Rakoff catalogues the numerous disturbances in gynecological endocrinology that are associated with psychological problems, and Russell and Beardwood analyze anorexia nervosa. These are good papers which describe the problems well and leave the reader tantalized by thoughts about basic mechanisms that have so far not been approachable because of inadequate methods.

Levi expands his studies of the increases of catecholamines caused by anxiety to investigate the changes in some physiological processes that are influenced by catecholamines. Free fatty acids and triglycerides are increased by anxiety *pari passu* with catecholamines, and this rise is blocked by nicotinic acid. In subjects exposed for three days to simulated battle conditions, protein-bound iodine and erythrocyte sedimentation rate increased and serum iron decreased (presumably Levi has evidence that this does not occur simply because of deprivation of sleep). These findings and those of Reichlin, who summarizes considerable evidence that growth hormone may also be increased by psychological stimuli, suggest possible pathways by which emotional stress could be involved in the etiology of certain diseases.

The book is important to the investigator and of interest to the casual reader. It should stimulate a lot of research.

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Energetics

Transfer and Storage of Energy by Molecules. Vol. 1, Electronic Energy. GEORGE M. BURNETT and ALASTAIR M. NORTH, Eds. Wiley-Interscience, New York, 1969. xvi + 240 pp., illus. $11.95.

It is impossible to think of any process in nature in which the energy does not undergo significant changes as the system passes from its initial to its final state. This is obviously true for systems in which a chemical change occurs as the result of absorption of light or ionizing radiation, the passage of an electrical current, or the application of heat, or when any of the reverse of these processes occurs, for example, in a chemiluminescent or exothermic reaction. Although much precise information is available about the distributions of energy in the initial and final states and about the connections between the overall rates of change and variables such as temperature, emitted or absorbed radiation intensity, or current flow, singularly little is known about the detailed mechanisms of the interconversions of energy between any two of the following forms: translational, vibrational, rotational, electronic, and coulombic. Yet we are conscious that phenomena of fundamental importance in biology, such as nerve conduction, vision, and photosynthesis, just as much as important chemical processes, can be fully understood only after all the factors regulating the rate of transfer of energy between various modes or between molecules have been identified. The realization of this fact has clearly prompted Burnett and North to think that it is time to bring together a series of articles by authorities summarizing all of significance that is known about the storage and transfer of energy by molecules in all states of aggregation.

The volume under review is concerned with electronic energy, and it is to be followed by four other volumes dealing respectively with vibrational energy, rotational energy, solid state systems, and biological systems. Objection to this "grand design" cannot reasonably be raised on conceptual grounds, but the reviewer doubts whether the theoretical framework yet exists to enable the significant relationships to be discerned and to be ordered into a coherent pattern. The articles in this first volume illustrate this point. Each is good in its own way, but there is, for example, little in common between the mechanism of energy transfer from a fast charged particle to the molecules of the medium through which it is passing, dealt with in chapter 4, and electronic excitation produced by shock waves, which forms the major part of chapter 2. Even in chapter 1, where Cundall has striven manfully to give shape and form to his topic "Electronic and vibrational transfer in gas phase systems," the theories are so ill developed that often the best that can be done to systematize the information is to cite approximate empirical correlations linking very limited sets of data. Chapter 3, on the "Chemistry of electronically excited states of organic molecules," is the most coherent.

This then is one of those tantalizing but useful books: tantalizing because the unifying theories are not yet apparent and one is inclined to cry with Ovid "rudis indigestaque moles," and useful both as a compendium of current knowledge and as providing, by its very incoherence, a spur to the imaginative theorists and experimentalists who will make possible the much-needed major conceptual advances.

[Volume 2 of the work (432 pp., $18.50) is now available—ED.]

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Books Received

Advances in Cardiac Pacemakers. A conference, New York, November 1968. Seymour Furman, Ed. New York Academy of Sciences, New York, 1969. Illus. Paper, $30. *Annals of the New York Academy of Sciences*, Vol. 167, Art. 2, pp. 515–1075.

Advances in Solid State Physics. Plenary Lectures of the Professional Group of the German Physical Society: "Semiconductor Physics," and Invited Papers of the European Meeting of the Institute of Electrical and Electronic Engineers: "Semiconductor Device Research," Munich, March 1969. O. Madelung, Ed. Pergamon, New York; Viewag, Braunschweig, 1969. viii + 392 pp., illus. $17.50. Festkörperprobleme IX.

Alfred Nobel. The Loneliest Millionaire. Michael Evlanoff and Marjorie Fluor. Commentaries by Arnold O. Beckman and Henry T. Mudd. Ritchie, Los Angeles, 1969. xvi + 336 pp., illus. $10.

American City Planning Since 1890. A History Commemorating the Fiftieth Anniversary of the American Institute of Planners. Mel Scott. University of California Press, Berkeley, 1969. xxiv + 748 pp., illus. $17.50. California Studies in Urbanization and Environmental Design.

Anatomy of an Expedition. Henry W. Menard, McGraw-Hill, New York, 1969. xii + 260 pp. + plates. $6.95.

Animal Waste Management. A conference, Syracuse, N.Y., January 1969. New York State College of Agriculture, Cornell University, Ithaca, 1969. viii + 416 pp., illus. Paper, $10.50.

Annual Review of Information Science and Technology. Vol. 4. Carlos A. Cuadra and Ann W. Luke, Eds. Encyclopaedia Britannica, Chicago, 1969. x + 550 pp. $16.

Applied Optics and Optical Engineering. Rudolf Kingslake, Ed. Vol. 5, Optical Instruments: Part 2. Academic Press, New York, 1969. xvi + 384 pp., illus. $17.

Archaeology in Sarawak. Cheng Te-K'un. Heffer, Cambridge, England; University of Toronto Press, Toronto, 1969. xii + 34 pp. + plates. $4.35.

Asthme. A meeting, Reims, France, May 1965. Bernard N. Halpern, J. G. Scadding and J. M. Dubois de Montrey-

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