***Fraud and Misconduct in Research: Detection, Investigation, and Organizational Response.* By Nachman Ben-Yehuda and Amalya Oliver-Lumerman. Ann Arbor: University of Michigan Press, 2017. Pp. xii+266. \$75.00.¹**

Martin Reinhart

Humboldt-Universität zu Berlin

`martin.reinhart@hu-berlin.de`

The fascination for scientific misconduct is as old as science itself, however, the sociology of science has only scratched the surface of the phenomenon. Some historical examples can illustrate the multiple ways in which science and misconduct are implicated: As a practical epistemological problem, the founders of the Royal Society were highly interested in who can be trusted as a reliable truth-teller and who may have ulterior motives. As a means of power, the dispute over who invented calculus between Leibniz and Newton featured some hefty accusations of plagiarism. In a more reflective and political mode, Charles Babbage, in 1830, feared science to be declining and provided one of the first typologies of scientific misconduct. In journalism, the misconduct of those that we expect to be dispassionate and unbiased seekers of truth is of seemingly timeless public interest, albeit with varying degrees of sensationalism. Finally, as an object of scientific study, Robert K. Merton's work on priority disputes and the ambivalence of scientists laid the foundation for understanding science from its fringes: when knowledge claims are contested and when the scientific ethos fails. However, he also declared the history of science as comparatively free from misconduct, so much so, that little might be learned from studying it.

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The potential for research on scientific misconduct lies in understanding the larger context, i.e. science, from how scientists separate the normal from the erroneous and from the fraudulent. The topic should be of strategic interest (not just for criminology) for two reasons: First, there is no central authority in science, such as state-centralized law enforcement, and the detection, investigation, and punishment of misconduct happens mostly through professional self-governance; e.g. by journals, funders, universities, or online platforms. It is thus an ideal case for studying decentralized forms of social control. Second, where trials before a court can rely on the judgment of scientific experts, cases of scientific misconduct are *about* these scientific experts and thus lay open the production of scientific knowledge in the making. Incriminating scientific work routinely raises issues not just of what constitutes the factual truth in a specific case, but of what the general standards for scientific truth claims should be.

Despite the potential for addressing such far-reaching issues in epistemology or social theory, a subfield that deals exclusively with scientific misconduct is only slow to emerge, mainly because data is notoriously difficult to acquire. For a long time, most work relied on a few cases that were made public by the media or through hear-say. In the last decade, more research has emerged either based on surveys, asking scientists about their own possibly questionable behavior, or based on analysis of the increasing number of retracted scientific publications. In this context, the book by Ben-Yehuda and Oliver-Lumerman makes a significant empirical contribution.

By collecting documentation for 748 cases of scientific misconduct, the authors establish a comprehensive database that overcomes the problem of previous case-based studies that relied on mostly anecdotal evidence. They draw from heterogeneous sources (from the Office of Research Integrity to Wikipedia), include all disciplines, and cover a time-frame dating back to the 1890s. This sample is still biased, e.g. with respect to country (the USA are overrepresented) or discipline (biomedicine is overrepresented), which the authors openly discuss, but it covers the visible side of scientific misconduct in an unprecedented way. The strength of their approach lies not in answering the question of how much misconduct there really is, but in being able to analyze how detection, investigation, and sanction are portrayed in reports on publically known cases. From these, the book shows a wide variety of findings with respect to who finds and reports misconduct (mostly collaborators and colleagues), who is incriminated (mostly researchers in vulnerable career stages), who investigates (mostly research institutions and rarely law enforcement or courts), and what sanctions follow (mostly temporary exclusion from funding or other academic activities). Some of these confirm findings from earlier studies, e.g. the number of cases has increased over time similarly as the number of retracted publications, while others may seem contradicting, e.g. falsification and fabrication of data is very rarely reported in surveys while the authors find them as the most frequent types of misconduct in their database. The

analysis of such "frequency patterns" make up chapter 2 as the core of the book and will, hopefully, inform much of future research on scientific misconduct.

Besides an introduction and a conclusion, the book contains three further and more theoretical chapters: Chapter 3 develops an approach based on the organizational context of scientific misconduct by drawing on the concept of organizational fields. Chapter 4 discusses the terminology surrounding scientific misconduct: from fraud to deception to deceit to deviance. Chapter 5 builds on the idea of scientific norms and a social control perspective to examine the forces that make researchers deviant and ultimately to speculate about the frequency of scientific misconduct. Neither do these three chapters draw systematically from the preceding empirical work, nor do they generate a continuous argument that would result in a coherent and more general approach. Each chapter reads as a separate attempt to grapple with the ambivalence and multiplicity of scientific misconduct by drawing illustratively from individual cases as (anecdotal) evidence. While this may make for exciting reading, as some of the described cases are indeed sensational, it also lays open that the book tends to provide spectacle where a rigorous analysis and argumentation would be expected. The authors prematurely resort to trying to reassure the reader that "while fraud in research is underreported, it is not, by any means, a major characteristic of science" (198). In effect, the potential for understanding science through the multiple lenses of misconduct remains underdeveloped. The book provides empirical work that is urgently needed to bring more professional distance to debates and research on scientific misconduct; what the field now needs are approaches that draw on the current state of research in criminology and the sociology of science.