Places of Engagement

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Setting the agenda: ‘To whom are we answering’?¹

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Until a few years ago it was still common, at least among academic scientists, for one to hear the viewpoint expressed that ‘Science is essentially unpredictable and hence unplannable. The best thing to do therefore would be to give the scientist as much money as he wants to do what research he wants. Some of it would be bound to pay off, intellectually or economically or with luck both.’ One might be forgiven for thinking that this quote comes from recent debates about open science or about directing publicly funded research on grand societal challenges. These lines are, however, from a book published in 1969 entitled *Science and Society* by Hilary Rose and Steven Rose. The authors point out that free research has traditionally been the perquisite of only a few, but for most academic scientists it has been at best an inspirational myth. For that minority, however, it is the rhetoric they use to protect their vested interests in the debate on how to decide what and whose research should be funded. This is a debate that remains controversial due to the intense and cut-throat competition for funding, while society realizes that science must be more responsible.

In the Netherlands, the National Health Council recently concluded that the dominant use of academic metrics had shaped the research agenda of the eight University Medical Centres in an undesirable way from the perspective of the public.³ Fields of

¹ This contribution is a slightly modified version of a blog post that appeared on BMJ Open: http://blogs.bmj.com/openscience/2018/01/24/setting-the-agenda-who-are-we-answering-to/.
² The author is one of the founders of Science in Transition, a mission to reform the scientific system. See: http://scienceintransition.nl/en/about-science-in-transition.
research should be prioritized due to their connection to disease or economic and social burden were neglected over fields that are held in higher esteem from an academic perspective. Preventive medicine, public health research, chronic disease management, and rehabilitation medicine have lost to such areas as the genetics of psychiatric disorders and molecular cancer research. This is not related to excellence but due to goal displacement induced by a skewed system of incentives and rewards that are applied to allocate credit. How did we get to this point, and what can we do about it?

In recent decades, the evaluation of research, especially in the natural sciences and biomedical sciences, has become dominated by the use of metrics. This is an understandable response to the problem of increasing competition in a system that is rapidly growing. There was a need for quantitative criteria that could be used across a broad range of fields. Although they are poor proxies for quality, the metrics used include the number of papers published, the number of citations, the journal impact factor and the Hirsch Factor. This is increasingly being criticized. Indeed, these metrics favour basic research over fields of research that are closer to practical applications or that historically relied on other publication and citation practices. Due to strategic behaviour on the part of researchers, research that is socially and clinically the most relevant has suffered, while many young researchers are moving into already crowded fields that have done well in the metrics.

For an individual researcher, this makes perfect sense because researchers work in what can be described as a ‘credibility cycle’, where credit is ‘the ability to actually do science’ (Latour & Woolgar 1979). This means that, despite personal ideals and good intentions, in this incentive and reward system researchers find themselves pursuing not the work that would benefit public or preventive health or patient care the most but instead work that receives the most academic credit and is better for their career advancement. In this cycle of credibility, all actors — not only deans, department heads, group leaders, and PhD candidates
but also funders and journal editors — are each optimizing their interests, which are not in sync with the collective aims of science. One of the most striking consequences is that investments of time and effort in quality control such as peer reviews are not rewarded. This has led to the current situation where the global workforce of researchers annually produces about 1.5 million papers (in a still growing number of journals), many of which are of poor quality. It is now widely acknowledged that we have a serious reproducibility crisis in the biomedical and social sciences.

Is there a way to bring the credibility cycle in line with the original motivation of many researchers to contribute to improving the quality of life? One could argue that quality criteria related to the predicted technical, economic, or social impact of research on society are at least as important, and maybe even more important, than traditional markers of academic quality. But how are we to apply these fundamentally distinct criteria when evaluating science? How does this work in real-life decision-making at various levels? In the Netherlands, the National Health Council as well as the Ministry of Higher Education and Science have called for the development of a national science agenda and a shift in evaluation procedures towards societal impact. At the University Medical Center Utrecht, we are working on this shift
towards research evaluation based on societal impact. We have carried out pilot studies with a set of evaluation criteria that focus on processes and diverse outcomes that may include, in compliance with the concept of open science, data sets, biobanks, and biomaterials that are shared. Evaluation implies ‘reading instead of counting’ to appreciate the quality and impact of the research. In addition, we have invited representatives from non-academic societal stakeholders to sit on the expert review committees. Since researchers and staff were largely unfamiliar with these more labour-intensive evaluation practices, this was initially not met with only enthusiasm. Sarah de Rijcke of the Centre for Science and Technology Studies at Leiden University and her team are studying the reception of these interventions by different actors.

It is generally agreed that time is needed for a proper and fair quality assessment to evaluate our research in the light of the

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*These are the main categories of the ‘Indicators for impact’ that are being used in evaluation pilots at University Medical Center Utrecht.*
mission of University Medical Center Utrecht and the Faculty of Medicine to improve public health, cures and clinical care. In that light, it is very significant that Utrecht University decided to make long-term investments of millions of euros in interdisciplinary research hubs that, working together with societal stakeholders, aim to tackle key societal challenges. It all comes down to the question: To whom and what are we answering? Are we answering to patient and public needs or to internal academic criteria for excellence and career advancement? We must and can have both.

Bibliography
