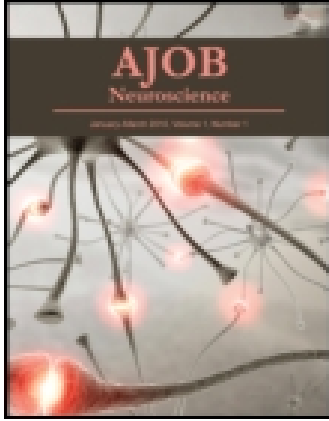


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### Stimulating Good Practice: What an EEC Approach Could Actually Mean for DBS Practice

Sanneke de Haan<sup>a</sup>, Erik Rietveld<sup>b</sup> & Damiaan Denys<sup>c</sup>

<sup>a</sup> Academic Medical Centre, University of Amsterdam

<sup>b</sup> Institute for Logic, Language and Computation, University of Amsterdam and Academic Medical Centre, University of Amsterdam

<sup>c</sup> The Netherlands Institute for Neuroscience, Royal Netherlands Academy of Arts and Sciences and Academic Medical Centre, University of Amsterdam

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## CONCLUSION

The fact remains that if indeed a cognitive reorientation can help patients who suffer from a condition of self-estrangement after the implantation of DBS, then this pathway may be attempted not so much as a change of worldview, but rather as a progressive awareness that nothing has changed in their bodies and in their own self, and if anything has changed it has changed for the better. If psychology has its place of autonomy and effectiveness, rather than attempting a difficult conversion between images of the world it will be more promising to rely on the best techniques of behavioural psychotherapy.

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# Stimulating Good Practice: What an EEC Approach Could Actually Mean for DBS Practice

**Sanneke de Haan**, Academic Medical Centre, University of Amsterdam  
**Erik Rietveld**, Institute for Logic, Language and Computation, University of Amsterdam  
 and Academic Medical Centre, University of Amsterdam  
**Damiaan Denys**, The Netherlands Institute for Neuroscience, Royal Netherlands Academy of Arts and Sciences and Academic Medical Centre, University of Amsterdam

We whole-heartedly agree with Mecacci and Haselager (2014) on the need to investigate the psychosocial effects of deep brain stimulation (DBS), and particularly to find out how to prevent adverse psychosocial effects. We also agree with the authors on the value of an embodied, embedded, enactive approach (EEC) to the self and the mind-brain problem. However, we do not think this value primarily lies in dissolving a so-called “maladaptation” of patients to their DBS device. In this comment, we challenge three central claims of the authors on the basis of our direct experience with psychosocial effects of DBS in 45 obsessive-compulsive disorder (OCD) patients treated at the

AMC in Amsterdam, The Netherlands, and our in-depth qualitative interviews with 18 of them (de Haan et al. 2013). We end our comment by sketching out our perspective on the practical merits of an EEC approach to DBS.

The authors' argument proceeds in three steps: First, they assume that some psychosocial effects of DBS are a “psychological reaction to the new situation” (31), rather than primary effects of the stimulation itself. Second, they suggest that these psychosocial effects might be caused by the adoption of a braincentric, materialist theoretical framework that influences the patients' self-interpretation.

Address correspondence to Sanneke de Haan, Academic Medical Centre, University of Amsterdam, Department of Psychiatry, Meibergdreef 5, Amsterdam, 1105 AZ, The Netherlands. E-mail: sanneke.deHaan@amc.uva.nl

Third, they argue that these adverse psychosocial effects may be curtailed by adopting an EEC framework on the self and the role of the brain.

With regard to the first step, the authors cite Schüpbach and colleagues (Schüpbach et al. 2006), who remark that it is not always clear whether adverse psychosocial effects following DBS are caused by the stimulation itself or whether some of these are “reactive responses to a new situation” (Mecacci and Haselager 2014, 30). Mecacci and Haselager concentrate on that potential subset of *secondary* psychosocial effects. Of these secondary effects, they assume that some will be caused by the patient’s self-interpretation. In particular, they focus on the secondary effects that are caused by the patient’s self-interpretation in which this self-interpretation is inspired by a braincentric materialist framework. It is this subset of subset of a subset of psychosocial effects that is at stake in this article, and that the authors dub “maladaptation to DBS treatment.” Thus, of all the psychosocial effects that DBS generates, the authors center their attention only on a minor, highly specific part that is related to self-interpretation.

The second step in their argument is that the authors propose that the secondary “maladaptations to DBS treatment” may be caused by patients’ adoption of a braincentric materialist framework—potentially suggested to them by their nurses and doctors. Now the first question is: For how many patients is this the case? We find that only a small minority of the patients are actually interested in such theoretical frameworks. One might still argue that patients *unconsciously* embrace such “conceptual knowledge,” but it would be difficult to determine what kind of knowledge that would be and how to test it. Second, those patients who do occupy themselves with theoretical frameworks, and who moreover adopt a braincentric framework, are likely to also regard their *disorder* as a problem of the brain. From that perspective, interfering with the brain is not scary, but rather the appropriate thing to do: Getting rid of the disease in their view requires one to “heal the brain.” Moreover, in the case where these patients would be coherent, they would probably not worry about a loss of self at all, since they might well regard their selves as illusions anyway. If our “selves” only consist of confabulations after the fact, as braincentric materialists hold, such impotent “selves” do not seem worthy to be highly attached to.

