

Accepted Manuscript

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PII: S0928-4257(15)00019-4

DOI: <http://dx.doi.org/10.1016/j.jphysparis.2015.11.001>

Reference: PHYSIO 624

To appear in: *Journal of Physiology - Paris*

Received Date: 7 June 2015

Revised Date: 18 August 2015

Accepted Date: 4 November 2015

Please cite this article as: Benedittis, G.D., NEURAL MECHANISMS OF HYPNOSIS AND MEDITATION, *Journal of Physiology - Paris* (2015), doi: <http://dx.doi.org/10.1016/j.jphysparis.2015.11.001>

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ABSTRACT

Hypnosis has been an elusive concept for science for a long time. However, the explosive advances in neuroscience in the last few decades have provided a "bridge of understanding" between classical neurophysiological studies and psychophysiological studies. These studies have shed new light on the neural basis of the hypnotic experience. Furthermore, an ambitious new area of research is focusing on mapping the core processes of psychotherapy and the neurobiology underlying them. Hypnosis research offers powerful techniques to isolate psychological processes in ways that allow their neural bases to be mapped. The Hypnotic Brain can serve as a way to tap neurocognitive questions and our cognitive assays can in turn shed new light on the neural bases of hypnosis. This cross-talk should enhance research and clinical applications.

An increasing body of evidence provides insight in the neural mechanisms of the Meditative Brain. Discrete meditative styles are likely to target different neurodynamic patterns. Recent findings emphasize increased attentional resources activating the attentional and salience networks with coherent perception. Cognitive and emotional equanimity gives rise to an eudaimonic state, made of calm, resilience and stability, readiness to express compassion and empathy, a main goal of Buddhist practices. Structural changes in gray matter of key areas of the brain involved in learning processes suggest that these skills can be learned through practice.

Hypnosis and Meditation represent two important, historical and influential landmarks of Western and Eastern civilization and culture respectively. Neuroscience has beginning to provide a better understanding of the mechanisms of both Hypnotic and Meditative Brain, outlining similarities but also differences between the two states and processes.

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