Quantum Brain Dynamics And Consciousness An Introduction
Advances In Consciousness Research |
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Quantum and Mind

Any serious attempt to understand or explain self consciousness must deal with the two important issues of mental causation and human free will, i.e., how may a conscious free willing, non-physical mind possibly influence the behavior of a physical brain? It is abundantly clear that the limited resolution capacity of sense-phenomenal receptors or their instrumental extensions thereof, limit the scope and reliability of the information/knowledge input about the structure and/or function of human body internal or external environmental states as we perceptually intuit through internal/propio receptors and external sense receptors respectively, e.g., microscopy, EEG, fMRI, Pet Scans, etc. So much for the exclusive physicalist reductionist approach to the mind-body problem described as perceptually based, i.e., ontological. When we lack information from a system through faulty instrument measurements, ignorance or otherwise and then compound the problem with our other known human limitation in the mental processing of complex random variables, we describe the problem as a conceptually-based, i.e., an epistemological limit in combinatorial brain processing in humans. In the author's opinion quantum theory, because of the ontologic randomness of its events and its statistical nature, is a probability calculus and brings an opportunity to explain consciousness and existential reality as seen through a hybrid epistemontological lens; at least as a quasi-deterministic probable outcome, the same way we experience it

Neurophilosophy of Consciousness, Vol. VI


Vernetzte Intelligenz

Anyone who has ever enjoyed the honor to lecture a graduate school audience will tell you that simplicity in delivery as a goal is a worthwhile pragmatic and theoretical virtue if and only the expected and appropriate cognitive content are aimed at the student and not for self indulgence, independent of the corresponding level of complexity to be communicated. There is a tacit presumption that selling/marketing an idea by a professor implies there must be a buyer student purchase for a pedagogical transaction to be completed. Unless, of course, the professor, consciously knowing (or not) is engaged in a self-serving soliloquy assuming as
Quantum Boundaries of Life

Please note that the content of this book primarily consists of articles available from Wikipedia or other free sources online. Pages: 22. Chapters: Roger Penrose, Orch-OR, David Bohm, David Chalmers, Shadows of the Mind, Stuart Hameroff, Karl H. Pribram, Holonomic brain theory, Quantum brain dynamics, The Emperor's New Mind, Henry Stapp, The Road to Reality: A Complete Guide to the Laws of the Universe, Evan Harris Walker. Excerpt: The quantum mind or quantum consciousness hypothesis proposes that classical mechanics cannot explain consciousness, while quantum mechanical phenomena, such as quantum entanglement and superposition, may play an important part in the brain's function, and could form the basis of an explanation of consciousness. There are several quite distinct quantum mind theories, and these are discussed in the sections below. David Bohm took the view that quantum theory and relativity contradicted one another, and that there existed a more fundamental level in the physical universe. He claimed that both quantum theory and relativity pointed towards this deeper theory. This more fundamental level was supposed to represent an undivided wholeness and an implicate order, from which arose the explicate order of the universe as we experience it. Bohm's implicate order applies both to matter and consciousness, and he proposed that it could explain the relationship between them. Mind and matter are here seen as projections into our explicate order from the underlying reality of the implicate order. Bohm claims that when we look at the matter in space, we can see nothing in these concepts that helps us to understand consciousness. In trying to describe the nature of consciousness, Bohm discusses the experience of listening to music. He thinks that the feeling of movement and change that make up our experience of music derives from both the immediate past and the present both being held in the brain together, with the

Quantum Brain Dynamics and Consciousness

A detailed guide to awakening your powers of supersensory perception • Details methods and techniques for the acquisition of supersensory powers distilled from Rudolf Steiner's 400 published volumes and from Patañjali's Yoga Sutra • Explores acquisition of these powers at birth (genetic) and through entheogens, mantra and prayer, effort and exercise, and nondual meditation • Includes a map of consciousness based on the work of neuroscientist Karl Pribram and physicist David Bohm According to philosopher Rudolf Steiner (1861-1925), there exists within every human being the potential for developing supersensory powers and, with these powers activated, the ability to awaken the higher self and attain knowledge of non-physical higher worlds. Steiner himself worked diligently throughout his life to develop his faculties of “supersensible perception” and, scattered throughout his many works, he describes methods by which to activate and operate these supersensory-cognitive systems. Distilling techniques from Steiner's more than 400 published volumes, Shelli Renée Joye, Ph.D., presents a practical, modern approach to acquiring, cultivating, and maintaining supersensory perception and developing higher consciousness. The five approaches she studies include acquisition by birth (genetic), entheogens, mantra and prayer, effort and exercise, and nondual meditation. Adding another dimension to Steiner's methods, the author shows how these steps are powerfully aligned with 4th-century South Indian sage Patañjali's teachings in the Yoga Sutra. The author explores how to develop what you have acquired through imaginative, active, or intuitive thinking, as well as how to learn through inner guidance and how to transform knowledge gained from books into spiritual advancement. She also shares her own extraordinary experiences of supersensory networks of consciousness. Connecting Steiner's ideas to modern advances in quantum physics, psychedelic science, and consciousness studies, Dr. Joye shows how each of us is capable of developing supersensible perception and expanding our awareness to connect with cosmic consciousness.

