

Pali U. K. De Silva and Candace K. Vance, **Scientific Scholarly Communication: The Changing Landscape**, Cham, Switzerland: Springer International Publishing AG, 2017, 140 pp., \$151.05 (hardcover).

Reviewed by

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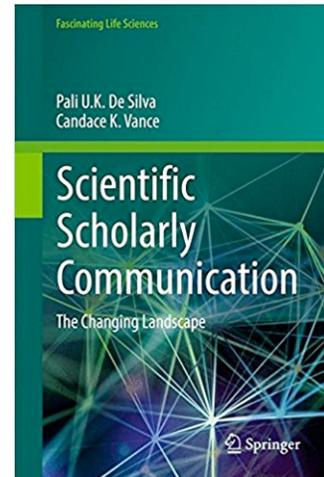
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With private patronage, the pressure increases to commercialize scientific research and its results. This business model extends to the laboratory and imports its logic of communication. The question of whether the commercialization of scientific research has consequences for scientific communication naturally arises.

With substantial reference lists for each of their chapters, Pali U. K. De Silva (PhD in Plant Health, Master of Library and Information Science) and Candace K. Vance (BS in Agricultural Science, Master of Science in Information Sciences, MA and MFA in English and Creative Writing) set out to expound on the history and state of the art of scientific scholarly communication.

After a brief outline addressing the issue of market-oriented academic practices and their link to the requirements of the economy, De Silva and Vance give a more detailed overview of the historical evolution of scientific communication. The digital revolution has given rise to interpretations and perceptions that shake the foundations of the editorial world and intellectual activity in general. Debates are woven together around the possible disappearance of the book, the end of print civilization, free access to knowledge, the control of editorial markets, and the fragmentation of reading and thought. The “book chain” has evolved into multipolar networks. New actors (Amazon, Google, etc.) that did not exist in the printed book circuit appear. Others are disappearing or being challenged by the digital switchover. The bookstore no longer intervenes in the mediation of the digital journal; the library no longer ensures the long-term preservation of digital editorial production. Anchored in the history of scientific publishing, **Scientific Scholarly Communication: The Changing Landscape** reveals the challenges of digitalization. It analyzes the social, economic, and organizational aspects of publishing scientific books and journals.

In the chapters that follow, De Silva and Vance expand on open access, data sharing and open data movements, intellectual property rights, peer review, and the various indexes measuring research quality. They conclude with an evaluation of the societal impact of research. In each chapter, the authors report on the historical background of the particular phenomenon under analysis and discuss current practices, challenges, trends, and controversies related to the topic. *Scientific Scholarly Communication* is easy to read and understand, and it is mindful of the wider audience compelled to better grasp the evolution of scientific communication, to understand the most pressing issues in the current context, and to gain insight into how these issues could unfold in the future.



As anthropologist Christopher Kelty explains:

Much of the idealism of Free Software was inspired by academic ideals of universal education and freedom of speech and research. So I think we have to understand that when we look at Free Software we are looking into a mirror, and seeing our own values and ideals reflected back at us in a transformed and, I'd say, purified form. (Kelty et al., 2008, p. 562)

But the common *modus operandi* of commercial academic publishers for justifying their financial models and expensive outputs is to repeatedly point to their right to profit, as their publishing services involve high costs. However, their system is already subsidized and largely paid for by

researchers, unpaid editors and reviewers, funders, libraries, producers and users of new knowledge, taxpayers, and citizens. It is time for stakeholders to come together and try to make research publishing an open enterprise that everyone, both within and outside academia, can benefit from. (Shashok, 2017, pp. 16–17)

For researchers, restrictions on sharing the results of their work generally undermine their efforts to contribute to knowledge, and constraints on access limit their efforts to build on current scholarship. An alternative system of knowledge circulation and legitimation might be constructed out of the technological systems and structures of the contemporary world, which could grant open access to much wider audiences. Open access is a direct outgrowth of free software, which holds the potential to overcome issues of publication and dissemination by demonstrating the power of collaboration (Downes, 2007).

As much as De Silva and Vance do, however cautiously, try to make the link between the causal repercussions of our economic system and scientific communication, the root cause is never clearly identified or referred to in clear terms. There is no reference to the precarious conditions of academic labor either, although precarity is an integral component of academic publishing. Most of the work involved is voluntary and unpaid, while big publishers gain enormous profits. The authors' shyness in tackling those issues reveals a tendency toward political correctness, which leads to inaction. The result is an unsystematic or even neglectful work.

