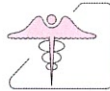


Action BM0605 Consciousness

2007- 2011

BMBS

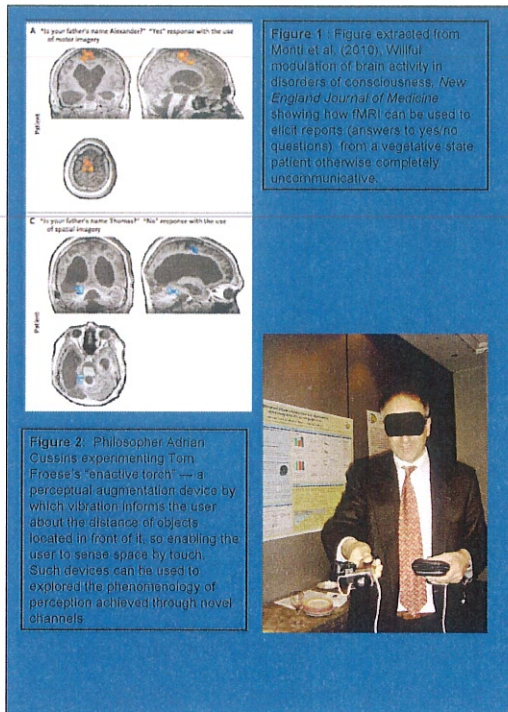


AT, BE, BG, CH, CR, CY, DE, DK, ES, FI, FR, FYRM, HR, GR, IT, IL, NL, NO, PL,SR, UK

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Working Group 1: Fundamentals

WG1 focuses on the philosophical, theoretical, and epistemological issues that need to be addressed to advance our understanding of the mechanisms that subtend consciousness, addressing questions such as the following: Can we reach consensus on a definition of consciousness? What is agency? Does conscious experience have a function?

Which computational principles differentiate information processing with and without consciousness?

Working Group 2: Technologies

WG2 focuses on the integration of novel methodologies for the study of consciousness, addressing the following questions: How can we "measure" consciousness? What are the most promising online methods (e.g., MEG, fMRI, EEG, TMS)? How do we best combine such methods? How can brain imaging data analysis be refined?

Working Group 3: Paradigms

WG3's main focus is dedicated to exploring the most promising behavioural paradigms to contrast information processing with and without consciousness, both in humans and in animal models. It addresses the following questions: What are the most promising behavioural methods to assess subjective states? How do we best combine subjective and objective data? What are the best empirical paradigms to study consciousness, as distinct from attention or memory? How can we demonstrate unconscious cognition? What are the implications of dissociation findings?

Working Group 4: Implications

WG4's work is dedicated to the study of altered states of consciousness, to consciousness in pathological cases (such as vegetative state) and in special populations (e.g., blind subjects or synaesthetes), to the design of new assessment scales, and to a consideration of the ethical and societal implications of the findings.

Objectives:

- The main objective of the Action is to increase our understanding of the defining features, the behavioural markers, the computational principles & the neural mechanisms associated with conscious experience in humans and animals, and to identify the clinical, societal, and ethical implications of such findings.
- Selected secondary objectives:
- To further our understanding assessment, and treatment of disorders of consciousness such as coma, vegetative state, or schizophrenia
- To promote the emergence of a consensus on the definition of consciousness
- To improve both behavioural and brain imaging methods used to explore differences between conscious and unconscious information processing

Main Achievements:

- Demonstration that fMRI methods can be used to elicit reports in non-communicative patients
- Demonstration that fMRI can be used to reveal consciousness in misdiagnosed vegetative state patients
- Development of new subjective measures of awareness
- Publication of a major encyclopedia on Consciousness
- Fostering the emergence of a "consciousness community in Europe by means of training schools and STSMs