In the Bookstores

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Deadly Medicines and Organised Crime: How big pharma has corrupted healthcare
by Peter Gøtzsche;
Radcliffe Publishing, 2013.
ISBN: 978-184619-884-7 (paperback).
24.99 GBP. 310 pages.

Deadly Medicines and Organised Crime is written in a similar genre to the last book I reviewed for *Medical Writing*, namely Ben Goldacre's *Bad Pharma*.[1] I am not sure if that genre has a generally accepted name, but perhaps we could go with 'conspiracy theories about big pharma' for now.

There is a lot of nonsense in Goldacre's book, and while Goldacre has some quite sensible points hidden among all the hyperbole, Peter Gøtzsche manages to take the nonsense to a whole new level. If Gøtzsche does make sensible points in this book, then in my view they are too well hidden.

Before you even get as far as reading the actual text, the back cover of the book gives you a flavour of what you have let yourself in for. We are treated to the statistic 'prescription drugs are the third leading cause of death after heart disease and cancer'. That statistic is pure nonsense. The World Health Organization lists the top three causes of death worldwide as ischaemic heart disease, stroke, and lower respiratory infections.[2] Prescription drugs do not even make it into the top 10.

Gøtzsche attempts to justify this statistic in the book by means of some back-of-a-fag-packet cobbling together of various statistics from various different sources, but it is not convincing. It seems remarkably similar to an article on Mercola.com, a well-known source of alternative medicine nonsense, which among other things perpetuates anti-vaccination myths and peddles conspiracy theories about how the 'cancer industry' would not allow cancer to be cured.[3] If I were trying to make people believe I was a serious researcher, I would not want to keep that kind of company. One of the big problems with the 'drugs are third leading cause of death' statistic is that it only counts the harms of drugs, and takes no account of the number of lives saved by drugs, but if you want to read a more thorough debunking of the statistic, then I can recommend Harriet Hall's article on the Science-Based Medicine blog.[4]

Much of the other evidence in the book is similarly dubious. In one chapter, we are told that big pharma is just like 'organised crime'. The evidence for this is that many big pharma companies have been fined millions of dollars for breaking the law. Well, that is true, but as an experienced researcher, Gøtzsche really ought to understand the importance of a control group. Most large companies get fined for breaking the law from time to time. It is not something to be welcomed, but is a fact of modern society. I had a very quick look at whether big pharma were worse than other companies, and found no evidence that they were.[5]

The book claims to be 'evidence-based', and it is true that each chapter contains an impressive-looking list of references. However, if you look closely at the evidence sources cited, there are far fewer than you might have expected from the peer-reviewed literature. Many of the references are to books or newspaper articles, and even when they are references in peer-reviewed journals, they are often to non-peer-reviewed articles such as news items or editorials.

Cited evidence is also chosen selectively. One chapter is entitled 'Very few patients benefit from the drugs they take'. It is illustrated with just two examples: statins for primary prevention of cardiovascular disease and antidepressants. Antidepressants are well known for being of dubious efficacy, and to think that it is somehow scandalous that most patients do not benefit from primary cardiovascular disease prevention is to misunderstand its purpose. Because cardiovascular disease is so widespread in the population, even if most patients do not benefit from primary prevention, the population benefits can still be huge.

I wonder if that chapter might have turned out differently if Gøtzsche had chosen propofol for anaesthesia and omeprazole with antibiotics for ulcer healing as his examples?

Bizarrely, after having argued that statins do more harm than good, in another chapter he criticises the pharmaceutical industry for doing placebo-controlled

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studies with statins, because 'many of the trials were unethical, as patients on the placebo were denied an effective drug'. This is the kind of thing that makes you realise just how badly written the book is and turns it into what feels like an exercise of riding the crest of the Goldacre *Bad Pharma* wave, rather than being evidence-based.

One little example of just how far Gøtzsche appears removed from reality is when he claims that zero progress has been made against cancer in the last 30 years. According to Cancer Research UK, long-term survival from many cancers has doubled since the 1970s, and much of that improvement is due to better treatments.[6] I wonder if Gøtzsche would respond to this by saying that Cancer Research UK are biased because they are just part of the 'medico-industrial complex'? (And yes, Gøtzsche really does use that phrase in the book.)

