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Book Review

Scientific Peer Review: Guidelines for Informative Peer Review. By J. Matthias Starck. Springer Spektrum: Wiesbaden, Germany, 2017; 60 pp.; ISBN: 978-3-658-19915-9

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Peer-reviewed publications, such as journal articles, book reviews, and books are critical in the dissemination of scientific knowledge. Often, the quality of the manuscript is determined by assessing the significance, validity, and novelty of the research results through peer review [1]. The success of the peer review system depends on the availability of objective, constructive, and area experts to provide feedback to a submission. However, most reviewers lack formal training, thus may potentially compromise the peer review system through an introduction of 'hidden' bias [2]. In his new book, J. Matthias Starck argues that peer review offers a 'safeguarding mechanism' that help to ensure that communication among scientists remains honest, transparent, reproducible and ethical.

Dr. J. Matthias Starck's *Scientific Peer Review: Guidelines for Informative Peer Review* (Springer Spektrum, 2017; 60 pp.; ISBN: 978-3-658-19915-9) is a 60-page handbook that offers formal stepwise guidance on how to conduct peer review, principally for scientific journals. *Scientific Peer Review* is divided into eleven concise chapters that introduce the reader to the purpose, practice, and types of peer review. Between Chapter 1 and 4, Starck shows the reader the fundamentals of science communication and the publication process, before discussing how to conduct peer review. Chapter 5 is the heart of the book as it discusses the five crucial aspects of a manuscript often scrutinized during peer review, which are as follows:

1. Science—is the hypothesis clearly stated, and is the experimental approach adequate?
2. Methodology—is the experimental approach reproducible, transparent, adequate, and honest?
3. Legal/Ethical framework—does the manuscript adhere to the respective legal and ethical frameworks as defined by the society?
4. Publishing—what is the degree of novelty or originality in the manuscript?
5. Presentation of science—does the manuscript adhere to the author guidelines issued by the journal?

In addition to its compact size, another strength of *Scientific Peer Review* is that it contains a comprehensive checklist that the reader could use for their own peer review assignments. A checklist is an important tool that could help in minimizing bias in the peer review process. However, the peer review system is not perfect, and the author adequately highlighted the 'dark side of peer review' in Chapter 6. To address problems such as fake, cascading, and inadequate reviews, different types of reviews were proposed including, post-publication, double-blind and open peer review.

Due to the limited number of pages in the book, there were no comprehensive discussions on the pros and cons of these modern peer review approaches. For example, what is the role of anonymity in post-publication review and any potential challenges associated with it? Furthermore, Chapter 11 appeared to be disconnected from the flow of the book. In this chapter, the author listed the different organization involved in some aspects of peer review, yet there was no clear connection to how that list

helps the reader. However, the limitations are minute compared to the overall contribution the book makes in formalizing peer review training. The book is an important read for early career researchers who are interested in making a valuable contribution to science through peer review.

References

1. Wicherts, J.M. The weak spots in contemporary science (And how to fix them). *Animals* **2017**, *7*, 90. [CrossRef] [PubMed]
2. Stahel, P.F.; Moore, E.E. Peer review for biomedical publications: We can improve the system. *BMC Med.* **2014**, *12*, 1–4. [CrossRef] [PubMed]