Speaker notes: Science Communication and Research Integrity

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June 2024

Introduction

These speaker notes were prepared for the UKRIO webinar '*Science communication and research integrity*' on 26th June 2024, by Dr Stephen Webster, Senior Lecturer in Science Communication, Imperial College London and Director of The Good Science Project.

The recording and slides from this webinar can be viewed here.

Preamble

Science communication is generally considered to be the facilitation of science-society relations, through a number of formats: science journalism, university outreach and communication, policy initiatives and social science research. However, a very important aspect of science communication concerns the issue of how, within a research institution, scientists communicate with each other.

Therefore, in today's webinar, if Mun Keat Looi considers integrity and science journalism as a key external communication issue, I will look at something more internal: integrity and daily laboratory life. While Mun Keat looks at how science journalists manage the various and often conflicting demands of their profession, so I will look at the way research integrity is sometimes vulnerable to the conflicting demands of the life scientific.

A brief history of science integrity

The UK Research Integrity Office, today's host of our discussion, was set up in 2006. Fourteen years earlier, in 1992, the US Department of Health had instituted the Office of Research Integrity, in response to anxieties running from the early 1980s about some well-publicised, even sensational, cases of scientific misconduct. An example would be the 'David Baltimore Affair'. Later in 1997, responding also to what was felt to be rising cases of misconduct – all of them quite challenging to deal with – British journal editors, including Richard Horton of The Lancet, set up The Committee on Publication Ethics ('COPE').

By this time the problem of scientific misconduct was raising serious issues for the journals, for the universities, and indeed for the whole concept of science as a truth-

gathering exercise. Quite a range of interesting comment began to accumulate, with the MRC scientist Peter Lawrence FRS being notably influential through his thought-provoking 2002/3 Nature articles 'Rank Injustice' and 'The Politics of Publication'. A particularly high-profile case in 2005/6, involving the multiple and well-publicised ethical transgressions of scientist Woo Suk Hwang, can be seen as a defining moment.

Many reports and codes of conduct followed this 2005 watershed. One such code of conduct was Sir David King's *Rigour, Respect and Responsibility*, which had its university launch at Imperial College in 2007. In the same year Imperial's graduate school started its compulsory course 'Science, Research and Integrity', where neophyte scientists could discuss these issues, and – very importantly – give their point of view. It was as a result of Sir David King's work, and courses similar to the one offered by Imperial, that a subtle but important shift occurred. While the misconduct cases we read about in those years seemed always to involve astonishing examples of individual frailty and corruption, leading to the view that we were dealing here with 'bad apples', wise heads, including those of PhD students, reminded us that if ethics always has an individual component, the institutional aspect is critically important too. Slowly we moved in the direction of this question: *'How can our institution support good science?'*

Then, in 2014, under the guidance of Professor Ottoline Leyser (now CEO of UK Research and Innovation), the Nuffield Council on Bioethics launched at Imperial College their seminal report 'The Culture of Scientific Research'. This brave document made plain the issue of institutional responsibility. It asked: how can an institution make unethical behaviour less likely? And, particularly, it seemed to imply that we must be as diligent in discussing culture as we are in chasing down examples of misconduct. In sum, as I discuss in the webinar, discussions of research integrity have roots in very different styles of discourse: there is an alarm about misconduct, and there is an aspirational, fervent desire for something just as complex, 'good science'. Does this 'mix' of discourse pose problems?

What does 'integrity' mean?

While I wouldn't say that the discourses of 'misconduct' and 'integrity' are wildly incompatible, some thought is needed over how to navigate a rather heterogeneous set of concepts. And while 'misconduct' centres on the transgression of fairly well-defined rules, it is hard to know quite what 'research culture' means.

For example, should we talk about 'research cultures', in the plural? That might look like a good option, but then we remember the important philosophical tradition, still central today, that science is unified: it has a method; it doesn't matter where you do your science or who you are; a scientific fact is the same, whether you are in Southampton or in Sydney. Culture scholars, however, spend a lot of their time exploring how cultures evolve, and how they remain sustainably different. Meanwhile a growing aspect of enhancing research culture relies on the idea that both in our wider lives and in our laboratories, identity recognition is central to the flourishing of our working life.

The word 'integrity' is usually defined as 'honesty, the capacity to inspire well-founded trust, a position of moral worth'. However, there is a second, equally important meaning. This is to do with wholeness, of different parts within a system being in communication, being in balance, and being mutual, interested and respectful.

Research integrity and science communication

It is this second aspect of the word integrity that forms the basis of my short talk. I will be exploring how concepts like balance and, of course, imbalance are helpful tools in understanding research culture. At Imperial College we have been promoting the idea that research culture (among other things) is a matter of ethics. Similarly, at Imperial, we understand the ethics of research culture as broader than that routinely examined by research ethics committees. As I shall briefly suggest at the end of my talk, to attain the required ethical breadth is more to do with character and habit than with rules and policy, and it may be helpful to study the great tradition of Virtue Ethics, stemming from Aristotle and the traditions of classical Athens.

Acknowledgements

UKRIO would like to thank Dr Stephen Webster, Senior Lecturer in Science Communication, Office of the Vice-Provost (Research and Enterprise)/ Science Communication Unit, Imperial College London who gave his time freely to present at UKRIO's webinar on Wednesday 26th of June 2024 and shared these speaker notes with us to publish on the UKRIO website.

June 2024.