

the local formation of new tissue in the adult mammal, such as liver regeneration, is contributed by M. Abercrombie.

The mode of action of growth substances and hormones at the molecular level is curiously neglected in this volume, although action at higher levels is often introduced. Thus, B. L. Baker and E. C. Pliske lay stress on the regulation of enzyme secretion by the pituitary through its action on the zymogenic cells. P. J. Randle, in discussing the pituitary growth hormone, draws attention to its protein anabolic action and its insulin-like hypoglycemic effect and summarizes the evidence that the former may be mediated by way of insulin itself. It is remarkable, however, that, as A. Jost and L. Picon show, the fetus of rat or rabbit can develop at nearly normal rates in the complete absence of pituitary hormones, either from their own or from maternal sources. Perhaps insulin or some other nonpituitary hormone plays a controlling part here. V. B. Wigglesworth discusses the action of growth hormones in insects and is inclined to ascribe the action both of the juvenile hormone and of ecdysone to their "regulation of permeability relations within the cells," whereby enzymes and coenzymes or substrates can be brought together. H. Burström, in a discussion of root growth, visualizes auxin as acting directly on the cell wall of the root; on the one hand it increases plastic stretching but, on the other, it inhibits the subsequent active laying down of wall material and thus inhibits elongation as a whole. Lastly, F. Skoog and C. O. Miller conclude that there is now a gradual blurring of the distinctions between "hormones, metabolites, and structural units," as these "grade into each other in integrated biosynthetic systems which function in all types of growth."

As with most symposia, the treatment is extensive but not systematic, and the book has no index. But this is a thought-provoking collection.

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Purity Control by Thermal Analysis.

Proceedings of the International Symposium on Purity Control by Thermal Analysis, Amsterdam, 1957. M. W. Smit, Ed. Elsevier, Amsterdam, 1957 (order from Van Nostrand, Princeton, N.J.). xii + 182 pp.

This is a collection of papers presented at an international symposium held in Amsterdam in April 1957, under the sponsorship of the International Union of Pure and Applied Chemistry, acting through its Commission on Physico-Chemical Data and Standards. The same

material, exclusive of the seven-page digest of oral discussion, also appeared in *Anal. Chim. Acta* 17, No. 1 (1957).

Quantitative application of the freezing (melting) temperature of a substance, and especially of the variation in this temperature as a function of the relative amounts in the solid and liquid phases, is a relatively new technique for evaluating the purity of chemical substances. From its beginnings, a little more than twenty years ago, the procedure has enjoyed increasing acceptance and has attained considerable industrial importance. With its increasing use has come also an increasing awareness of the possibility of errors in measurements and of the limitations of understanding of the phenomena involved.

The Amsterdam symposium was designed to bring together for discussion as many as possible of the scientists actively concerned and to invite a number of them to present formal papers. The volume contains 16 papers and a brief digest of oral discussion. Four of the authors are from Great Britain, seven are from the United States, three are from the Netherlands, one is from Germany, one is from Poland. The papers cover a wide range of experimental methods, both thermometric and calorimetric, for constructing freezing and melting curves. Three deal with instrumentation. Taken together these papers constitute the most authoritative source of information available on the cryometric evaluation of purity.

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Flora Hawaiiensis. Book 5, *The New Illustrated Flora of the Hawaiian Islands*. Otto Degener. The author, Waialua, Oahu, Hawaii, 1957. \$5.

In this fifth part of a loose-leaf flora are 217 sheets and a temporary index, with page indications to show where each sheet fits into the complete work, publication of which began in 1946. As in previous sections, the size of the type is varied from page to page, to fit the material to the space allotted and give prominence to the fine line drawings of each species.

The "Flora" of the title refers only to tracheophytes, but the author gives family identifications and keys to genera and species, technical descriptions of individual varieties, and a wealth of delightful information as well as data on distribution. The current "book" includes, among others, *Monstera deliciosa*, the banana family, *Casuarina equisetifolia*, ramie, sandalwood, a Hawaiian sundew (possibly introduced by Pacific golden plovers), a long key to local members of the pea family, papaya, and frangi-

pani. Many of the introduced species have developed racial differences, but the conflict between ancient and recent additions to the islands' plant life is evident throughout the descriptions.

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New Books

Principles of Chemistry. Donald C. Gregg. Allyn and Bacon, Boston, 1958. 620 pp. \$6.50.

An Introduction to the Dynamics of Airplanes. H. Norman Abramson. Ronald, New York, 1958. 233 pp. \$4.50.

Physique Electronique des Gaz et des Solides. Michel Bayet. Masson, Paris, 1958. 246 pp. F. 4900.

Obok. A study of social structure in Eurasia. Viking Publ. in Anthropology, 25. Elizabeth E. Bacon. Wenner-Gren Foundation for Anthropological Research, New York, 1958 (order from Executive Secretary, American Anthropological Assoc.). 250 pp. Paper, \$4.

A Dictionary of Mountaineering. Definitions, names, and terms and their explanations, used by English-speaking mountaineers particularly in Britain and on the continent. R. G. Collomb. Philosophical Library, New York, 1958. 175 pp. \$6.

Fat Consumption and Coronary Disease. The evolutionary answer to this problem. T. L. Cleave. Philosophical Library, New York, 1957. 40 pp. \$2.50.

The Growth of Logical Thinking from Childhood to Adolescence. An essay on the construction of formal operational structures. Barbel Inhelder and Jean Piaget. Translated by Anne Parsons and Stanley Milgram. Basic Books, New York, 1958. 382 pp. \$6.75.

Agricola on Metals. Bern Dibner. Burndy Library, Norwalk, Conn., 1958. 128 pp.

Pharmacology in Medicine. A collaborative textbook. Victor A. Drill, Ed. McGraw-Hill, New York, ed. 2, 1958. 1284 pp. \$19.50.

Of Stars and Men. The human response to an expanding universe. Harlow Shapley. Beacon Press, Boston, 1958. 164 pp. \$3.50.

Nuclear Structure. Leonard Eisenbud and Eugene P. Wigner. Princeton Univ. Press, Princeton, N.J., 1958. 135 pp. \$4.

The Relation of Psychiatry to Pharmacology. Abraham Wikler. Williams & Wilkins (for American Soc. for Pharmacology and Experimental Therapeutics), Baltimore, Md., 1957. 330 pp. \$4.

Proceedings of the Second International Congress of Surface Activity. vol. I, *Gas/Liquid and Liquid/Liquid Interface*, 521 pp.; vol. II, *Solid/Gas Interface*, 348 pp.; vol. III, *Electron Phenomena and Solid/Liquid Interface*, 621 pp.; vol. IV, *Solid/Liquid Interface (Washings, Etc.) and Cell/Water Interface*, 352 pp. J. H. Schulman, Ed. Academic Press, New York; Butterworths, London, 1957. \$50 per set.

Dynamics of Behavior. Robert S. Woodworth. Holt, New York, 1958. 413 pp. \$5.