rect experimentation, to have been derived by the condensation of two-carbon units. The acetate hypothesis, by no means a new one, has frequently been criticized on the grounds that it is too vague and that by condensation of two-carbon units one may, formally at least, produce almost any desired organic compound. Yet, one of the great achievements of modern biochemistry has been the recognition of the central role of acetyl coenzyme A in the synthesis of many classes of carbon compounds. The authors address themselves to the classification of such compounds and then to the details, where known, of the chemical pathways for their formation. The book is, therefore, broad in scope since it considers compounds as structurally diverse as fatty acids, oxygen heterocycles, phenolic compounds, macrolide antibiotics, some alkaloids, and those compounds broadly categorized as terpenoid.

From a general discussion of the acetate hypothesis, the authors proceed to a statistical survey of more than 20 classes of naturally occurring compounds that can be considered to be formed by the condensation of acetate units. The correlation of known structures with the acetate hypothesis is exceptionally good for most of these compounds. There follows a detailed survey of the synthesis of fatty acids, of aromatic substances, and finally, in the latter half of the book, of those compounds derived from the isoprenoid carbon skeleton. Included is a thorough discussion of the biosynthesis of the plant terpenes, of squalene, the triterpenoid compounds derived from it by various modes of cyclization, and the steroids derived from lanosterol. A lucid account is given of the biogenesis of bile acids and steroid hormones, and even of some steroidal alkaloids. It is, therefore, somewhat disappointing to find no mention of the steroidal sapogenins, the cardiac aglycones of plant and animal origin, or the D vitamins.

The great strength of the book is in the utilization of modern organic chemical mechanisms to clarify and rationalize biosynthetic reaction pathways. Emphasis is correctly placed on the concept that enzymatic reactions must eventually be explicable in terms of organic chemical theory. Less stress is placed on the more biochemical aspects of the problem and, indeed, one senses more emphasis on the catalytic activity of enzymes than on their characteristic specificities.

Despite its deficiences, the graduate student in organic or biological chemistry will find in this book much valuable information on known pathways as well as a host of unsolved problems of organic and biological chemistry. He will also find useful the summarizing sections that punctuate the volume.

The book is well documented and well printed. The literature is covered through 1962, and many references are given to work published in 1963. An otherwise excellent work is marred by many typographical errors, misspelled names (Chaikoff, I. L.; Charkoff, I. L.; and Clarkoff, J. L.), and occasional incorrect structural formulas. These should be corrected in future printings.

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Statistical Terms

Russian-English Dictionary of Statistical Terms and Expressions and Russian Reader in Statistics. Samuel Kotz. University of North Carolina Press, Chapel Hill, 1964. xviii + 115 pp. $7.50.

This is the latest member of the increasing family of specialized Russian-English dictionaries. The publication of such a volume invites comparison with existing and somewhat similar dictionaries—the two Russian-English dictionaries published by the American Mathematical Society (1950 and 1961), the dictionary published by the University of Wisconsin Press (1962), and the Russian-German, Russian-English dictionary published by the Deutscher Verlag der Wissenschaften (1959).

The present work contains almost exclusively statistical terms and mathematical terms frequently encountered in the statistical literature. In particular, it does not contain prepositions, adverbs, pronouns, or particles, except as they occur in combination with other words. Thus, it is necessary to use this statistical dictionary in conjunction with a general dictionary. The decision to restrict the scope of the dictionary was primarily motivated by the fact that the literature of applied statistics contains practically all scientific terms and many expressions used in everyday life. The decision not to include a grammar was also based on the desire to restrict the size of the volume. Each of the mathematical dictionaries mentioned above contain a grammar and include also the important parts of speech, features that, in my experience, enable the user to read mathematical texts without referring to a general dictionary.

The book consists of two parts. The first offers a word list of about 89 pages as well as a very concise introduction that contains the Russian alphabet together with its pronunciation and transliteration and a description of the structure of the dictionary. The second part is primarily a Russian reader in statistics. Passages from recent Soviet publications are selected and reproduced with interlinear translations. In addition, this part contains a Russian-English author index. This will help translators to avoid the pitfalls that one encounters when names of Western authors, used in Russian texts, are transliterated back into English. It may be worthy of mention that this statistical dictionary gives the accents as well as the diaresis over the letter e and thereby greatly facilitates the correct pronunciation of the Russian words.

The book will be a useful tool to statisticians who want to use or to translate Russian statistical literature.

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New Books

Mathematics, Physical Sciences, and Engineering

Physics of Magnetism. Soshin Chikazumi and Stanley H. Charap. Wiley, New York, 1964. 566 pp. Illus. $15.75.

The Principles and Application of Variational Methods. Martin Becker. M.I.T. Press, Cambridge, Mass., 1964. 128 pp. Illus. $5.

Principles of Radiation Protection. G. Eaves. Gordon and Breach, New York, 1964. 185 pp. Illus. $8.25.

Progress in Aeronautical Sciences. vol. 5. D. Küchemann and L. H. G. Sterne. Pergamon, London; Macmillan, New York, 1964. 325 pp. Illus. $15. Six papers: "The design of low-speed wind tunnels" by P. Bradshaw and R. C. Pankhurst; "Low-speed flows involving bubble separations" by I. Tani; "Ergebnisse der theorie Schallnaher Strömungen" by I. Teipel; "Écoulements transsoniques homogènes" by P. Germain; "Rarified gas dynamics" by I. Esterman and A. Roshko, and "A correction to 'The theory of sonic bangs'" by C. H. E. Warren.

The Pulsation Theory of Variable Stars. Svein Rosseland. Dover, New York, 1964 (corrected reprint of 1949 edition). 160 pp. Illus. Paper, $1.65.

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