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EDITORIAL

WOLFGANG GLÄNZEL
Editor-in-Chief
ISSI Newsletter

Books are not dead, and book reviews are not dead, either. In the era of electronic publication and communication, book descriptions may gain even greater significance as they attract the potential reader's attention to relevant literature and provide orientation in the plethora of new available media products. But as book reviews also present the reviewer's – sometimes biased – personal views, one may love them or hate them, just as other literature reviews in scientific work.

We decided to devote the present issue of the newsletter to this literary form, and embrace the opportunity to introduce three new books (discussed by András Schubert and Swapan Kumar Patra, respectively) and present some critical reflections on literature review sections in research articles by Ronald Rousseau.

Before we start this dedicated issue and introduce the three books, it is our sad duty to announce the passing away of Professor Zeyuan Liu (Dalian University of Technology, China) in the obituary by Yue Chen. The editors of the journal Scientometrics have scheduled a commemoration of Professor Liu's academic life and work in one of the following volumes.

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ZEYUAN LIU
(1940—2020)

OBITUARY BY **YUE CHEN**
WISELAB, Dalian University of Technology, Dalian, China

Professor Zeyuan Liu was born in May 1940, into a propitious small town of Enshi in southern China, and unfortunately passed away suddenly in February 2020. He was visionary, knowledgeable, prestigious and prolific; he was a banner of science of science in China. Professor Liu graduated from the School of Metal Materials and Heat Treatment of Dalian Institute of Technology (now Dalian University of Technology) in 1962. In the same year, he stayed in the university to teach and conduct research and experiment in the field of metallographic heat treatment. At the age of 24, he was appointed as the deputy director of the metallographic heat treatment laboratory. In 1974, Liu was seconded to the Ministry of Education of China in Beijing. Four years later, he returned to Dalian University of Technology to engage in research of dialectics of nature, and thus paved the way for his studies in science of science.

Professor Liu followed the thoughts of Karl Marx, John Desmond Bernal and Tsien Hsue-Shen, and became one of the founders of science of science in China. He was honored with the title of "National Outstanding Scientific and Technical Fellow" in 2010 by China Association for Science and Technology (CASST). In 2013, he was given the "First Technology Philosophy Contribution Award" by the Foundation for Technological Philosophy Development which is named after Chen Changshu, the founder of Chinese technology philosophy. In 2017,

he was awarded for his "Outstanding Contribution Award" by Chinese Association for Science of Science and S&T Policy (CASSSP). Professor Liu played a significant role in the intergenerational inheritance between the pioneers and successors of science of science and cultivated a large number of talents in this field, making outstanding contributions to the cause of science of science in China. For the first time, Professor Liu put forward a theoretical system of science of science with Chinese characteristics; he first proposed the concept and methodology of "scientific knowledge mapping" in China; he founded the WISE Lab, which was recognized by Garfield, the father of SCI, as "one of the world scientometrics research centers"; he first proposed the concept and research framework of "knowmetrics"; he initiated the first doctoral program of science of science and S&T management in China; he set up the public course of "Principles of Science of Science" for postgraduates in universities of science and engineering in China; he created and practiced the school-running idea of "Cross-learning for Arts and Sciences" in Dalian University of Technology. Meanwhile, Professor Liu took his research team actively in the international scientometric academia, promoted greatly the academic communication between the world and China. Adhering to the ideal of "research is life as well as a way of living" all his life, he devoted himself to the cause of science of science in China, living and exploring till the last moment of his life.

