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On the Relevance of Experimental Philosophy to Neuroethics

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In recent years we have seen an explosion of scholarship within the field of neuroethics – a subdiscipline of bioethics concerned with the ethical challenges raised by advances in neuroscience and the development of new neurotechnologies. While some, such as Parens and Johnston (2007), have challenged the idea that neuroethics is a unique sub-discipline with its own special problems, we see neuroethics as made importantly distinct from the general questions of bioethics through the complex relationship of our brains to our personal identity, making us who we are. New neurotechnologies can thus not only substantially improve wellbeing, but radically change our cognitive limitations and even our personalities themselves. It is therefore unsurprising that much of neuroethics is concerned with determining the ethical challenges new technologies raise for considerations such as autonomy, privacy, and equality, and how to weigh these against one another.

It is in this context that MacDuffie, Ransom, and Klein (2021) provide us with their interesting work surveying the different attitudes of stakeholders - both within the neural device industry and the general public – regarding new innovative neurotechnologies. This information is potentially valuable for helping policymakers to make better, more informed decisions as to how to deal with the trade-offs between different values. As the authors note, recent efforts to create ethical principles and guidelines for use of neurotechnology have unfortunately so far taken place without significant stakeholder input, an omission we agree should be rectified.

Though, somewhat surprisingly, the authors do not discuss their work in the context of the growing field of experimental bioethics (see Earp, et al. 2020; Mihailov et al. 2021), we see this work as a welcome sign that the neuroethics community is embracing the experimental philosophy or "x-phi" movement, as envisioned by Reiner (2019) when he coined the term "experimental neuroethics". In part, this positive uptake by neuroethicists of the quantitative tools of experimental philosophy can be explained by the distinctive status of bioethics within philosophy. It is a field that has been characterized by openness to cross-disciplinary exchange and use of empirical data to inform decision-making, with many of its practitioners having a background in science or medical practice. Rather than merely applying particular ethical theories, many bioethicists attempt to develop general, pragmatically useful principles that are acceptable to a broad range of people with different values, such as beneficence, harm, and autonomy. Here, experimental philosophy has a useful role to play by offering us insights into how much different people value the varying ethical desiderate when making these decisions.

Nevertheless, there have been several criticisms brought forward against experimental philosophy within the more traditional philosophical fields, and it is worth examining whether these criticisms may also apply in the case of experimental neuroethics. The two primary critiques of experimental philosophy are: (i) that the field only describes how ordinary people think about philosophical concepts, and (ii) that such descriptive work cannot be used to make normative assessments (see Earp, et al 2020; Veit forthcoming). The challenge can be reformulated as follows: even if it is true that experimental philosophy succeeds at giving us accurate data about the philosophical intuitions and values of the public, why should such data be considered relevant to the work of philosophers (or in our case, neuroethicists)? We do not, for example, take the folk concepts of gravity or species to be necessary for the sciences. This challenge carries quite a lot of weight if one takes the role of neuroethics to be the determination of what the right thing is to do, based on our best moral theories. The results of a descriptive study about the values held by the public may not give us much, if any, guidance regarding what the right values are. We see two lines of response to this challenge.

First, as we noted above, many bioethicists do not see themselves as being engaged in the mere application of moral doctrines such as utilitarianism or Kantian ethics. Instead, their role is something more like a search based in a reflective equilibrium, to identify the best policies and ethical guidelines for particular neurotechnologies *given* the values of the population at large. Indeed, one may even argue that moral philosophers have no better access than the general public to moral truths, especially if one endorses some form of moral constructivism or moral naturalism that

sees morality as something like an evolved social contract functioning to solve social coordination problems (see Veit 2019; Sterelny & Fraser 2017).[1] This would mean that understanding the moral views and values of the general population is just as important as exploring those of philosophers. This is in line with what MacDuffie et al. set out as the three benefits they see of taking an x-phi approach to finding out what stakeholders think about neurotechnologies: i) ability to identify and consider multiple perspectives, ii) providing data for calculating risks and benefits, and iii) guiding future research and development in line with the values of multiple stakeholders rather than a minority.

Second, even if we reject this point and take the values of the public as in principle irrelevant for determining what we should do (think for example of the widespread racism in Nazi Germany), there can still be value in understanding what beliefs they do hold. Pragmatically, psychological data about the relevant stakeholders for policy implementation will be important for arriving at conclusions about whatever moral theory one may hold and how to encourage value and behaviour change. For example, consider utilitarianism. This doctrine is often criticized for what is on the surface taken to be a narrow focus on wellbeing – often seen as merely hedonic happiness – without accounting for other values. But in a population that is found to place high value on autonomy, even utilitarian neuroethicists would have to take this value into account simply because violations of autonomy would create a major decrease in wellbeing. Further, even in cases where the public hold values that may be considered on philosophical reflection by the neuroethics community to be harmful, or incoherent (e.g. consider a society that opposes any form of neurotechnological interference – regardless of their wellbeing benefits - on grounds of autonomy, or endorses the use of coffee but not modafinil as a cognitive enhancer), it will be important to understand the cognitive and psychological processes underlying their moral judgements if wanting to engage in discussions, even if only with the aim of influencing changes in these views.

With this in mind, let us take a closer look at the empirical data gathered by MacDuffie et al. In their survey, participants were asked to assess the importance of the following seven ethical factors in relation to new neurotechnologies: privacy, responsibility, access, stigma, user-control, family impact, and enhancement. The aim in particular was to probe the differences between those working in the development of neurotechnologies, and the general public. Though somewhat hampered by methodological limitations – in particular, the skewed ratio of respondents from industry and the public – the authors worked to counteract possible effects on their results, which still indicated some interesting differences between the two groups, that could be probed in more detail in future studies. Interestingly, and perhaps contrary to expectations, those working with neurotechnologies gave a higher rating than the public to the importance of ethical issues. Though the difference was not large, it may in part explain another of their findings, which was that the industry employees were more confident that new neurotechnologies would be designed to address ethical issues. As 'insiders', they perhaps have a greater insight into the actual policies and procedures in place, while the public is left wary after multiple recent high-profile data breaches in other areas. This is also in line with the finding that members of the public were more concerned with considerations of privacy and consent for data-sharing. These results can then offer useful guidance to stakeholders in neurotechnology companies to help address these potential discrepancies between their own evaluations and those of the public, regarding what is important in the design of these technologies, ensuring that the general concerns are addressed.

Finally, while these results are admittedly limited, this is only the beginning for experimental neuroethics, and represents an important step on the path forwards. The goal should not be to replace ethical thinking with descriptive analysis, but rather to provide us with the best representative data with which to make empirically well-informed ethical decisions. And it is for this that x-phi will play an important role within neuroethics.

[1] Though one could also take this evolutionary argument as undermining the need for trying to balance the different values of the public at all, especially when the differing moral values of the public lead to social conflict and polarization (Veit & Browning 2020).

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