Medical writers will be dismayed to read how he describes our profession, referring to ghostwriting as if it is the norm for medical writers. He (rightly) talks about how unethical ghostwriting is, but he completely fails to mention the role of ethical medical writing assistance or the existence of widely accepted guidelines for ethical medical writing, such as those published by EMWA.[7]

How does Gøtzsche suggest the problems of the pharmaceutical industry can be fixed? He mentions various solutions, and one of them is actually quite sensible. He suggests that when pharmaceutical companies break the law, their executives should be held personally liable. This seems entirely reasonable to me, and in fact could be applicable to more than just the pharmaceutical industry, as corporate law-breaking is common across a wide variety of industries.

Unfortunately, Gøtzsche does not limit himself to sensible suggestions. He would like to see for-profit companies taken out of drug development altogether, and the task given to state-run organisations – a system of drug development that did not work well when tried in the old Soviet Union.

Gøtzsche also suggests that we should only take drugs if they are absolutely essential, and points out that most are not. It is true that not all drugs are absolutely essential as in immediately life-saving, but many drugs have a huge effect on quality of life. I suffer from allergic rhinitis. Well, I say 'suffer', but in fact as long as I remember to take my daily dose of loratadine, I do not suffer at all. If I did not take it, I'd be troubled by a blocked nose and frequent sneezing. Do I *absolutely need* to take loratadine every day? No. But does it hugely improve my quality of life? You betcha.

And what of Gøtzsche's apparent argument that no one should take drugs for primary prevention of cardiovascular diseases? It is true, of course, that many individuals do not benefit from primary prevention, but many others do. A paper published in the *New England Journal of Medicine* estimated that drugs for primary prevention of cardiovascular diseases reduced the annual number of deaths from coronary heart disease in the USA by about 160 000 from 1980 to 2000.[8]

I worry that a book like this has the potential to do real harm. There are many unscrupulous vendors of enormously dubious alternative medicine out there who love to tell us that the pharmaceutical industry is out to get us. That is a classic marketing tactic for those selling homoeopathy, magic crystal healing, or other forms of quackery. Charlatans are already gleefully pointing to Gøtzsche's book as evidence that they were right all along, the pharmaceutical industry is evil, and so we should all use their own particular kind of snake oil instead.

For example, this book now features on the above-mentioned Mercola.com.[9] It also features on the website of the Alliance for Natural Health,[10] which among other things promotes a rabid anti-vaccinationist point of view. And as if that was not bad enough, Gøtzsche has another fan in 'What Doctors Don't Tell You'.[11] For those who are unaware of this publication, it promotes homoeopathy as a cure for cancer, vitamin C as an alternative to antiretroviral medicine for HIV infection, and, needless to say, all the usual anti-vaccination nonsense.[12] I am pretty sure Gøtzsche would be just as disapproving of all this as he is of conventional medicine, but he is naive if he did not realise that his book would be used for marketing quackery.

I think you can tell from my review that I was not impressed with the book, and I really cannot think of any good reason to buy it. In my opinion, you would be far better off saving the money you would have spent on it and buying a couple of nice bottles of wine instead.

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Mastering Scientific and Medical Writing: A Self-help Guide
by Silvia M Rogers;
Springer, 2014 (2nd edition).
ISBN: 978-3-642-39445-4.
26.99 GBP. 116 pages.

Concise guide for writers wishing to improve the clarity of their writing

With *Mastering Scientific and Medical Writing: A Self-help Guide*, EMWA member Silvia M Rogers delivers a useful little resource containing widely applicable advice. While it offers something for everyone who wishes to better their writing, novices and non-native users will likely benefit most, especially those with mother tongues whose writing conventions differ markedly from those of English. That the importance of good writing cannot be underestimated is both valid justification for the book's existence and the clear message of its short but well written introductory chapter.

