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Altri autori (Persone)	YasueKunio
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Sommario/riassunto	This introduction to quantum brain dynamics is accessible to a broad interdisciplinary audience. The authors, a brain scientist and a theoretical physicist, present a new quantum framework for investigating advanced functions of the brain such as consciousness and memory. The book is the first to give a systematic account, founded in fundamental quantum physical principles, of how the brain functions as a unified system. It is based on the quantum field theory originated in the 1960s by the great theoretical physicist, Hiroomi Umezawa, to whom the book is dedicated. Both quantum physics for sub-microscopic constituents of brain cells and tissues, and classical physics for the microscopic and macroscopic constituents, are simultaneously justified by this theory. It poses an alternative to the dominant conceptions in the neuro- and cognitive sciences, which take neurons organized into networks as the basic constituents of the brain. Certain physical substrates in the brain are shown to support quantum field phenomena, and the resulting strange quantum properties are used to explain consciousness and memory. The whole of memory is

stored in such a state of macroscopic order and consciousness is realized by the creation and annihilation dynamics of energy quanta of the electromagnetic field and molecular fields of water and protein. This change of perspective results in a radically new vision of how the brain functions. (Series A, B).