Understanding Tomorrow's Mind

The information explosion we have witnessed in the last two decades has unexpectedly accelerated the relentless, forward evolutionary process of complexity as experienced in the real existential reality as narrated from human to human in the language semantic accounts of our communications. Sometimes there are consistent, verifiable experiences by all witnesses that resist being described in common language terms and their undeniable presence must then be inferred by using justifiable representation and must be communicated instead in a justifiable symbolic or sentential representation as an ideal explanation model. We then have two choices to fashion our model, we can either sacrifice the elegance of the model if we base it strictly on verifiable observables or emphasize on the elegance of a more demanding mathematical logic representation of the same subjective experience. Both approaches lead to the same speculations/conjectures about the micro or macro cosmological environment of the unseen. The author endorses the Lagrangian Quantum Field Theory (QFT) as our most empirically, well-confirmed physical theory where the ideal explanation of the metaphysical component of the empirical object/events is more reliable than the axiomatic approach mathematical theorists prefer. However the best of both must harmonize. The reliance on verifiable sensory facts excels in the expediency of calculations and their intuitive understanding because it is closer to
No Matter, Never Mind

This international selection of 34 papers from the Tokyo '99 conference held at the United Nations University gives a valuable state of the art overview of consciousness research. Not only the recognized European and American approaches but also the distinguishing approaches from many Japanese researchers are presented. It will provide a world-wide audience with a comprehensive outlook for the remarkable potential contribution in the future scene of consciousness research. The Tokyo '99 declaration to promote scientists' ethical warning against the thoughtless acting of consciousness research at warfare is also included.

Who Was Mrs Willett?

The Physical Nature of Consciousness contains twelve chapters that discuss recent and new perspectives on the relation between modern physics and consciousness. Stuart Hameroff opens with an extended and updated exposition of the Penrose/Hameroff Orch-OR model, and subsequently addresses recent criticisms of quantum approaches to the brain. Evan Walker presents his view on consciousness from the perspective of a new approach to the integration of quantum theory and relativity. Friedrich Beck elaborates on the Beck/Eccles quantum approach to consciousness. Karl Pribram puts the holographic view on consciousness in perspective of his life long work. Peter Marcer and Edgar Mitchell explain the relevance of quantum hology for consciousness. Gordon Globus discusses the relation between postmodern philosophical theories and quantum consciousness. Chris Clarke develops a theory in terms of a specific type of formal logic to reconcile the phenomenology of consciousness with the physical world. Ilya Prigogine summarizes his view on complexity, and on the future of quantum theory, which goes beyond the present formalism, and goes on to comment on the problem of consciousness. Matti Pitkanen identifies the place for consciousness in a unifying topological geometro-dynamics theory. Colin McGinn argues against classical materialism. Dick Bierman gives an overview of anomalous phenomena. He identifies a decline effect, and discusses different possible interpretations. Philip Van Loocke closes the volume with a discussion on how deep teleology in cellular systems may relate to consciousness.

Dimensions of Conscious Experience

Science of Consciousness and the Hard Problem

This edited volume examines aspects of the mind/consciousness that are relevant to the interpretations of quantum mechanics. In it, an international group of contributors focus on the possible connections between quantum mechanics and consciousness. They look at how consciousness can help us with quantum mechanics as well as how quantum mechanics can contribute to our understanding of consciousness. For example, what do different interpretations aimed at solving the measurement problem in quantum mechanics tell us about the nature of consciousness, such as von Neumann's interpretation? Each interpretation has, associated to it, a corresponding metaphysical framework that helps us think about possible "models" of consciousness. Alternatively, what does the nature of consciousness tell us about the role of the observer and time reversibility in the measurement process? The book features 20 papers on contemporary approaches to quanta and mind. It brings together the work of scholars from different disciplines with diverse views on the connections between quanta and mind, ranging from those who are supportive of a link between consciousness and quantum physics to those who are very skeptical of such link. Coverage includes such topics as free will in a quantum world, contextuality and causality, mind and matter interaction, quantum panpsychism, the quantum and quantum-like brain, and the role of time in brain-mind dynamics.

