coverage of intellectual property. This could create space for more discussion of the information economics school of thought and the highly relevant work on public choice and rent-seeking behaviour. The strength of the patent monopoly right – that it prevents independent invention – does not come out as clearly as it might, and it is this characteristic of the patent system which leads to the well-known result that 'patents beget patents', leading to very different outcomes from all the other intellectual property rights.

Despite these minor criticisms, this textbook clearly will fill a gap in the market and is well designed to raise important questions in a student's mind. The bringing together of both micro- and macro-economic considerations, the strong treatment of statistical difficulties in analysing these topics, and the consideration of the impact of innovation on wages and jobs are all major advances. The authors are to be congratulated.

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The publish or perish book, by Anne-Wil Harzing, Melbourne, 2010, 246 pp., ISBN 978-0980848519

Don't be misled by the title. This is not a tome about the pressure on academics to publish, or current issues in the scholarly communication process. It is a book, published by the author herself, about a piece of software she has developed called *Publish or Perish*. This software, which is free of charge to download and use, is intended to be used to carry out citation analyses on scholars based upon records held in Google Scholar of publications by that scholar. And this represents the fundamental problem with the book; despite the author's protestations, Google Scholar is an unreliable way of assessing scholarly outputs – but more of that later.

The book provides a well-written step-by-step description of how to use the *Publish or Perish* software on Google Scholar to obtain sophisticated citation statistics and analyses about individuals, and provides worked examples of the uses to which such statistics can be put. The author does warn about exercising caution in calculating and interpreting the results, which is wise.

The book considers the question of the best databases to use for citation analysis. She is dismissive of ISI's Web of Science, quoting a number of valid reasons why the service is not totally reliable, and some invalid ones. She hardly considers Web of Science's major competitor (Scopus) at all, but is full of praise for Google Scholar, which is far more comprehensive than either of the other services. This raises a fundamental point. It is true that both Web of Science and Scopus are selective in the number of journals they take as the basis of their citation counting, but this does not matter at all as long as the order of results is the same as with a more comprehensive service, such as Google Scholar. Thus, for example, if Professor A got 100 citations and Professor B got 50 citations according to Web of Science, but Professor A got 200 citations and Professor B got 100 citations according to Google Scholar, Professor A is consistently scoring better than Professor B. The *order* is the important matter, not

the absolute number. So there is nothing wrong with using Web of Science or Scopus for citation analysis rather than Google Scholar, *assuming the services are equally reliable*. Google Scholar is free (as is the author's software), whereas Scopus and Web of Science are both expensive. So, if the services were equally reliable, then there would be good argument for using Google Scholar, with its free software provided by the author, rather than either Web of Science or Scopus (which provide citation analysis tools bundled into their services).

So, just how reliable is Google Scholar? It relies on the automatic parsing of records, whilst both Scopus and Web of Science use human editors to check materials. Web of Science and Scopus are both highly structured databases with preset fields and consistent indexing, in contrast to Google Scholar. The author does refer from time to time to parsing errors in Google Scholar and the fact that Google Scholar covers only journals whose full text is available in open access format somewhere. She also notes that it apparently records only the first 1000 hits it finds, that it 'occasionally' reports duplicates, and that, unlike the competitor services, the recording of journal titles in Google Scholar is inconsistent. She also correctly notes that the lack of an 'affiliation' field in Google Scholar is a problem. This is all true, but overlooks the *frequent* duplication of records (because the same item is available in open access form from more than one repository), and the lack of transparency of selection criteria used by Google (in contrast to the complete transparency of the competing services). She also does not consider that if you do a search on 'Fred Smith' in Google Scholar, you will retrieve articles jointly authored by Fred Bloggs and John Smith – something that does not occur with its competitors.

To test the reliability of Google Scholar, I carried out a search for my publications in the period 2009–2010. For 2010, Google Scholar claimed I had published 39 items, but in fact only 10 of them were by me; for 2009 it claimed I had published 78 items when in fact only 22 were by me. Furthermore, the majority of items found by Google Scholar correctly attributed to me were book reviews rather than research articles, a weakness Harzing does not mention in her book. Many of my research outputs in both years were not picked up. To make matters worse, one of the 2009 publications it claimed was mine was in fact published in 1994, and another was published in 1993, and in both cases, it was claimed the items were co-authored with other named people, when in fact they were not! Finally, of the 32 items it correctly attributed to me, five were duplicated, so the true figure was just 27 correctly attributed items. Quite simply, Google Scholar is simply not yet robust enough to be considered a reliable service.

The author makes a number of errors in her text. She claims Google Scholar 'covers citations in all academic journals' though it covers citations in only those academic journals available in open access electronic format, a quite different thing. She claims that calculating citations per year is much easier with her software than with Web of Science, which is not true as Web of Science (and Scopus) have tools to give such results instantly. She also fails to mention InCites, the Thomson Reuters tailored service for in-depth citation analysis. The argument that Google Scholar provides a 'more accurate measure of citation impact for junior scholars' is dubious. At one point, she confuses average with median. She claims journal editors use her software to evaluate the publication record of potential editorial board members; any good editor will know this already. She claims social science journals tend to publish

articles published in many countries, whereas in fact they tend to be focused on single countries; it is in the sciences where journal articles come from multiple countries. At another point, the author mixes up editorial board members with journal article referees. They are not always synonymous. She claims that Ghoshal's book, *Managing Across Borders*, is not to be found in a Web of Science citation search, when it is. She claims that most conference papers and working papers 'eventually find their way to published articles', which is debatable. Finally, Harzing does not mention that others have worked on improving her software to clean up some of the problems that Google Scholar raises; for example, duplication. The service is called POP Clean, and is available at http://cleanpop.ifris.org. The book has some typos. 'Thomson' (as in Thomson Reuters, the company that owns Web of Science), 'fare' and 'advise' are mis-spelt in places, and a stray question mark appeared in one chapter title. There is also some repetition of material scattered about the book.

Overall, can the book be recommended? If you wish to use Google Scholar, for all its faults, in bibliometric analyses, then this book is a good guide to software that can be used to help you; but bearing in mind the adage 'garbage in, garbage out', I would not yet use Google Scholar for such purposes.

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The patent crisis and how the courts can solve it, by Dan L. Burk and Mark A. Lemley, Chicago, University of Chicago Press, 2009, 220 pp., US$45.00 (hardback), ISBN 978-0-226-08061-1

Despite its title, this book is a study of the so-called patent crisis in just one country, albeit the world's most important patent-issuing country, the US. The book has been written by two extremely well-known commentators on the US patent scene. Burk is Professor of Law at the University of California, while Lemley is Professor of Law at Stanford Law School. Their fundamental premise – and one that I agree with – is that the US is issuing far too many patents of dubious validity. The authors identify the symptoms of what is wrong with the US patent system in some detail, with examples from a wide range of specific industries. They suggest that, depending on the particular technology, patent examiners are applying the law in different, sometimes very inconsistent, ways. The book, which is supported by copious notes and references and a good index, appears to be aimed at a wide readership – patent lawyers, companies that patent, the US Patent and Trademark Office, and interested laymen. It assumes some prior knowledge of the nature of patents and of the US patent system, though the authors do explain in detail some of the economic and philosophical theories behind the patent system.

As noted at the start of this review, this book is parochial in scope, despite the fact that the US patent system is part of an international network of treaties and agreements, to which the US is bound. Another disappointing feature is the failure to explore the implications of the fact that a patent is a bargain between the inventor and the state. The state grants a monopoly for a limited period of time, but in return, the inventor must disclose all that he knows about the invention in the patent speci-