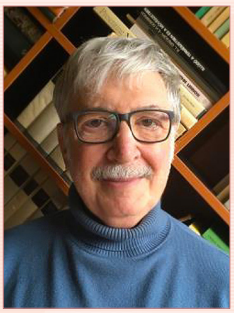
Professor Liu produced a total of 426 academic publications in his life, including 337 journal papers, 74 conference papers and 15 books, delivered more than 100 academic lectures, and trained more than 70 doctoral students. From 1965 to 1998, he was mainly engaged in the research of dialectics of nature and technological philosophy; from 1999 to 2004, he turned to the field of knowledge economy and scientometrics; from 2005 to 2010, he concentrated on the field of scientific knowledge mapping and citation analysis; from 2011 to 2020, he returned to the history of science of science and re-examined the principal theoretical issues in current research of science of science. Although Professor Liu's research directions vary in different periods, his research topics center around "science of science", involving fields of technological philosophy, scientometrics, science and technology management, science and technology development strategy, etc. His specific topics are rich and colorful, involving science and technology frontier detection, scientific research evaluation, personnel training, technology innovation system, sustainable development, science and technology policy, academic communication, discipline construction, knowledge economy, representative figures of science of science, etc. However, there is always an unchangeable theoretical source, a sober cognitive grasp and a clear research goal for him which is an adherence to Bernal's paradigm of "the unity between science and society" and "science can be planned" as well as Price's research methods of science of science. He adopted these principles to understand science, technology and the law of economic and social development, and applied them to the national development strategy, thus forming a unique theoretical research system of science of science in China.

In the 58 years of teaching and researching, Professor Liu never stopped writing, exploring and enlightening. His devotion to the academic field, however, ended abruptly, which is heartbreaking. We remember Professor Liu as a staunch man of science of science in China, which is not only a respect for his passion and integrity, but more importantly because of the fact that his research is deeply rooted in theories and that he had been cultivating talents, and sparing no effort to widely spread Bernal's paradigm of science of science, with an upright and innovative spirit and a firm belief in the force of "a single spark which can start a prairie fire." In this way, Prof. Liu stands fast in science of science in China which is a field still waiting for its prosperity.

BOOK REVIEW

■ **Rafael Ball (Ed.): Handbook Bibliometrics.**

Walter de Gruyter GmbH, Berlin/Boston © 2021.
XI+530 pages,
ISBN 978-3-11-064227-8;
e-ISBN (pdf) 978-3-11-064661-0;
e-ISBN (epub) 978-3-11-064259-9;
DOI: 10.1515/9783110646610.



by **ANDRÁS SCHUBERT**
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When I was a junior researcher, handbooks were my daily food. Ullmanns Enzyklopädie der Technischen Chemie, Perry's Chemical Engineers' Handbook, CRC Handbook of Chemistry and Physics were just as essential for my work as laboratory equipment or – with all due respect – a slide rule. Things were dramatically changed since then. Slide rules became an extinct species, even laboratories went – at least partially – virtual, and handbooks completely lost their status as primary reference media; their role were taken over by permanently updated online databases. Yet, apparently, they did not go the way of the slide rule but tried to find their role in the new world order. To be more exact, publishers try to find the role of the handbooks to be able to keep them on their sales list.

Rafael Ball, the Editor of the present Handbook, quotes Ernst Cassierer in his Preface: "The need for synthesis and synopsis, for an overview and a comprehensive perspective… still exists." He adds as self-couragement and a kind of anticipatory apology: "Even if – and precisely because – there are other handbooks on the topic, every editor has his or her own perspective and contributes towards the diversity of the opinions and views in tandem with his or her authors". Agreeable words, provided that such a perspective: a clear and original conceptual framework really exists and can be effectively communicated through the published material.

Unfortunately, many present-day handbooks lack this feature, and are nothing else than a multi-authored collection of papers on a single topic. Sorry to say, the present Handbook is not really an exception from this prevailing trend, either.

The volume contains 44 contributions by 60 authors. The papers are organized into eight chapters:

1 *History and Institutionalization of Bibliometrics*
2 *Theory, Principles and Methods of Bibliometrics*
3 *(Classical) Indicators*
4 *Alternative Metrics (Altmetrics)*
5 *Applications, Practice and Special Issues in Bibliometrics*
6 *The Data Basis in Bibliometrics*
7 *Teaching and Training*
8 *The Future of Bibliometrics*

A straightforward logical line, no objections can be raised. If one compares it with the structure of a recent competitor, the Springer Handbook of Science and Technology Indicators [1] (conspicuously, also containing 44 chapters):

Part A: Analysis of data sources and network analysis
Part B: Advancement of methodology for research assessment
Part C: Science systems and research policy
Part D: New indicators for research assessment
Part E: Advancement of methodology for patent analysis
Part F: Patent system, patents, and economics,

the differences seem to support the Editor's claim to publish an alternative view. The main problem with the book is its utmost heterogeneity both as its content and its presentation are concerned.

