

Preface

Almost nobody is sad enough to read the prefaces of Dictionaries except perhaps other lexicographers and occasionally reviewers, but it is customary to produce a Preface and make an apologia. This dictionary is the lineal descendent of the Dictionary of Cell Biology, first published in 1989, that had a second edition in 1995 and was renamed as the Dictionary of Cell & Molecular Biology in 1999. All three were co-edited by Julian Dow, and it was Julian who arranged that the second and third editions were accessible through the Web: we made use of the abortive searches which we logged to guide us in adding new headwords to the 3rd Edition. In 2007, I produced the 4th Edition, more-or-less single-handedly rewriting many of the old entries and all the new ones, again guided by 'abortive searches'. This Edition has been produced in much the same way although without the benefit of knowing what people failed to find in the 4th Edition (which never made it online) but with help from John Coote and Clive Lloyd who scrutinised the microbiological and botanical entries respectively. The headword count indicates what has happened to cell biology ('molecular bioscience') in the intervening years. The headword count has inexorably risen from 4000, to 5000, to 7000, to 10,000 and in this edition to 12,000 (although ~1500 are 'signposts' to main entries). The expansion is not simply by accretion of the new – some 2400 headwords and definitions are completely new, more than 4000 definitions have been rewritten, some headwords have second definitions (~600), third definitions (~300), even sixth definitions (60) added, less than half are unchanged.

Many of the additions have been to extend the scope in plant cell biology, microbiology and bioinformatics but there are undoubtedly areas where more additions could be made. To some extent there is a bias of entries towards areas that I find interesting, although that is a fairly broad category, but the difficulty of defining where 'cell and molecular biology' begins and ends is no easier than it ever was. Some entries are there simply because practitioners of modern bioscience are often unfamiliar with vocabulary that the more classically trained zoologist or botanist would consider standard. In this edition I have removed a lot of the entries that related to specific pharmaceutical compounds while keeping some generic entries ('alpha blockers', 'NSAIDs', 'tetracycline antibiotics') and some that are commonly part of the experimentalist's toolkit and probably never used in the clinic. Diseases have only earned an entry if the molecular basis is known – but that is an expanding category.

The intention is that this edition does go online and so it is likely that people will be able to search the dictionary electronically. This does not mean that spelling is irrelevant and it is worth remarking that more than 50 recognisable misspellings of mitochondrion appeared in the abortive search file (and so did not produce a definition for the searcher). Computers are very literal-minded and it is often better to terminate the search-term before

plural or adjectival suffixes – so searching for ‘mitoch’ produces 6 entries, all relating to mitochondria (mitochondrion, mitochondrial diseases, Mitochondrial Eve, mitochondrial trifunctional protein, mitochondrial neurogastrointestinal encephalopathy and mitochondrial DNA deletion syndrome) – but *not* ‘mitochondria’ which does not get an entry in its own right. Because it is electronically easy to search the whole text I have removed many of the synonyms, which in previous editions were in a different typeface after the main headword, and put them within the definition (and in many cases there were so many synonyms it was becoming very clumsy).

The apology is obvious: there are undoubtedly mistakes, for which I take all the blame (John Coote and Clive Lloyd corrected some, but saw only definitions in their specialist areas) and some things that are out-of date simply because the subject moves so fast. Definitions that I wrote in early 2010 may no longer be correct by the time the Dictionary is published. Similarly, although I have checked all the weblinks in the final stages of finishing the manuscript, some will have disappeared. In general I have tried to reference full research articles for which there is free open access. When only the abstract is free, then that is what I have linked.

In writing definitions I have had frequent recourse to the various NCBI (National Center for Biotechnology Information) databases, especially the UniProt Protein Knowledge Base and OMIM (On-line Mendelian Inheritance in Man) and the failure to find a protein in these databases or in PubMed has led me to deem them ‘obsolete’, although I have left their entries on the unlikely offchance that somebody might find them when reading the older literature. For other things I have assumed that two independent sources are enough to validate a definition. Wikipedia is usually accurate (in this area anyway) but often provides far more information than required and I have not treated it as a source: a dictionary should provide a brief definition, not an essay.

Having admitted the (probable) existence of errors, I should be more than happy to correct them if they are drawn to my attention (john@lackie.nildram.co.uk): although the print version cannot easily be corrected, updating the electronic version should be possible.

John Lackie

January 2012