S-64 – History and Philosophy of a Medical Technics: Deep Brain Stimulation

(2 sessions, 6 participants)

History Of Medicine And Public Health

Organizers:
1) Pascal Nouvel, (Université Paul Valéry, Montpellier, France), pascal.nouvel@pauvrley.eu
2) Claus Halberg, (University of Bergen, Norway), Claus.Halberg@uib.no

Abstract:
In this symposium we will present and discuss the history of a medical technics – Deep Brain Stimulation (DBS) – and also the history of the philosophical ideas that paved the way of this technics. The symposium, composed of two sessions, has been designed as a collaboration between biomedical sciences practitioners that are dealing with the technics on a daily basis (Sophie Creyssels and Fabienne Cyprien), historians of brain sciences (Céline Chérici and Jean-Claude Dupont) and philosophers (Claus Halberg and Pascal Nouvel).

Session 1 – The history of Deep Brain Stimulation (chair: Pascal Nouvel).

DBS is an indication of neurological and psychiatric disorders. But besides its therapeutic use, it became also a tool for exploring the functioning of the basal ganglia. The technics is now located at the core of interactions between therapeutic practice and fundamental research. In this paper, we will present and discuss the contribution of DBS to the exploration of human brain.

2) Céline Chérici - Deep brain stimulation: a new frontier in the field of psychiatry?
Acting on the brain through physical electrical or magnetic means meet growing interest in neurology and psychiatry. Is our brain an electrical machine in which we can modulate the pathological behavior? This philosophical question seems to receive a positive answer in some contemporary practices. This, in turn, raises the following question: does it even still make sense to differentiate between psychiatry and neurology? In this paper, we will address this question by looking at the way through which DBS has been introduced in medical practice.

3) Fabienne Cyprien - Principles and technics of Deep Brain Stimulation.
DBS is a neuromodulative treatment consisting in the stereotaxic placement of electrodes into deep cerebral structures, such as the basal ganglia, connected to a permanently implanted neurostimulator. The field of DBS continues to advance at an impressive pace despite still unresolved and newly emerging issues that should promote awareness among stakeholders in DBS. In this paper, we will present and discuss these various aspects of DBS.

Session 2 – The phenomenology of Deep Brain Stimulation (chair: Fabienne Cyprien).

4) Sophie Creyssels - Deep brain stimulation and experience of the subject.
DBS raises a fundamental question: what is the effect of electrical stimulation on the experience of the patient treated with that technics? Through the development of a phenomenological method
of investigation allowing to benefit of the active participation of patients we propose to investigate that question.

5) Claus Halberg - Neuropsychiatry and Existential Analysis.
In this paper, I will propose a genealogy of the notion of “existential analysis” that Merleau-Ponty deploys as his preferred strategy of engaging neuropsychiatry and existential phenomenology in mutual dialogue. I will show that the notion amounts to a two-way reform of intellectual traditions. The consequences of this intellectual history for DBS development will be discussed.

6) Pascal Nouvel - Deep Brain Stimulation and inner speech.
Inner speech is a commonly reported phenomenon that has been first described by Victor Egger in 1881 which can have also a pathological counterpart (when people hear voices that seems to come from out of themselves). In this paper, I will present data on the phenomenology of inner speech in patients treated by DBS.

**Keywords:** Neurostimulation – Deep Brain Stimulation – History of psychiatry – Brain/machine interaction – Phenomenology.

**Expected Participants:**
1. Céline Chérici, France, Centre d’Histoire des sciences, des sociétés et des conflits, Université de Picardie Jules Verne
2. Sophie Creyssels, France, Centre d’Ethique Contemporaine - Université Paul Valéry - Montpellier
3. Fabienne Cyprien, France, Hopital Gui de Chauliac - University Hospital of Montpellier
4. Jean-Claude Dupont, France, Centre d’Histoire des sciences, des sociétés et des conflits, Université de Picardie Jules Verne
5. Claus Halberg, Norway, University of Bergen
6. Pascal Nouvel, France, Centre d’Ethique Contemporaine - Université Paul Valéry - Montpellier