

## Book Review

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*Biotechnology from A to Z*. 3rd Ed. W. Bains.  
Oxford University Press. 2003. 413 pages. ISBN  
0 19 852498 6. Price £25.00 (paperback).

Biotechnology has an increasing presence in the popular media, generating news and comment (informed and otherwise) on such contentious subjects as genetically modified plants, harvesting of stem cells from human embryos, and clinical trial results for new pharmaceuticals. Like other specialised topics, biotechnology has its own language, and there is a clear need for a guide to allow the interested citizen, or scientist specialising in some other area, to interpret the stream of pronouncements, arguments and counter-arguments. This seems to be the aim of the third edition of 'Biotechnology from A to Z', a medium-sized paperback with 300 alphabetical entries, pitched at a level suitable for readers with a fair knowledge of biology but lacking a specialised background in any of the areas touching on modern biotechnology. The entries cover a wide range of topics, including topical subjects such as stem cells, protein kinases, and oncogenes, as well as more 'traditional' biotechnology products such as antibiotics, amino acids and single-cell protein. There is also good coverage of business aspects, such as patents, capital and 'burn rate', as well as public relations aspects, such as 'hype' and the 'yuk factor', which no biotechnology company can afford to ignore. The entries are up-to-date, and there are numerous references to companies working in the various areas discussed. The style is breezy, and often tongue-in-cheek, and deals fairly with controversial issues such as animal rights and bioethics.

As might be expected in a relatively small book covering such a wide range of subjects, the coverage is broad but shallow, with little technical detail, and those already familiar with the biotechnology industry will probably find little of interest, at least in their areas of expertise. On the other hand, the book should be of use and interest to anyone who wants a quick accessible guide to interpreting biotechnology-related information, and may also be useful to under-

graduates who want a broad overview of the field, or an indication of the meaning of technical terms.

On the negative side, the book contains a surprising number of minor typographical, grammatical and spelling errors. Most are trivial, if annoying, but some misspellings of species names and technical terms would make it needlessly difficult for a reader to follow up on an entry using other sources, such as the internet; for example, '*Clamaydomonas*' for *Chlamydomonas*, 'arhabidopsis' for *Arabidopsis*, 'pyrocystis' for *Pyrocystis*, '*Pischia*' and '*Piashia*' for *Pichia*, '*pompe*' for *pombe*, '*Bacteriodes*' for *Bacteroides*, '*Huntingdon's*' for Huntington's, '*nicin*' for nisin, '*hydroclone*' for hydrocyclone, '*hantanavirus*' for hantavirus, and so on. Also, there seem to be a number of minor errors of fact or interpretation. For example, the A and B chains of AB toxins are defined the wrong way around, as are the E and Z isomers of compounds with unsaturated bonds; luminol seems to be confused with luciferin, the definitions of a plug-flow reactor and fed-batch process are at best highly unorthodox, genetic transduction seems to be confused with conjugation, and the definition given for adeno-associated viruses is simply wrong. Some entries are also not in strict alphabetical order. On the other hand, the definitions of more general terms are all basically correct and useful, as far as I can tell. Some are positively inspired – having trained as an engineer, I particularly enjoyed the entry on 'Automation'. Generally the overall definitions seem to be correct, but with worrying errors in the details.

On the whole, this book offers a good, if light, introduction to many aspects of modern biotechnology, and may be useful to interested citizens, undergraduates in related areas, and other non-specialists, although some of the entries will require considerable background knowledge of biology. It will also be a useful addition to libraries. However, better proof-reading would be a good idea for the next edition.

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