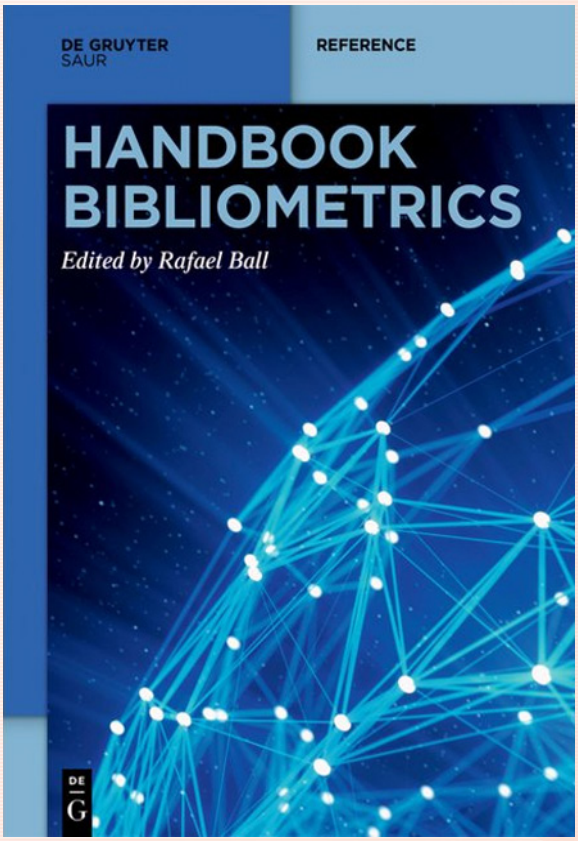
Let us take the example of Chapter 1: *History and Institutionalization of Bibliometrics*. This chapter contains two chronologically ordered overviews: one on the general history of bibliometrics and the other on the life and work of Derek John de Solla Price. Both contain a lot of questionable or deficient statements, and an enormous amount of typos. Among the latter, the most painful ones are those concerning key concepts or persons. "Nakometria" instead of Naukometria (more precisely, Naukometriya), "Brown" instead of Braun, "de Sola" instead of de Solla, "Scientometrics Journal" instead of the journal *Scientometrics*, are just a few examples. Sloppy referencing is present not only in these two specific contributions. The milestone book of Price is included in five reference lists – in five different ways:

- Price, DJdS 1963, Little Science, Big Science, Columbia University Press, New York.
- De Solla Price, D 1963, Little Science, Big Science, Columbia University Press, New York et al.
- Price, DJ de Solla 1963, Little Science, Big Science, Columbia University Press, New York, NY, ISBN-13: 978–0231085625
- Price, DJD 1963, Little Science, Big Science, Columbia University, New York.
- Price, DJDS 1963, Little science, big science, Columbia University Press, New York and London.

Such carelessness is hardly tolerable even in a student essay, let alone in a basic reference book.

Another two papers of Chapter 1 are "insider's look" contributions. The history of ISI and CWTS are presented by an ISI veteran and the founder of the CWTS, respectively. The authenticity of these papers is beyond doubt. All the more questionable is their unbiasedness. The significance of both institutions in the history of bibliometrics was crucial, but their past and present was not without debates and misgivings. The Editor may have done better to ensure a more balanced historical view by setting these valuable subjective memoirs into a proper framework. Pinpointing these two institutions, moreover, leaves a definite feeling of lack: the CHI of Francis Narin, the SPRU in Sussex, the Madrid group and, last but not least, the ISSRU in Budapest would deserve more than a passing mention in the CWTS testimonial.

The contribution on *Institutionalization and Professionalization of Bibliometrics* is a thought-provoking standalone essay mainly from a sociological point of view. Its contents



partly overlap with some other contributions in the volume, but this can be explained with the difference in its perspective. Reference to a special issue of Scientometrics [2] is painfully missed. It would be instructive to compare whether and how the problems have changed in a quarter of a century. (Spoiler: not much.) This paper is not free from painful typos, either ("Jascó" instead of Jacsó, "Prichard" instead of Pritchard, etc.)

