

This response was submitted to the consultation held by the Nuffield Council on Bioethics on *Novel neurotechnologies: intervening in the brain* between 1 March 2012 and 23 April 2012. The views expressed are solely those of the respondent(s) and not those of the Council.

### **Anonymous 3**

#### **General questions**

**1. Have you ever used a technology that intervenes in the brain, and with what consequences? Please describe your experience.** No

**2. If you have not used a technology that intervenes in the brain before, would you do so if you were ill? Why / why not?**

Entirely depends what illness and what intervention

**3. Would you use a technology that intervenes in the brain for non-medical purposes, such as gaming or improving your cognitive skills? Why / why not?**

I am reasonably content with my current capacities—unless you mean would I have the equivalent of a cup of coffee, which I would

**4. What are the most important ethical challenges raised by novel neurotechnologies that intervene in the brain?**

Risks of the research; costs and benefit of specific technologies for individual research subjects, or for patients with specific problems. As a remote issue equity considerations—parallel to those discussed for the case of genetic modification in Brock et al. *Chance to Choice*.

**5. In what ways, if at all, should the development and use of these technologies be promoted, restricted and/or regulated? Please explain your reasons.**

No short answer feasible.

**6. Have you used a BCI, and if so, with what consequences? Please describe your experience.** No

**7. If you have not used a BCI before, under what circumstances would you do so?**

Possibly to restore impaired abilities to move or communicate.

**8. What are your expectations and concerns for BCIs?**

Uncertain—some interest in the therapeutic possibilities; little desire to see them used to create ‘supra normal’ abilities of any sort.

**9. Are there any particular ethical or social issues associated with BCIs?**

Many—but I suspect that they are rather specific to technologies and situations. If by ‘particular issues’ you mean ‘issues specific to these interventions’, then I suspect the answer is that there may not be any.

**10. What would robust and effective regulation of research in this area look like? Is more or less regulation needed? Please justify your response.**

This question invites the answer: it resembles the case of the ticket inspector looking just like you! The ethical regulation of this research raises all the usual problems, with their specific inflections, but may not raise novel issues.

**11. Have you used neurostimulation and if so, with what consequences? Please describe your experience.** No

**12. If you have not used neurostimulation before, under what circumstances would you do so?** Conservatively—but the question is not answerable because there are so many possible variations in circumstances.

**13. Under what circumstances do you think it might be acceptable to use neurostimulation in non-medical context (that is to say, not for the treatment of a disease or disability)?**

Given present knowledge this question is too indeterminate.

**14. Are there any particular ethical or social issues associated with neurostimulation?**

There are both the standard questions that arise from the introduction of any novel therapy, and some specific questions that may arise where neurostimulation may or will affect memory, personality or cognition.

**15. What would robust and effective regulation of research in this area look like? Is more or less regulation needed? Please justify your response.**

One more question that cannot be answered given the diversity of therapies and of conditions and the amount that is not at present ascertainable! Present regulatory structures may turn out to need additions—but it is not possible at present to be sure which changes may be needed.

**16. Under what circumstances would you use neural stem cell therapy?**

When safety issues are adequately addressed, and initially only when there is serious impairment and no other available alleviation.

**17. What do you think of the risks and benefits of neural stem cell therapy?**

I don't see how anybody could give a serious answer to this generic question.

**18. Are there any particular ethical or social issues associated with neural stem cell therapy?** As previously--

**19. How do you feel about neural stem cell therapy being used for non-medical purposes one day, for example for human enhancement?**

How respondents feel about these matters is less interesting than what they may think, and whether their thoughts are well grounded. I assume that the intention was to ask the latter question—though it too is hard to answer. Restoration or enablement of normal functioning—eg. post stroke or paralysis-- would raise standard issues for new therapies. Enhancement to achieve supernormal capacities would need additional justification.

**20. What would robust and effective regulation of research in this area look like? Is more or less regulation needed? Please justify your response.**

Again I do not think this can be usefully or even adequately answered in this sort of format.