"A preliminary step," as advocated by Ian Parker, "would be for us to connect what we do and say with changes in culture and abandon the pretence that we can be politically neutral" (1989, p. 3). Beyond the vital issue of "depoliticized science [working] in tandem with capitalism in the form of Intellectual Property Rights and the patenting of knowledge production" (López & Marzec, 2010, p. 687), it is the scientific disengagement from everyday concerns of oppression and inequality that play a role in maintaining the status quo.

But beyond the purely economic aspects, which allow for outside influences over research, the measurement of research quality by bibliometric indicators becomes an element of oppression. Once again, De Silva and Vance do a good job in isolating the issue of bibliometrics from its effect on science production, although the communication of produced science is the topic of their book. Indeed, to

measure and to evaluate scientific research is to direct it, orient it, and therefore dominate it. The controversy surrounding the impact factor has therefore a clearly philosophical dimension, focused on the consequences of its purpose and use. Scientific evaluation is not new, and researchers who are most opposed to the impact factor often concur that scientific research must be subject to evaluation, in order to allocate research funds, but also to advise researchers on the quality of their work. But the impact factor also reveals many issues at the microsociological level, that is, the level of the relationship of competitiveness that can exist not only between researchers but especially between laboratories, which is inconsistent with the aims of a collaborative science.

Elsaie and Kammer (2009), for example, call it the "Impactitis," referring to the inflammatory effect the impact factor has had on scientific publishing and on the community in general. They suggest that

for evaluation of scientific quality, there seems to be no alternative to qualified experts reading the publications. Much can be done, however, to improve and standardize the principles, procedures, and criteria used in evaluation, and the scientific community would be well served if efforts could be concentrated on this rather than on developing ever more sophisticated versions of basically useless Indicators. (Elsaie & Kammer, 2009, p. 3)

If approached seriously, the controversy surrounding the impact factor could allow for better comprehension of the complex network of relationships behind the scenes in the world of research. It is to enter the heart of this black box that is the scientific sphere, of which one usually sees only what is (sometimes) publicly available: the results. To map it is above all to understand that the researcher is not—or not anymore—the alpha and the omega of the production of knowledge. Multiple actors are grafted into the process. Whether it is the upstream researchers, the downstream publishers, or the flow of the money, they all put their mark on scientific production. Finally, the debate on the impact factor is a debate about the place that each actor should have in the chain. The polemic surrounding the impact factor definitely puts an end (at long last) to the long-held idyll of the laboratory sealed from the outside world. De Silva and Vance do not demonstrate potential for a deeper analysis of the issue at hand—the social and the scientific must be analyzed and understood in parallel, as the study of one without the other involves only dead ends and contradictions.

Furthermore, the authors overlook important developments in the field of bibliometrics. Indeed, as data is increasingly used to govern science, services, databases, and metrics have proliferated (Mendeley, Google Scholar, Scopus, impact factor, InCites, *h*-index, etc.). Aware of too many instances that fall far short, scientists have watched with alarm and created a roadmap to guide researchers and evaluators toward the best practices in research assessment. The San Francisco Declaration on Research Assessment was published in 2013 and signed by the most respectable academic organizations in the world (Bladek, 2014). In the Leiden Manifesto for Research Metrics, published in *Nature* in 2015, Diana Hicks, professor in the School of Public Policy at Georgia Institute of Technology, and colleagues present 10 principles for the measurement of research performance (Hicks, Wouters, Waltman, Rijcke, & Rafols, 2015). They propose using quantitative evaluation to support, not substitute for, expert assessment. Their

influential article suggests quantitative metrics can strengthen peer review because making judgments about colleagues is difficult without a range of relevant information, but indicators do not substitute for informed judgment. Both the San Francisco Declaration and the Leiden Manifesto have greatly influenced the ongoing debate about research assessment tools and should have earned a mention from De Silva and Vance.

In conclusion, *Scientific Scholarly Communication*, authors De Silva and Vance cover major issues and open up important questions in the field of science communication. They manage to develop the argument that scientific communication is facing new challenges that emerge with the commercialization of research under private sponsorship, trending away from science production toward public relations for science. Nonetheless, a reading of alternative analyses of the economic stakes of scientific publishing is advisable to fill the gaps the reader is regrettably left with.

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