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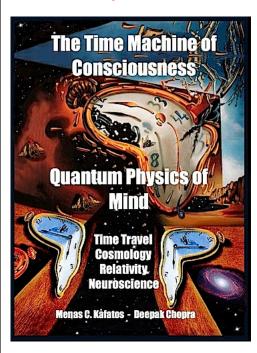
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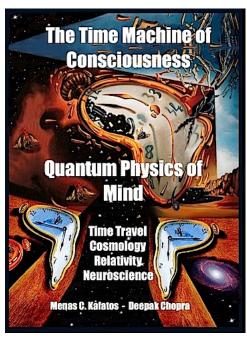
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The Time Machine of Consciousness Cosmology of Mind Quantum Physics of Time Travel

Menas C. Kafatos and D. Chopra Executive Editors September - December, 2014

Foreword

This unique text contains 33 peer reviewed articles which cover a wide variety of issues related to the cosmology, neuroscience and quantum physics of consciousness and the experience of *time*. Each of these articles were rigorously peer reviewed, and they are scholarly, backed up by scientific research, and written to be understood by experts in other fields and the educated public.

Time plays a central role in many human endeavors and shapes human experience, as related to psychology, brain science, biological evolution and in physical theories of the universe, from the cosmological, to the quantum realms. Ever since the development of quantum mechanics in the first part of the twentieth century, a new world view has emerged: Although not universally accepted, the orthodox interpretation of quantum mechanics accepts a central role for measurement and observation in the shaping of experience. The repercussions of this profound challenge to everyday common-sense perception of an independently existing world, are far-reaching. Specifically, although not yet fully developed, the implication is that the mind and the universe are deeply connected. Although the branch of quantum physics known as the "many worlds interpretation" rejects a central role for the collapse of the wave function by conscious observation and the act of measurements, the implications remain that there is no universal "now" for individual observers and more than one past, present, or future, some more probable than others. As also explained in this volume, Einstein's relativity not only predicts that the experience of time is relative to the observer, but as detailed in several of the chapters of this volume, relativity and gravity must be fully integrated with quantum field theory to address the experience of *time*.

The title of the present volume "The Time Machine of Consciousness - Quantum Physics of Mind" aptly raises many questions about time, such as the linearity of experience of time, the breakdown of ordinary time in some psychological states, many universes, brain processes, the connection of future to the past, and whether time itself is an illusion, just to mention a few. If, as Einstein claimed, the experience of past, present and future are illusions, then what we experience as "time" may be hindering and limiting our ability to understand and fully perceive reality. Be it relativity, or whatever interpretation of quantum theory one accepts, mind and time are intimately connected. The subtitle "Time Travel, Cosmology, Relativity, Neuroscience" identifies the main science areas covered in the book, indicating the topics from physics, to neuroscience and psychology that tie to time including alterations in the fabric of space-time which may form black holes and worm holes which involve the creation of Einstein-Rosen bridges which lead to mirror universes on the other side.

The present volume is subdivided in eight sections, covering the breadth of topics associated with time and its experience: I: Brain, Mind And Mental Time Travel, covers mental time travel, associated psychological, cognition and related topics. II: Consciousness, Cosmology, Causality, Neuroscience, Time, covers consciousness, space-time, causality and altered states of consciousness. III. Quantum Physics, Relativity, Retrocausation, Precognition, Multiple Dimensions, Entanglement, and Conscious Time, covers issues of co-existence of past and future, synchronicity, retrocausation, tachyons, psycho-biological perspectives, including the paranormal, quantum information, as well as possible higher dimensions. IV: Reality, Temporal Non-Locality, Vedanta, Upanishads, and Quantum Mechanics covers the nature and perception of Reality, experience and qualia, non-locality, ancient monistic systems, quantum reality and the mind, and even the deconstruction of the connection between quantum physics and consciousness. The question of how the classical world may appear through the veiling of quantum non-locality may provide a bridge to all systems that take consciousness as fundamental. V. Cosmology of Consciousness, covers cosmological issues, including cosmological memory, quantum cosmology of mind, and the primacy of consciousness. VI. Multiple Worlds, Wave Functions, Entanglement, Uncertainty Principle, Violations of Causality, and Paradoxes of Time, covers several paradoxes of time travel, multiple worlds and the multiverse, and quantum logic. The topics covered in this section illustrate the many, often controversial, issue of time. VII. Time Travel Through Black Holes and Worm Holes, covers time travel through worm holes, a scientific topic which in days past would have been considered as science fiction. Finally, VIII. Conscious Entanglement, Free Will, and Quantum Measurement, covers quantum measurement and issues related to the conscious observer, free will, mass consciousness, shared attention and emotion, and advanced waves.

This collection of consciousness-raising articles ranging form black holes to the brain, offers the reader not just food for thought, but a road map to the possible integration of neuroscience, quantum physics and relativity and the creation of a unified science which may lead to a new understanding of the nature of realty and the experience of consciousness and *time*. -Menas C. Kafatos and D. Chopra

"The distinction between past, present and future is only an illusion."- Einstein

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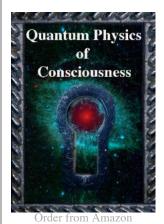
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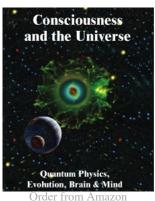
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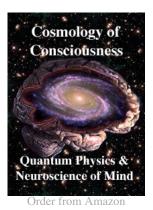
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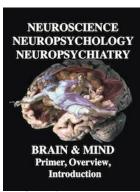
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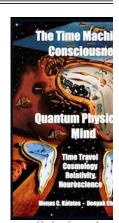
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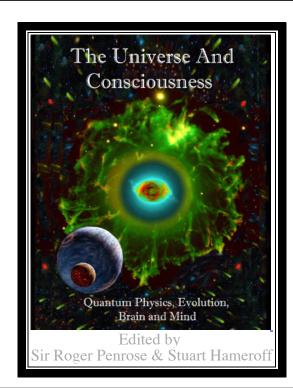








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