



PhD Program in Neural and Cognitive Sciences

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Emiciclo, Q Building – Via L. Giorgieri, 5

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Memory, consciousness and temporality: Beyond the memory-trace paradox and the homunculus fallacy

Most theories and models of memory are based on two assumptions that contain theoretical problems. These problems are reflected in the memory-trace paradox, which consists in believing that the past is contained in the memory trace, and in the homunculus fallacy, which consists in assuming the existence of an unconscious intentional subject. The very existence of memory units and representations is undermined by these problems. The Memory, Consciousness and Temporality Theory is free from these problems by considering Temporal Consciousness (TC) the key to personal temporality, including the personal past, episodic memory, the present and the future. It is proposed that the hippocampus is the neural correlate of TC, which is lost in amnesia and present, but malfunctioning, in confabulation. It is shown that patients who confabulate have at least partially preserved hippocampus and make confabulatory errors in remembering their past, in orienting themselves in time and space, and in predicting their personal future. Conversely, complete bilateral hippocampal damage produces deep amnesia, temporo-spatial disorientation, and inability to predict personal future.









