

Practicing the plastic brain

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THE VALUE OF VALUE WORK: A NOTE ON VALORISATION

This dissertation showed what efforts it takes for neuroscientists, science journalists, and other science translators to make brain claims relevant and meaningful for non-neuroscience audiences. Scientific claims do not speak for themselves: They have to be made relevant and valuable, through strategies of *value work*. It's through these activities that scientific claims are made to (dis)align with context-specific challenges and ideals. The main merit of this dissertation is that it shows how such valuations of science actually work in different societal practices. In the case of the plastic brain, such valuations are closely connected to challenges and ideals of the good life.

To acknowledge that articulating the societal value of scholarly work takes effort, is not something new. Spinoza, for example, argued not only that scholars should use the latest sciences in the quest for achieving the highest good. He also stressed the importance for scholars to take the effort "to speak in a manner intelligible to the multitude" (Spinoza, 1662/1997, 17:2). Today, universities, funding agencies, and science policymakers rather use the term *valorisation* to urge scholars to articulate the relevance and value of their own scientific research to non-scientific audiences.

As the only university in the Netherlands, Maastricht University requests that PhDs include a valorisation addendum in the dissertation. In this addendum, I reflect on the societal relevance of my dissertation, and on my own value work. For whom could I make my research valuable? And how did I make my research relevant and valuable for audiences other than philosophers or scholars in Science and Technology Studies (STS)? After a brief overview of my past value work activities, I reflect on the potential value of my dissertation for dif-

ferent audiences. I end with a short note on the value of value work for the contemporary public and scholarly debate on valorisation.

Engaging the Multitude: “But I’m just interested in the brain!”

During my PhD trajectory, I gave several public presentations and lectures. Especially in the first years of study, these presentations often took the form of a critical, philosophical assessment of the promises of neuro-advocates. For example, at the science festival *Discovery* at MU artspace (Eindhoven, 2013) and again at a *PechaKucha Night* at the Temporary Art Centre (Eindhoven, 2013), my presentations were titled “How to Resist Brain Porn? 3 Amazing Secrets to Boost Your Understanding of the Neurosciences! + 1 Bonus Secret!” For the popular Dutch blog *Vice Motherboard*, I wrote an essay on neurohype, explaining fMRI, statistics, and correlation vs. causation issues. Especially at the height of the public neuro-turn in society (roughly between 2010 and 2015 in the Netherlands), to spur some (neuro)scientific and philosophical literacy in the ironic form of self-help advice seemed a worthwhile endeavour as a philosopher/STS scholar studying neuroscience.

I thus was problematizing neurohype – showing the methodological and conceptual complexity behind popular brain claims. I aimed to shield the uninformed from the “seductive allure” of the neurosciences by showing how to separate bad neuro-reasoning from good neuro-reasoning. But I became wary of this role of the philosopher as a superior referee between good and bad science. I realised that this tactic was based on a problematic assumption: The popularity of brain claims on all issues of life was not only a matter of overshooting promises – it was just as much about the expectations science journalists and audiences had about the scope of the contemporary neurosciences. I came to think of neurohype not as an issue about truthfulness, but rather as a matter of societal utility and desirability.

I changed tactics. Instead of focusing on what was philosophically problematic in neuroscience research and its translations, I started to emphasize what it took for neuro-advocates to successfully disseminate their technical knowledge to a wide range of audiences. And instead of problematizing the lack of scientific literacy of the general audience, I started scrutinizing the need for this knowledge and the expectations we have regarding the contemporary neuro-

sciences. Where does our willingness to embrace certain neuroscientific claims come from?

When my research advanced, I could share my focus and findings with different audiences. I presented my early findings on value work to students of psychology and neuroscience at the Science College Maastricht, University of Groningen, and to neuroscientists and other scholars dealing with the neurosciences at a number of interdisciplinary conferences (hosted by, for example, the University of Pennsylvania, US; Johannes Gutenberg-University in Mainz, GE; University of Amsterdam, NL; and University of Edinburg, UK). The topic of the hidden moral labour of science translation found a willing and eager audience among neuroscientists and others whose interdisciplinary work engages with the neurosciences. To reach a more general audience, I wrote a column on value work in self-help literature in the popular philosophy magazine *Wijsgerig Perspectief* (2018).