A concise overview on *International Conferences of Bibliometrics* concludes Chapter 1. In my opinion, this contribution comes nearest to the ideal of a handbook article. It is up to date as much as possible, even reference to the present pandemic situation is included. How much will this up-to-dateness be worth after, say, one or two years, is an open question.

The example of Chapter 1 may illustrate my reasons of reproving the Handbook's heterogeneity. I won't go into such details in the subsequent Chapters, although the situation does not differ substantially.

Chapter 2 promises *Theory, Principles and Methods*, but actually provides an eclectic mixture of sociological essays, the explication of a mathematical theorem of limited theoretical and even more limited practical value, two almost identical treatises on *Peer Review and Bibliometrics* and a rather useful overview on *National Research Evaluation Systems*.

Chapter 3 on (Classical) Indicators reinforces the popular belief that scientometric (or bibliometric) indicators are about nothing else but evaluation. Indicators characterizing the structure and dynamics of scientific communities and document networks are ignored, however "classical" they might be. Within this limitation, the papers are well chosen: two overviews (*From Scholarly Communication to Broader Impact* and *From Simple Publication Figures to Complex Indicators*) are followed by two obvious case studies (*The Journal Impact Factor* and *The h-Index*). Heterogeneity manifests itself here mainly in the targeted audience. While the two overviews are for more "advanced" readers, the two case studies are rather for beginners. May I complete the reference list of the two case studies with two items: a Special Discussion Issue on Journal Impact Factors [3], and Chapter 12 of the Springer Handbook [1] on h-index.

Chapter 4 gives a rather extensive and well-organized survey on *Alternative Metrics* with a slight but excusable overlap between the contributions. Maybe a single overview and separate papers for every single *Academic Social Network Site* would have been more "handbook-like".

Chapter 5 is the longest and maybe the most valuable part of the book. At the same time, it is the farthest from the "handbook ideal", being admittedly a medley of *Special Topics*. A refreshingly "off-the-main-track" paper on *Technological Trend Analysis*, a review on the deservedly popular topic of *Gender and Bibliometrics*, and an introduction to the less known but not less important topic of spatial scientometrics (*Regional Distribution of Research*) make the selection particularly colorful. (Although the literally most colorful paper is that on *Visualization of Research Metrics*.)

Chapter 6 is about databases. Most bibliographic databases of general use (WoS, Scopus, Google Scholar, Dimensions, etc.) are dealt

with and, as a bonus, the *Islamic World Science Citation Center (ISC)* is introduced. In this paper, there is a passing mention of other national or regional databases (China Scientific and Technical Papers and Citation Database (CSTPS), SciELO Citation Index, Russian Science Citation Index, and KCI-Korean Journal database); all of them would have deserved at least a brief, summarized introduction. Maybe this chapter would have been the proper place of introducing Anne-Wil Harzing's Publish or Perish, which is a most valuable tool for making cross-database comparisons.

Two of the three papers of Chapter 7 (*Institutions for Bibliometric Qualification and Bibliometrics in the Curriculum*) are limited to examples from German-speaking countries leaving only moderate room for generalization. The paper on *The Competent Bibliometrician* provides a *Guided Tour* of more general validity. Maybe even a bit too general and less practical, reaching the conclusion: "It can be concluded that becoming a 'competent bibliometrician' is not only about acquiring the three dimensions of professional competence in evaluative bibliometrics. Both theoretical approaches illustrate with their interpretative-relational perspective that competence is an unstable construct based on situated professional judgment, professional demarcations of expertise and the understanding of work, and its contexts."

