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BOOK REVIEW

J. Scott Armstrong and Kesten C. Green: The scientific method: A guide to finding useful knowledge

Cambridge University Press, Cambridge, UK, 2022, xx + 20 pp, £22.99 (paperback), ISBN 9,781,009,096,423

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Most of our knowledge results from the application of the scientific method, which has been the same for centuries and, as the authors acknowledge in the first pages of this book, may have no room left for improvements. Yet, the scientific practice is a human affair and far from perfect, which is why, after presenting the purpose and content of the book, the scientific method, and a checklist of criteria to keep in mind to comply with it (Chapters 1–3), the authors show several shortcomings of research, from the way it is done, to the reviewing and funding stages (Chapters 4–7). Tragicomic stories, such as the experiment of resubmitting famous studies after modifying only the title, authors, and affiliations, should make us reflect. When I discovered the book, the chapter about what it takes to be a good scientist (Chapter 8) piqued my curiosity. This chapter raises some good points, such as the importance how enjoying intrinsic rewards, but I am not convinced it tells the whole story. In chapter 9, about how scientists can make better science, the authors stress that discovering useful knowledge begins with identifying important problems. For someone who studies natural sciences, an intrinsically curiosity-inspired discipline, this sounds preposterous, as sorting out the important research questions from the 'irrelevant' ones may become an epic struggle. How to write a scientific paper and prepare a talk are marginally discussed (Chapter 10), and the book targets also funders and stakeholders by discussing social questions (Chapters 11–12) such as where funding should come from. Throughout the pages, many examples come from non-biological sciences and there is a constant concern with advocacy, which is of little relevance for a data-driven field such as ecology. Although this book was not written having ecologists in mind, I would recommend it also to my colleagues because it reminds us that our scientific practice can and ought to be improved, and it provides us with guidelines to do so. The shortcomings of an imperfect scientific practice can be frustrating at times but, rather than giving up, should encourage us to do better science.

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