To parents, employees and seniors: using science to articulate the good

The general thrust of my argument is that scientific knowledge and values are closely entangled, especially when scientific claims spread beyond the lab, and are used for questions of practical judgement. While a clear distinction between facts and values is regarded untenable by many philosophers of science and scholars in STS, it is still part of the conceptual toolkit of scientists, science journalists, and the general audience. What I aimed to show in this dissertation, is that our willingness to accept (neuro)science knowledge is not only determined by its truth-value, but rather by its usability in our practices.

A more nuanced understanding of how scientific knowledge plays a role in articulating the good, can benefit the scientific and ethical literacy of the audiences addressed in my case studies. Readers of expository works and practitioners of self-help programs on the plastic brain, should be aware that (neuro)scientists and translators of that science mobilize (everyday, societal) problems and ideals in order to put neuroscience knowledge forward as a solution. In doing so, science translators have to appeal to the familiar and, at the same time, propose a change or something new. As we have seen, all too often the problems addressed and ideals invoked, are remarkably familiar. The proposed change or newness is often to be found in a different (in this case: neuroscien-

tific) perspective on a problem and a corresponding solution (i.e. changing the brain).

This value work does not make scientific claims less true, nor does it mean that parents, employees or seniors should not use such popular science work while engaged in the ethical task of improving one's life. It does mean that readers of such popular science works should not expect a conclusive answer to their problems. The chapter on the teenage brain as parenting advice, can help parents and pedagogues understand that they should not expect that new knowledge of adolescent brain development will give them a final – or even a new – answer to the pedagogical challenges of raising a teenager. Instead, this case study urges parents and pedagogues to ask themselves *what they expect* from knowledge of adolescent brain development, and for what reason and to what end this knowledge could play a role in their lives. They should question how knowledge of the teenage brain can help them to become the kind of parents they want to be.

Similarly, the chapter on the mindful brain at the work floor makes clear to employees and managers that the mindful brain is not a neutral instrument to counter stress. This does not mean that employees and managers who adopt mindfulness to practice their plastic brain in the workplace, should dismiss such mindfulness programs, merely because there are different valuations of the mindful brain in practice. What this chapter makes clear, is that they should keep asking themselves the *reason why* they practice mindfulness-as-brain-training, and whether the solutions and problems mobilized in mindfulness programs correspond adequately with their experience of work-related stress.

Seniors too, should keep a close eye on their own expectations of interventions that promise to change their ageing brains. Seniors should be wary of the promise of a quick fix to age-related concerns. Not only because such interventions lack in truthfulness, but to acknowledge *the reason why* such interventions could be desirable for them. Doing physical exercises or engaging socially can be worthwhile activities on their own, without aspiring to retain a youthful performance or to prevent cognitive decline. Seniors should acknowledge that new knowledge of ageing probably won't change the ambiguity of getting older: facing inevitable cognitive decline, while reaping the fruits of an experienced life.

My case studies can thus help audiences to better understand that (neuro)scientific knowledge in practice can be made valuable in multiple ways. Knowledge of the plastic brain can play a helpful role in articulating challenges

and ideals, provided that audiences acknowledge that they cannot expect conclusive answers.

To (neuro)scientists and science journalists: cultivate your moral labour

Science is considered by many the realm of rationality and truth, whereas ethics is seen as the realm of emotion and confusion. As public debates on climate change or fake-news indicate, to problematize this stereotypical view easily results in either a distrust of scientists, or a staunch, positivist defence of science. The notion of value work can potentially give science translators a language (or tool) to acknowledge the co-shaping of science and ethics, without resorting to these stereotypical positions.

The co-shaping of science and ethics in practices of self-fashioning does not necessarily result in a naturalistic ethics, nor in an “anything goes” relativism. On the contrary: It shows the tremendous amount of effort it takes to make a scientific claim robust. As Wiebe Bijker argued in his valedictory lecture, scientific claims are special (compared to mere opinion) precisely because they are the outcome of all kinds of social mechanisms: peer-review, conferences, and funding committees such as the Dutch NWO (Maastricht University, 2017). Next to these institutionalized mechanisms, I have shown that there are also moral processes (value work) in play when valorising such claims to specific audiences. Science journalists play an important role in this societal process of knowledge formation.