The topic of Chapter 8, *The Future of Bibliometrics*, is something all of us would like to gather from whatever handbook. The Editor of the volume, Rafael Ball has a clear vision: "In future, scientists and institutions will be given a whole series of scores which not only provide a more comprehensive picture of the academic performance, but also the perception, behaviour, demeanour, appearance and (subjective) credibility. Like it or not, it conforms to the manner and the possibilities of evaluation in the digital Internet age of the twenty-first century." More than agreeable words. It is worth, nevertheless, noting that almost three decades earlier, in a Discussion Issue of *Scientometrics*, Michael Moravcsik [4] wrote rather similar ideas: "my point is that an overwhelming fraction of work in the science of science, and in fact in many other areas of inquiry, has been carried out in an implicitly or explicitly one-dimensional framework and therefore with a correspondingly one-dimensional methodology. It is my contention that this is a fundamentally incorrect way of looking at problems which, from the very outset, distorts reality and hence is unable to arrive at truly insightful conclusions. Instead, I claim, one must adopt a multidimensional model of reality and use a methodology befitting this model in order to achieve meaningful and functional understanding which then also have some predictive power." One may only wonder how closer to these ideals our discipline will get after another three decades.

All in all, Rafael Ball's Handbook is a volume containing some easily forgettable, or even sometimes annoying material, a lot of useful and interesting details, but as a comprehensive practical handbook it seems to miss its target.

This Book Review is an excerpt of the author's paper "A Handful of Books" to be published in *Scientometrics*.

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BOOK REVIEW

■ **Dashun Wang, Albert-László Barabási: The Science of Science.**

Cambridge University Press, Cambridge. © 2021.
X+304 pages,
ISBN 978-1108492669;
ISBN (online) 9781108610834;
DOI:10.1017/9781108610834.

by **ANDRÁS SCHUBERT**
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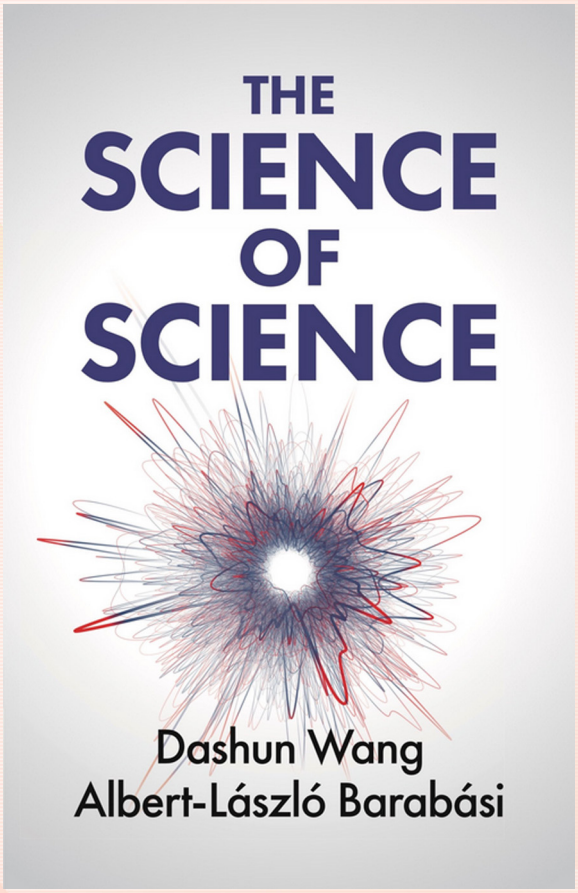
Albert-László Barabási does not suffer from lack of self-confidence. When asked by the reporter "What is the mathematical chance that you'll be the next Hungarian Nobel-Prize winner?", he answered: "I created a new scientific area which doesn't have its own Nobel Prize. If there would be a Nobel Prize in Network Theory, I would receive it. That's not an exaggeration." [1] The next generation will not have such an easy excuse. In 2012, Barabási founded The Network Science Society, and launched the Erdős-Rényi Prize for network scientists under 40. I wonder whether the obvious idols of Barabási, Professors Pál Erdős and Alfréd Rényi would completely agree with the selection of the so far nine awardees, since most of them are not really mathematicians. It was in great extent Barabási, who directed the main path of network theory from a subspecialty of graph theory towards a multidisciplinary venture where analogies and intuition have larger role than theorems and proofs. Whether and how this diversion has contributed to the universal human knowledge is a question far beyond the scope of this book review.

