkel-Conrat and Robert R. Wagner, Eds. Plenum, New York, 1977. xii, 350 pp., illus. \$29.50.

**Contemporary Topics in Immunobiology.** Vol. 6, Immunobiology of Oncogenic Viruses. Michael G. Hanna, Jr., and Fred Rapp, Eds. Plenum, New York, 1977. xiv, 290 pp., illus. \$27.50.

**Decoding the Human Message.** Henri Laborit. Translated from the French edition (Paris, 1974) by Stephen Bodington and Alison Wilson. St. Martin's, New York, 1977. 240 pp. \$15.95.

**Extinction Is Forever.** Threatened and Endangered Species of Plants in the Americas and Their Significance in Ecosystems Today and in the Future. Proceedings of a symposium, New York, May 1976. Ghilleen T. Prance and Thomas S. Elias, Eds. New York Botanical Garden, Bronx, N.Y., 1977. vi, 438 pp., illus. Paper, \$20.

**Frontiers in Laser Spectroscopy.** Papers from a summer school, 1975. Roger Balian, Serge Haroche, and Sylvain Liberman, Eds. North-Holland, Amsterdam, 1977 (U.S. distributor, Elsevier, New York). Two volumes. xxxvi, 908 pp., illus. Each volume, \$65.50; the set, \$114.50. Les Houches, Session 27.

**Genese et Organisation des Formes Verbales chez l'Enfant.** De l'Aspect au Temps. J.-P. Bronckart. Dessart et Mardaga, Brussels, 1976. 152 pp. Paper, 660 BF. Dossiers de Psychologie et de Sciences Humaines, 10.

**Hospital-Acquired Infections in Surgery.** Hiram C. Polk, Jr., and H. Harlan Stone, Eds. University Park Press, Baltimore, 1977. x, 158 pp., illus. \$16.50.

**Human Hemoglobins.** H. Franklin Bunn, Bernard G. Forget, and Helen M. Ranney. Saunders, Philadelphia, 1977. x, 432 pp., illus. \$18.

**The Insects and Arachnids of Canada.** Part 2, The Bark Beetles of Canada and Alaska, Coleoptera: Scolytidae. Donald E. Bright, Jr. Agriculture Canada, Ottawa, 1976 (U.S. distributor, Unipub, New York). 242 pp., illus. Paper, \$12.95.

**Long-Term Surgical Results in Children.** Papers from a meeting, Munich, Sept. 1975. P. P. Rickham, W. Ch. Hecker, and J. Prévot. Urban und Schwarzenberg, Baltimore, 1977. x, 322 pp., illus. \$29.50. Progress in Pediatric Surgery, vol. 10.

**Masters Theses in the Pure and Applied Sciences Accepted by Colleges and Universities of the United States and Canada.** Vol. 20. Wade

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## BOOKS RECEIVED

(Continued from page 288)

H. Shafer, Ed. Plenum, New York, 1977. xviii, 294 pp. \$25. A Publication of the Center for Information and Numerical Data Analysis and Synthesis (CINDAS).

**Mathematical Modeling and Digital Simulation for Engineers and Scientists.** Jon M. Smith. Wiley-Interscience, New York, 1977. xvi, 332 pp., illus. \$21.

**Medical Hubris.** A Reply to Ivan Illich. David F. Horrobin. Eden Press, Montreal, 1977. vi, 146 pp. \$9.

**Non-Invasive Clinical Measurement.** David Taylor and Joan Whamond, Eds. University Park Press, Baltimore, 1977. xvi, 206 pp., illus. \$39.50.

**Obstetrics, Contraception and Gynaecology.** David Brown. Pitman, Tunbridge Wells, Kent, England, 1976 (U.S. distributor, Uni-

versity Park Press, Baltimore). viii, 208 pp., illus. \$24.50.

**Problemy metodologii projektowania.** Papers from a conference, Warsaw, Dec. 1974. Wojciech Gasparski, Ed. Polish Academy of Science Committee of the Science of Science, Warsaw, 1977. 396 pp., illus. Zł 120.

**Psychopharmacology in the Practice of Medicine.** Murray E. Jarvik, Ed. Appleton-Century-Crofts, New York, 1977. xviii, 554 pp., illus. \$20.50.

**Public Budgeting Systems.** Robert D. Lee, Jr., and Ronald W. Johnson. University Park Press, Baltimore, ed. 2, 1977. xxii, 370 pp., illus. \$14.50.

**Quality Health Care.** The Role of Continuing Medical Education. Papers from a conference, Boston, June 1976. Richard H. Eg-dahl and Paul M. Gertman, Eds. Aspen Systems, Germantown, Md., 1977. xxiv, 248 pp. \$19.

**The Sea in the Pre-Columbian World.** Pa-

pers from a conference, Washington, D.C., Oct. 1974. Elizabeth P. Benson, Ed. Dumbar-ton Oaks Research Library and Collections, Washington, D.C., 1977. x, 188 pp., illus. \$15.

**Sedimentation on the Modern Carbonate Tidal Flats of Northwest Andros Island, Baha-mas.** Lawrence A. Hardie, Ed. Johns Hop-kins University Press, Baltimore, 1977. xvi, 202 pp., illus. \$22.50.

**A Social History of Medicine.** Frederick F. Cartwright. Longman, New York, 1977. viii, 210 pp. Cloth, \$12.95; paper, \$7.50. Themes in British Social History.

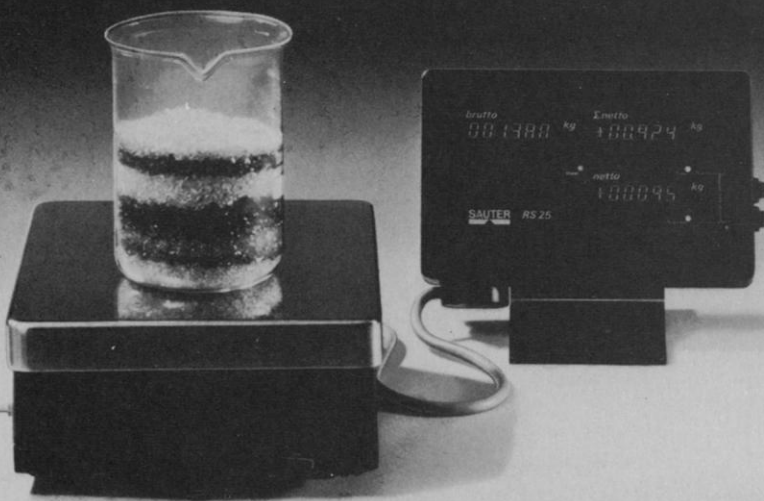
**Soft Energy Paths.** Toward a Durable Peace. Amory B. Lovins. Friends of the Earth International, San Francisco, and Bal-linger (Lippincott), Cambridge, Mass., 1977. xx, 234 pp. Paper, \$6.95. Friends of the Earth Energy Papers.

**Sociology in the Balance.** A Critical Essay. Johan Goudsblom. Columbia University Press, New York, 1977. viii, 232 pp. \$12.50.

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