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Lecture

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

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Abstract

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.

Gianfranco Dalla Barba had his Medical Doctorate in 1985 and his specialization in Neurology in 1990 from the University of Padua, and his PhD in Neurosciences in 1995 from the University of Verona. Since 1990 he has been working in Paris as INSERM researcher before at the Sainte Anne hospital and then at the Salpêtrière hospital, where he is currently working as the chief of a team involved in memory and Alzheimer's disease research. Since 2007 he is Professor of cognitive neurosciences at the University of Trieste. He is the author of one book and of more than one hundred scientific articles and book chapters.