It seems that Barabási, together with Dashun Wang, accomplishes a similar reinterpretation of the area of science of science in this book. The concept of science of science has a long history. From its undisputed Polish origin as a philosophical-sociological discipline [2] through Fox's physical-epistemological [3] and Gennadiy Dobrov's science-policy interpretation [4], the concept progressed toward informatics and was institutionalized in the form of journals, again in Poland [5–7]. Wang and Barabási simply disregard this whole line of history (none of the above authors were mentioned in the book) and pick up the story from the latest developments considering science of science as a branch of the study of complex systems. [8, 9]

The authors keep a distance from any other objectionable intellectual heritage, as well. The topic of the book is mainly what most people would label as scientometrics or bibliometrics. Although there are, indeed, 14 references in the book to papers published in the journal *Scientometrics*, the word 'scientometrics' is not even included in the Index. The word 'bibliometrics' is included in the



Index and can be found in the titles of some of the references, but not a single time in the main text of the book. It is the clear intention of the authors that the reader will accept Science of Science (in what follows, SoS) just as presented in this book, without any side tones or overtones. An ambitious initiative.

The book is organized in a simple and straightforward way. Part I is about SoS at the level of individuals, Part II is about the SoS of collaboration, Part III covers the topic of scientific impact, and Part IV is about the perspectives of SoS.

The first four chapters of Part I, *The Science of Career*, deals with topics more than familiar to the readers of *Scientometrics*: author productivity models, h-index, Matthew effect, age effect. Sources are apparently drawn quite selectively. Lotka's Law having only historical interest nowadays and Shockley's rather obscure model of scientific productivity are dealt with in detail, while the introduction of Price's cumulative advantage model (originally proposed for productivity as well as for citation distributions) is postponed until the chapters on citation impact in Part III. The remaining three chapters of Part I are about the "random impact rule", the "Q-factor", and "hot streaks", and are based on the authors' original research. Challenging ideas which seem to largely justify the authors' somewhat "unorthodox" approach.

Part II of the book contains seven chapters about *The Science of Collaboration*. One might have expected that these chapters constitute a real joyride for Barabási for at least two reasons. (i) He is a real champion of collaboration: he already has more co-authors (more than 800 according to the Web of Science) than Pál Erdős had in his whole career. (Of course, the difference in period and in topic is substantial.) (ii) He made valuable contributions to the theory of co-authorship networks. Joyride or not, these aspects are not included in the book. Instead, the reader finds a comprehensive overview on the history, sociology, and efficacy of scientific collaboration. Two chapters target the important and frequently overlooked problems of authorship credit, ranging from ethical issues to algorithms.

The six chapters of Part III are devoted to *The Science of Impact*. Again, the topics are "old bones": exponential growth, skew citation distributions, cumulative advantage, impact factor, citation aging, sleeping beauties, but the approach is fresh and solid, and even some earlier oddities (like Lotka's Law and Shockley's lognormal model) gain acceptable context.

In Part IV, *Outlook*, the authors – in their own words – "aimed to offer an overview of the current body of knowledge that the science of science has offered us in the past few decades." They "do not aim to offer a comprehensive coverage, but rather to introduce some interesting problems posed by the existing research, offer some representative examples, suggest new opportunities, and imagine where they might lead us." The chapters are about 'Can Science Be Accelerated?' What might be the role of 'Artificial Intelligence'? The final chapter deals with the complex and elusive topic of 'Bias and Causality in Science'.

In a concluding *Last Thought: **All** the Science of Science*, the authors end the book with an invitation. "A science of science that relies only on a few disciplines – the information sciences, social sciences, or engineering [...] will miss critical aspects of an enterprise that is growing larger, more complex, and more interconnected at an exponential rate. In other words, for science of science to succeed, it needs *all science*. [...] Science of science must draw upon the talents, traditions, and heuristics of every discipline if we want to make science optimally beneficial for everyone. Therefore, please accept our sincere invitation – join us in this fascinating journey."

