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emergence, cognition**

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**NEW BOOK: MEMORY EVOLUTIVE SYSTEMS:
Hierarchy, Emergence, Cognition**

by Andrée C. EHRESMANN and Jean-Paul VANBREMEERSCH

This book, published by Elsevier in its "Series on Multidisciplinarity" (Volume 4, 2007) unites a 20 years long series of papers of the authors. It develops the theory of Memory Evolutive Systems which are a mathematical model, based on category theory, for complex natural systems, such as biological, social ou cognitive systems. It shows how well-known categorical operations give an approach to the problems of hierarchy, emergence/reductionism, self-organization and learning. The main tools are exposed in the first part, the global theory in the second part, and the third part is devoted to the case of cognitive systems, studying the formation of a procedural and a semantic memory allowing for the emergence of higher cognitive processes up to consciousness.

The book is written for a multidisciplinary audience, with many illustrative examples in the most varied domains, but also with rigorous proofs of the mathematical results. The table of contents follows:

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