

Dictionary of Biochemistry

by J. Stenesh

John Wiley and Sons; New York, London, Sydney, Toronto, 1975

viii + 344 pages. £13.85, \$ 27.40.

The preface tells us that this dictionary was written to provide scientists and students in the life sciences with a reference work on the terminology of biochemistry. It contains over 12 000 entries drawn from over 200 textbooks and reference works and from the research literature; all the source material used has been published since 1962. The aim was in general to define terms in a concise manner avoiding comprehensive, encyclopaedic treatment.

One may be surprised that 12 000 entries could be found but many of them are useful abbreviations, acronyms or alternative terms. Many, however, are trivial. At 'even-carbon fatty acid' one is referred to 'even-numbered fatty acid' where the definition 'a fatty acid molecule that has an even number of carbon atoms' is found. Four column-lines and two entries for a glimpse of the obvious. Similarly, at 'unsaturated fatty acid', we read 'a fatty acid that contains one or more double bonds in the alkyl chain'. The attempt not to be encyclopaedic also has its dangers. Thus under each of the entries 'isoleucine', 'leucine' and 'valine', apart from the appropriate abbreviations, we only find 'an aliphatic nonpolar alpha amino acid', not even the number of carbon atoms or whether the aliphatic chain is branched.

Sometimes the argument is circular. Under vitamin A we are told, *inter alia*, that deficiency of this substance causes night blindness and xerophthalmia. One can easily visualize night blindness but what is xerophthalmia? Thirsting for enlightenment we turn rapidly to 'X' where we find the splendidly useful entry 'Xerophthalmia'. A pathological change in the eye that results from a deficiency of vitamin A.'

As a test, the reviewer opened a textbook of biochemistry at random 20 times and looked up the first substantive word he noticed on each opening. A score of 16 reasonably informative definitions was achieved. These were of: actin (but no cross-references to F- or G-actin, though they are defined), catabolism, enzyme,

committed step, dark reaction, denaturation, islets of Langerhans, Nernst [redox] equation, phosphodiesterase, phosphorylase kinase, starvation, thylakoid, tobacco mosaic virus, tricarboxylic acid cycle, virus and Zimm plot. There was no mention of 4: acrosome, 1,25-dihydroxycholecalciferol (though cholecalciferol is given), phosphorylase kinase kinase and protein kinase. A 20% failure rate.

There are some other curious lacunae. Fuzzy and protein coats are there but not the sartorial variant, buffy coat. IUB and IUPAC but no FEBS or PAABS. The prefixes used to construct decimal multiples of units are given from atto (10^{-18}) to tera (10^{12}) but no peta (10^{15}) or exa (10^{18}). Aficionados of blood clotting factors will miss the splendid terms kringel and PIVKA, the budding molecular pharmacologist will find no enlightenment about β -receptors or β -blockers, while the student of metabolism will be left in ignorance of the differences between brown and white adipose tissue.

There are some inconsistencies. A gram is now, surely, one thousandth part of the SI base unit, the kilogram, the mass of the international prototype, and is no longer defined in terms of the weight of 1 cm^3 of water at 4°C . The liter (litre) however, is given its modern definition of one dm^3 . The mole is correctly defined in terms of the number of carbon atoms in 0.012 kg of the nuclide ^{12}C , why then define the dalton in terms of the weight of a hydrogen atom? (c.f. Edsall, J. T., 1970, *Nature*, 228, 888–889).

It is, of course, easy to find things wrong with any particular dictionary, one's reactions to such a work are very personal. If this were not so, why should publishers continue to provide us with a multiplicity of dictionaries of, say, the English language. Every dictionary has its uses and this Dictionary of Biochemistry will be of enormous use to a great number of students of and workers in the life sciences. It will not help the person wanting to know who invented

the word ribosome and when, but all is go nowadays and few will pause long enough to ask such a question. This book will tell the enquirer what a ribosome is and, for most, that will be enough.

The printing and double-column lay-out are both very good. The type is clear and easy to read and the proof-reading was excellent, as witnessed by the

reviewer not finding any literal errors. This Dictionary should find a place in every scientific and general library and in many laboratory and personal book collections.

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BOOK LIST No. 4 May 1976

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