The book is completed by two Appendices on technical topics: *Modeling Team Assembly and Modeling Citations*, a list of 424 *References* (silencing any complain, even if somewhat justified, about missing sources) and an *Index*.

A particularly attractive feature of the organization of the book are the "boxes": highlighting off-the-main-track sections (there are a total of 41 of them in the book); each spotlighting some instructive or just amusing detail.

The number of typos is quite sparse, although some of them ('Hirsh', 'Flauberta') are a bit painful.

No doubt, whatever is written here, this book is destined to success. The reviewer may deliberate what he would do differently, what could be included into the book or what could be left out, but it has no real relevance. Yet, if I ought to name one thing I really miss, it would be a clear declaration by the authors (say, in the Introduction) that the title of the book has not much to do with what has been called SoS in the past. It is also true, however, that who reads this book, will certainly realize this without any declaration.

This Book Review is an excerpt of the author's paper "A Handful of Books" to be published in *Scientometrics*.

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BOOK REVIEW

■ **Sooryamoorthy, R.: Scientometrics for the Humanities and Social Sciences (1st Edition).**

London, New York: Routledge, 2020.
ISBN 9780367627010.

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The Russian scientist, Vassily V. Nalimov first used the term 'scientometrics' in the 1960s. Since then, scientometrics as a discipline has become popular and used to map the knowledge structure in every sphere. The mapping exercise includes tracing the origin of the subject, its growth with time, its structure and dynamic relationship with other domains of knowledge. At the micro level, scientometrics includes measuring the impact of authors, publications, journals, institutes, and countries as reference to sets of scholarly publications such as articles, conference proceedings and even patents. In the simplest terms, it is the quantitative study of science to analyse and evaluate science, technology, and innovation. Over the span of time, the term 'scientometrics' is related to and sometimes used interchangeably with bibliometrics and informatics [1]. With the recent development of Information and Communication Technology (ICT), particularly the Internet technology, the field has gained a new momentum. Further, the easy availability of many databases over the Internet through subscription fuelled the growth of this subject. Scientometric studies are now an important component in many areas including a researcher's career advancement, getting research grants from funders and even national level policy studies. Moreover, the high computational power of personal computers and many open-source software programmes and visual analytic tools, are nowadays providing new dimensions to scientometric studies [2].

In this context 'Scientometrics for the Humanities and Social Sciences' by R. Sooryamoorthy, is a very interesting, important, extensively researched and well-written book. The book broadly covers various aspects of scientometrics from its genesis and the latest development in the field including various tools and techniques. It starts with the origin and development of scientometrics as a research field and its popularity in different spheres of knowledge including the mapping of science at both micro (individual, institutional level) and macro (country level) science indicators. The major strength of the book is the presentation of case studies and their application to policy studies with special reference to social science. Case studies presented in this book in a comprehensive way can be used as an example for students and researchers in this field to conduct further research. Further, the extensive bibliography is another major strength of the book.

The author has presented the subject in a novel and innovative way which is quite easy to understand even for a new entrant to the field. In particular, he draws attention to the importance of scientometrics as a research field and its application in mapping knowledge production. The book is sequentially arranged in five chapters. Chapter 1 deals with the historical development of scientometrics as a research field. The chapter incorporates the genesis of the prominent database, citation index, prominent journals and the institutions where major research is being carried out.

