

Introduction

The subject of scientific integrity has generated a lot of attention in recent decades, both in the media—which is all too happy to report on the latest fraud or plagiarism scandal—and in the boardrooms of the scientific institutions that have to respond to it. In the meantime, scientific research has continued, but researchers have become more attuned to the fact that scientific integrity is something they need to pay attention to in their laboratories and research institutes. Then came the question as to whether we should add courses in scientific ethics and integrity to university curricula, which are already full as it is. New courses for students and novice researchers have been established in recent years, creating a demand for teaching material on scientific integrity. But can integrity be learned? Or is it more a matter of gaining experience, following good examples and having outstanding scientific researchers as role models? This is one of the questions that will be addressed in this study.

This book is not designed to serve as a curriculum for prospective students or novice researchers. Although I know there is a need for this, I do not feel called to address all the possible ethical cases, dilemmas and temptations inherent to scientific research and explain how young researchers should respond to each one. Moreover, there are already plenty of good textbooks available on this topic (Macrima 2005; Comstock 2013; *On Being a Scientist* 2012). It is true that dilemmas can arise in the application of rules, especially when rules are not clearly formulated. However, I believe that the standards of scientific research are already clear enough: always present research results truthfully and never copy the work of others without properly referencing the source. These basic standards are not that difficult. How to uphold these standards is something that one learns from experience and from the good example of teachers, supervisors and experienced researchers. These veterans in the field are responsible for passing on their experience and scientific attitude to their students, colleagues and successors.

This study is also not intended as a policy paper, although I do believe that universities in the Netherlands need a more conscious policy on scientific integrity. Over the past few years, I have been surprised by the lack of interest the Dutch universities have shown for this subject, even though many scientists and administrators consider it an important issue. Two studies that have served as shining examples are *The Ethics of Science* by David Resnik (1998) and *The Great Betrayal: Fraud in Science* by science historian Horace Freeland Judson (2004). Almost anything one would like to know about scientific integrity and responsible conduct for scientific research can be found in these two works; yet, as far as I could tell, neither of them have been widely consulted. Both books have served as an example for me in writing this book, and I have made extensive use of the authors' knowledge, experience and insights. They are often quoted because, as Marcel Proust put it, "One must never miss an opportunity of quoting things by others, which are always more interesting than those one thinks up oneself" (quoted by De Botton 2000: 49; Vanheste 2012: 16).

This book is primarily intended for the academic community. The centuries-old concept of 'community' in academia is under pressure at universities from new terms derived from bureaucracy and economics. Traditionally, an academic community consists of scientists—who conduct research and teach—their students, Deans, research supervisors, librarians, library users, university administrators and treasurers. All of these individuals are faced with integrity issues from time to time and many have probably asked themselves what exactly integrity means and how it can be promoted within their community.

Integrity is based on the trust that exists among the members of an organization; it is this trust that makes an organization a community. If trust is lacking or at risk of being lost, honest behavior becomes more difficult to sustain. Eventually, the community is forced to reflect on its actions and formulate its own standards of honest behavior. This study aims to make a small contribution to this task by outlining and analyzing the developments in the field of scientific integrity over the past decades. I hope that readers will be able to decide for themselves how they wish to exhibit scientific integrity in science and research. Thus, this study is not a textbook but a kind of scientific essay from which one can draw inspiration for one's own work.

But what exactly is scientific integrity? And why should we care about it? What are the issues at stake? What do we know about the nature and extent of these issues, and what do they tell us about the overall health of the scientific field? In this book, I will explore the general concept of integrity, describe the social values behind it, and apply those values to science specifically (Chapter 1). I will then formulate two basic standards of scientific integrity, against the background of the establishment of codes of conduct for scientific practice, including the most recent such code in the Netherlands (Chapter 2). Thereafter I will focus on fraud and other forms of dishonest behavior in scientific research and, in doing so, address the difficult question of whether or not scientific integrity violations have increased (Chapter 3). Chapter 4 outlines how suspected scientific integrity violations are handled in the Netherlands. In Chapters 5 and 6, I delve into more specific topics, such as the definition of plagiarism and self-plagiarism (Chapter 5) and the important distinction between sloppy science and dishonest research (Chapter 6). Finally, in Chapter 7, I examine the university system of self-regulation and consider how we can pass down the scientific spirit—of which integrity is a crucial part—to the next generation of researchers.

My personal assessment of the self-regulatory system for addressing scientific integrity complaints in Dutch universities is not entirely positive. In my opinion, the *Netherlands Code of Conduct for Scientific Practice of 2004/2012/2014* and the *Netherlands Code of Conduct for Research Integrity of 2018* leave too many questions about what exactly is and is not “against the rules” of scientific practice unanswered, which has resulted in all kinds of vague, unnecessary complaints about suspected integrity violations.

If this book contributes to a deeper awareness of the importance of scientific integrity within the academic community, it has met my goal.