In its nine other chapters, divided into numerous subsections, *Mastering Scientific and Medical Writing* provides valuable practical tips on all of the major aspects of writing. The main focus of Chapter 3 is spelling and punctuation. Rogers claims that poor spelling undermines the credibility of the science. I would hope that this is not so, although a writer who writes carelessly (as opposed to badly) justly risks being judged accordingly. Also covered are spellcheckers and US versus British English. Rogers claims that, 'Without any doubt, a mixture of British and American English is tiresome and annoying to the reader'. Not this reader. She also provides handy guidance on the use of optional hyphens and non-breaking spaces and hyphens, but some of her advice on hyphens and en dashes I disagree with. Rather than fault on the part of the author (or me), this perhaps reflects the very nature of discourse on writing and language: lack of consensus and outright disagreement. Illustrating the point, Rogers' rules for abbreviations ('a glossary never replaces the introduction of the abbreviated term in the text') do not fully concur with the views of Barry Drees, expressed in a recent issue of *Medical Writing*.[1]

The next chapter tackles grammar. After a slightly confusing introduction to tense, albeit compensated by good summary tables, Rogers gives excellent guidance on massive problems such as non-parallelism and dangling participles/dangling gerunds, as well as the 'which/that' problem, use of 'respectively', subject–verb agreement, and single and plural forms of collective nouns, all with helpful examples.

With the title 'Quoting Published Material', it is strange that Chapter 7 does not include any information on using quotes (a topic covered in a later chapter). Instead, it focuses on reference formats. Given the subject matter, it is perhaps unfortunate that Rogers does not provide a reference for the claim that '50% to 70% of all quoted literature references contain at least one erroneous item'.

Chapter 8 ('Avoiding Discrimination') gives advice on avoiding sexist, racist, and ageist descriptions. Racism is dealt with very superficially, with few details and no examples. A topic that is perhaps more pertinent, that of not defining patients by their disease (i.e. avoiding descriptions such as 'schizophrenics' and 'diabetics'), is completely overlooked.

Continuing the ethics theme, the next chapter is on plagiarism. Rogers describes its different forms, notably providing a nice explanation of self-plagiarism. She raises the subject of possible allowances for writers whose first language is not English, something I advocate, before concluding with brief but excellent advice on avoiding plagiarism.

While not without flaws, all of this book's chapters contain at least something that warrants a look. Chapter 2 essentially serves as a second, more substantial introduction that briefly (too briefly in my opinion) debunks some of the myths as to what constitutes good writing and introduces ways to make writing more elegant and concise. The highlight of Chapter 5, which covers style, is a concise and coherent examination of when to use the active and passive voices, a contentious issue if ever there was one. Chapter 6 ('Redundancy and Jargon'), meanwhile, boasts a good list of tautologies to avoid. The last chapter ('Structuring Scientific Texts') provides foundation-level guidance on targeting an audience, structuring an article, and writing an abstract.

The 10 regular chapters are complemented by both an excellent set of practical exercises that enables the reader to put their learning into practice and a multi-section appendix, the first section of which effectively summarises the book by listing the 'rules' of scientific writing. The appendix also provides a useful comparison of British and US spellings and explains how to use some of the commonest punctuation marks, although there is no mention of the distinctions in punctuation use between British and US English. A table of awkward phrases to avoid is rather subjective, and some of the preferred alternatives do not seem to work. Better is a long list of academic titles and honours, which can be very difficult to translate between languages.

Rogers repeatedly urges us to follow house style and be consistent, to choose meaning over rules. Quite right. She sometimes breaks her own rules, but I guess we all do.

Importantly, she covers recent trends, such as the use of data as a collective noun ('data is'), non-italicisation of Latin abbreviations, and the gradual abandonment of phantom rules of grammar (e.g. that one may not split an infinitive or end a sentence with a preposition). However, her non-acceptance of 'they' as a third-person gender-neutral pronoun is at odds with modern thinking.

While I cannot endorse all of its advice, there is no denying that *Mastering Scientific and Medical Writing* packs in plenty of useful tips for budding writers. And, in spite of repetition in places and a slight lack of cohesion across chapters, the excellent cross-referencing makes navigating it simple. My main criticism is that the book just isn't long enough, that the coverage of certain topics is miserly. Finally, a word of caution: We writers should be aware that for almost every 'rule' of writing there will be people, often many, who hold a contrary view.

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