This was exactly what we found in our qualitative study on the phenomenology of DBS-induced changes in OCD. In our group of 18 interviewed participants, only one of them had such explicit braincentric convictions. He indeed regarded OCD as a disorder of the brain, and evaluated the psychological effects of DBS as the result of restoring his brain into a nonpathological state. Moreover, he remarked that since our “selves” are inventions anyway, he was not worried about potential changes in identity. His braincentric framework thus led him to *embrace* DBS, rather than worrying about what it might do to his self.

Another fact that should be kept in mind is that DBS is neither the only nor the first experience of these patients with treatments that target neuronal processes: They have all used medication before, which basically does the same, only less quickly, less invasively, and by chemical rather than electrical means. In other words, all patients already are familiar with brain-targeted forms of treatment.

The third and last step in the argument assumes that adopting an EEC approach may help to overcome the secondary “maladaptations” of patients that are caused by their braincentric frameworks for self-interpretation. In particular, Mecacci and Haselager suggest that the impact of DBS on personality (especially the feeling of not being oneself) is the *result* of having difficulties with the image of oneself of having a device implanted. They argue that if one were to adopt an EEC perspective on the nature of the self, these difficulties would disappear. But this causal assumption between personality changes and the attitude toward a foreign device in one’s body lacks evidence.

In our group, we find that the changes in behavior, feelings, and thoughts following DBS are not connected with the patients’ attitude to the device. The participants in our study indeed report such changes. In the case of DBS treatment for psychiatric disorders this is precisely the goal of treatment. It is, however, extremely complicated to disentangle symptom improvement and its interdependence with changes of the self, as it is extremely difficult to disentangle development of psychiatric symptoms from personality changes. The question of the impact of DBS on identity is very complex and we do not get into this debate here.

For now, we just want to point out that in our group there was no relation between these psychological effects and participants’ relation to their device. We were quite surprised to find that for our participants the relation to their DBS device is in fact not a major issue. Schüpbach and colleagues (2006) reported a similar surprise that only 6 out of 29 patients reflected on the relation between the implanted device and their body, and that only 3 (10%) of them had difficulties accepting the device in their bodies. In our group, no one reported such difficulties. Participants get used to the device quickly, and many regard it as part of their body. One participant compared her relation to the device to getting a new hip: That also just becomes part of you after the operation, and you don’t keep thinking about how an alien piece of matter is now inside your body.

The authors’ suggestion that once one adopts a “relational view” (Baylis 2013) on the self “DBS is not to be considered threatening anymore” (36), and that thus all “maladaptive” problems would disappear into thin air, lacks clinical validity. Adopting another theoretical view on the self does not make real phenomenological changes any less real.

As we mentioned before, we do agree with the authors that an EEC approach could be useful for thinking about the nature of DBS and, importantly, for thinking about how DBS treatment might be improved. We believe that the merits of an EEC approach lie first and foremost in its

practical implications. First, EEC approaches acknowledge the importance of including the first-person perspective in one's scientific research. In this case, that would imply taking patients' experiences seriously and properly investigating these experiences, rather than dismissing them as "maladaptive" effects of patients' faulty philosophical orientation. Second, an EEC approach would encourage taking an encompassing view on the nature of (psychiatric) disorders, and, as a consequence, fostering an encompassing approach to the treatment of these disorders as well. With regard to DBS, this implies the acknowledgment that DBS treatment neither starts nor ends with the implantation of the device. The device is only one part in a larger process, which includes the selection of patients, and properly informing patients and their relatives beforehand. After the operation, OCD patients and therapists embark on a long journey of finding optimal parameter settings, and subsequently engage in CBT to fight their compulsions. Finally, patients need to find new meaningful ways to live their lives. Furthermore, an encompassing treatment also concerns its target: The proper focus is not the brain, not even the isolated patient, but rather the person in interaction with her environment. Concretely, this implies that partners and family should be involved in the treatment as well. Contrary to what is often assumed, DBS is *not* merely a surgical treatment but rather a *global* treatment.

To conclude: The value of adopting an EEC framework lies not in convincing patients that what they experience

are "maladaptations," which would vanish with a proper philosophical attitude. Its value rather lies in providing the theoretical substantiation of an encompassing approach to (psychiatric) disorders and their treatment with DBS.

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# Going Beyond Mind–Body Dualism Requires Revising the Self

Roy Dings, Radboud University Nijmegen  
Leon de Bruin, VU University Amsterdam

#### TWO PROBLEMS WITH THE SELF

Mecacci and Haselager's (2014) proposal is to reduce maladaptation after DBS treatment by revising the patient's conceptual scheme of the self. We are sympathetic to such an approach, but we want to point out two problems, both of which concern Mecacci and Haselager's notion of self.

#### First Problem: Psychological Continuity as a Criterion for Personal Identity?

In their attempt to account for changes in self due to DBS treatment, Mecacci and Haselager (2014) aim to "remain as close as possible to the concept of self pretheoretically

adopted by patients in their narratives" (33). They claim that this concept of self "appears to be mostly used to denote the object of a reidentification over time" (33). Furthermore, they propose to use psychological continuity as a criterion for personal identity over time. Thus, when a DBS patient reports "I don't feel like myself anymore," this should be interpreted as "the inability to recognize at the present time the same person you know from past memories" (33). However, the problem with Mecacci & Haselager's appeal to psychological continuity is that patients may give very different answers to the question "What is it that has changed?" after their DBS treatment. If Mecacci and Haselager indeed want to stay as close as

Address correspondence to Roy Dings, Department of Philosophy, Radboud University Nijmegen, Erasmusplein 1, 6500 HD Nijmegen, The Netherlands. E-mail: r.p.j.m.dings@gmail.com