Moreover, the essential laws (Price, Bradfors, Lotka, Zipf and others) of scientometrics are also dealt with in brief. This chapter is sufficient enough to give an essence of the subject and a complete overview of the topic for the learners. Chapter 2 deals with the uses and applications of scientometrics. The chapter is justified with the elaboration of the concepts of citation analysis, co citation, co-word, co-authorship, collaboration and network analysis. However, a better clarity of Fig. 2.5 is expected. Perhaps a colour picture will give a better visibility. Chapter 3 is narrowed down to focus on scientometrics in the humanities and social sciences. Earlier scientometric studies were mainly conducted on science publications by social scientists. In this context, the chapter discusses the potential and challenges for scientometrics related the publication practices in the humanities and social sciences and the possible areas of research to be explored. Chapter 4 presents some selected cases of scientometric studies in the humanities and social sciences. The cases have been chosen to cover different aspects of research including several databases and different micro (institutional) or country level studies. These types of case studies will encourage students and researchers to conduct similar studies in the area in future. Chapter 5 deals with different data sources including various citation indexes (Web of Science, Scopus and Google Scholar), data collection, processing and analysis. Although, most of the scientometric studies are based on these databases, this chapter may have been elaborated upon with other prominent social science databases. For example, further exploration could be incorporated in the databases like, Library, Information Science & Technology Abstracts (LISTA), PsycINFO and so on. Although the end of the chapter deals with the graphical presentation of data, other prominent graphical user interfaces and open sources software like Gephi, BibExcel, bibliometrix (R-tool for comprehensive science mapping) and other open-source bibliometric analysis software tools need attention. Further, Social Network Analysis (SNA) tools are being increasingly incorporated into all scientometric studies. SNA tools are useful to identify the major and prominent actors in the different levels of collaborations (author, institution, country level collaboration). Collaboration analysis at various levels and its use of SNA tools requires a separate chapter including various open-source software programmes. In the next edition the theoretical base of SNA and various tools may be incorporated as a separate chapter.

The book will be very useful for researchers and students to understand scientometric tools and techniques. This is one of the very few books available globally to give an overall view of the subject. Hence, this is a highly recommended book for both basic and advanced level learners in the field for a holistic understanding of the subject.

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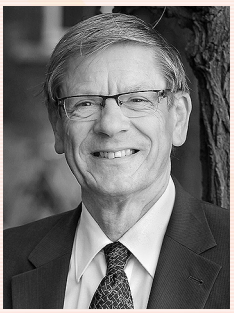
WHY I DO NOT LIKE LITERATURE REVIEW SECTIONS



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The main part of a research article typically follows the IMRaD structure, where the I stands for introduction, the M for methods, the R for results and (a) the D for discussion. As articles also have a conclusion, sometimes the term IMRC is used, where C stands for Conclusion (and Discussion is not mentioned).

Yet, submitting an article following this structure in a LIS journal would typically result in a "major revision". Reviewers would point out that there is no literature review section (as I found out on several occasions). Indeed, journals such as JASIST usually have a rather long literature review part. Yet, I am rarely inspired by it. Often such sections suffer from the "he said, she said"-problem, consisting of phrases such as "X did that, while Y considered that. A few years later Z also studied something ..."; ending with "but we will do something different".

Now, to make my point clear so that I am not misunderstood I will make three observations: reviews are useful, an article must be placed in its proper framework, and authors must have a thorough knowledge of the literature of the field they are working in.

Reviews. I fully acknowledge the important role played by review articles. I wrote several myself and refer to them when appropriate. As long as review articles are not published in the hope of increasing a journal's impact factor (Colebunders et al., 2014) I fully support them.

An article's framework. Any publication is a link in a knowledge chain. This is shown

through its references, but also by introducing the potential reader to the scientific framework in which it finds a place. This framework is described in the introduction, and here a short discussion of the main players, those directly relevant to the article itself, is in order. In this way, the reader may understand the contribution of the new article and where it should be placed in the scientific landscape of the field.

Knowledge of the field. I expect authors to have extensive knowledge of the field (or at least to come as close as possible to this ideal). This shows through the structure and every sentence of their publication. All too often I see articles in which the authors think that nothing happened before the year 2000, or that books and publications in edited books, conference proceedings or journals not covered by Clarivate Analytics (the ISSI Newsletter, for instance) do not matter.

Hence, I come to my suggestion. For reviewers: even if you think that a literature review section would be better, do not judge a submission on this non-essential aspect, but on its scientific content. For journal editors: allow for some variation in structure. If authors include a review section, fine; if they do not, also fine. If reviewers suggest a major revision (or even rejection) because there is no review section, ignore them and only consider the 'real', i.e., original content of a submission.

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Colebunders, R., Kenyon, C., & Rousseau, R. (2014). Increase in numbers and proportions of review articles in Tropical Medicine, Infectious Diseases and Oncology. *Journal of the Association for Information Science and Technology*, 65(1), 201-205.