The neurophenomenology of volition: Revisiting the Libet task with first-person methods

ABSTRACT:

Background
In the Libet task, participants are asked to press a button at a time of their own choice and then to report the time when they made the decision while EEG is recorded. The action-related readiness potential (RP) found in the EEG usually starts before the decision time. We hypothesize that this paradox can be explained by participants having a higher probability of acting during certain phases of slow cortical potentials (SCP).

Aims
We aimed to study the experiential contents of experienced meditators during positive and negative deflections of the RP prior to voluntary movements. Furthermore, we aimed at classifying the blinded reports according to their phenomenology into two groups that can be linked to either positive or negative deflections of the EEG.

Method
We conducted a Libet experiment with experienced meditators (N=17). Based on real-time EEG analysis the task was stopped once a trial occurred showed a clear negative or positive SCP and a microphenomenological interview was conducted. Thereby, the precise experiential dynamics characterizing the decision moment were recalled and examined, resulting in a rich phenomenological description.

Results
Analysis of the interviews revealed two distinct patterns: one in which an impulse to press the button was felt and acted upon and one in which the impulse was not acted out, before a second impulse was felt and acted upon. Based on the blinded analysis of the reports, trials were classified as belonging to positive or negative SCP. This was correct in 10 out of 17 trials (p=0.31).

Conclusions
Our approach shows how in a neurophenomenological approach EEG data and phenomenological first-person data can be integrated in a systematic and meaningful way.

Keywords
Libet-Task, Neurophenomenology, Microphenomenological Interview, Slow Cortical Potentials, Readiness Potential

Published Work:

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