Science journalists, and scholars in the humanities or social sciences who take up neuroscience knowledge, should be aware of the values and ideals they (implicitly) invoke to make such knowledge relevant. Especially science journalists should acknowledge and explicate the moral labour they employ in making scientific knowledge relevant for different audiences. Science journalists cannot hide behind the veil of truth, but instead should train their ethical sensitivity in order to critically assess how scientists make their work valuable, and how in turn their own translations of science reiterate or (dis)align with the dominant status-quo. Acknowledging that engaging with values is part of the work of science translation, can potentially contribute to a more open and thoughtful translation of science to societal practices.

This goes, to a lesser extent, also for (neuro)scientists themselves. One could think that the notion of value work – which implies acknowledging that science is more than simply discovering and relaying facts of nature – would upset neuroscientists, who presumably would “only be interested in the brain.” But nothing could be further from the truth. At conferences, a number of scholars admitted to me feeling awkward while writing their funding proposals, doing interviews, or reading the press releases their University press offices had drafted about their research. Most neuroscientists (such as Eveline Crone in this dissertation) are well aware of the limitations of their field and the high expectations of science journalists and the general public. At the same time, neuroscientists face pressures to quickly publish, to promise results in order to receive grants, and to share their research with the general audience. The notion of value work can give voice to these concerns and can contribute to an increased understanding among (neuro)scientists that values and cultural traditions necessarily must be invoked when they make their knowledge claims relevant for different audiences. The notion of value work can make the ethical activities visible that contemporary neuro(scientists) are expected to perform under the concealing label of valorisation.

Valorisation as Academic Virtue?

The often ill-defined term *valorisation* hides expectations and assumptions about the place, role, and ideals of the contemporary scholar in our society. Many academics have voiced their concerns about and critiques of the valorisation trend (cf. Older, 2014).⁶¹ During my PhD-trajectory I contributed to this debate as a member of the workgroup of the Platform Hervorming Nederlandse Universiteiten (HNU). We organised critical yet playful events to raise awareness and to stir up the public debate on a variety of issues in our contemporary academic climate (such as temporary contracts, work pressure, corporate marketing at universities, and the economisation of academic discourse).⁶² I also contributed to the drafting of our own faculty’s policy on valorisation as a member of the Valorisation Committee.

⁶¹ For an excellent analysis of Dutch views on valorisation, see the master thesis of Dani Older: *Beyond bullshitting: Valorisation and the humanities in the Netherlands* (Older, 2014)

⁶² For a more substantial critique, read the Manifest of Platform HNU. (Halffman & Radder, 2015), available at www.platform-hnu.nl.

My aim in these discussions was to point out that valorisation should not be reduced to concrete and quantifiable forms of economic knowledge utilization. Nor should valorisation be seen as simply a matter of science communication belonging to the ever-increasing marketing departments at universities. This does not mean that we should dismiss valorisation altogether. We have to broaden our scope of what valorisation means in practice. More importantly, we have to become aware of the hidden moral labour it takes in practice to successfully valorise one's work. It starts by acknowledging that valorisation requires an *ethical sensitivity* of the actors involved.

This is not something radical or new. If we glance over the history of science as vocation, speaking intelligible to the multitude – as Spinoza famously put it – has always been a task of the scholar as public intellectual.⁶³ With the notion of value work, I hope to add a more practical, ethical, and substantial perspective to the discourse on valorisation in academia and beyond. The heightened awareness of and discussion about what comes to count as true in public debates – e.g., debates about post-truth, fake news or “alternative facts” – gives some topical urgency to do this. My message would be simple: In our complex society, the desire for truth cannot be easily separated from the desire – of both scientists and audiences – to do and be good.

⁶³ For an historical overview, see for example Shapin's *The Scientific Life: A moral history of a late modern vocation* (2009).