Quanta and Mind

For anyone who has ever wondered if there is something beyond our everyday existence, for every person who has felt the pain of someone close to them passing over, for any person who still grieves for that someone, this is likely to be the most emotionally raw, soothing, healing and ultimately uplifting book you will ever read.-------- Within these pages, Ross shares the intimate and extremely evidential messages that some of his most bereaved clients received from their loved ones who have passed over. Written from a down-to-earth perspective and using the words of his clients, the reader will see from the first page that Ross will take us on a journey from earth to heaven. His stories demonstrate not just that our essence, our spirit and soul survive physical death, but that after we pass over we continue to be able to watch over, and visit with those we love and left behind here on Earth. These stories will show that yes, we all have eternal life and in fact, we can't die for the life of us.-------- Ross explains what the spirits say it's like in heaven, what they do, how they remain closer to us than most of us could ever imagine; and how they communicate with him, how they try to communicate with us all, and how mediumship itself is possible. These stories don't advocate what to think or how to feel. They simply share that miracles happened to everyday people, and ask you to decide for yourself. It doesn't matter how old you are or what you have believed in the past.------- Ross also offers his own reflections on the afterlife, mediumship and his research from his master studies into the efficacy of 'heaven therapy' in the field of bereavement counselling. Blending this together with the accounts of his clients this
book brings an underlying message of hope, everlasting love and peace, which truly soothes the soul. Ross’ words and message within these pages warrants reading by all.

**Brain, Mind and Physics**

After so many years of laboring within the confined university walls of academe, retirement becomes both a threat and a challenge. Never before did you have the time to follow up on the few occasions serendipitous enlightenments flashed across your path. Tenure and cost-efficient, pragmatic considerations always kept you away. But there is no excuse now. Is it worth it? I would like to invite all those studious of the mind/brain interface puzzle to share our insights. What follows represents an ongoing series of reflections on the ontology of consciousness based on some intuitions on life, language acquisition, and survival strategies to accommodate the biological, psychic, and social imperatives of human life in its ecological niche, thus the BPS model. For the latest publication, click on BPS Model. http://www.delaSierra-Sheffer.net/ID-Neurophilo-net/index.htm

**The Physical Nature of Consciousness**

Here is an account of mentality and human experience, written for a multi-disciplinary readership. The focus is on how mind, consciousness and selves inter-relate, extending into exploration of ideas about the nature of awareness and a search for relevant evidence. ‘Consciousness studies’ has reached something of a crossroads nowadays. Computational approaches to mind and ‘quantum consciousness’ theories, have not lived up to early hopes. Neuroscience has made huge strides in the last few years, but is still nowhere near able to account for the existence of consciousness itself - as opposed to being able to explain how some of its content gets there. Philosophically, there is lack of consensus over both the nature of consciousness and what questions we should be asking about it. Chris Nunn’s book surveys the current situation and argues that, as far as ‘mind’ is concerned, we need to take the overall dynamics into consideration, which include genetic, environmental and social factors along with neurology. He emphasizes the close links that exist between memory, experience and personhood. What emerges most strongly from this account is that answers to questions about the nature of consciousness are likely to depend on achieving a better understanding of the physics of time.

**Quantum Brain Dynamics and Consciousness**

"Scientists other than quantum physicists often fail to comprehend the enormity of the conceptual change wrought by quantum theory in our basic conception of the nature of matter," writes Henry Stapp. Stapp is a leading quantum physicist who has given particularly careful thought to the implications of the theory that lies at the heart of modern physics. In this book, which contains several of his key papers as well as new material, he focuses on the problem of consciousness and explains how quantum mechanics allows causally effective conscious thought to be combined in a natural way with the physical brain made of neurons and atoms. The book is divided into four sections. The first consists of an extended introduction. Key foundational and somewhat more technical papers are included in the second part, together with a clear exposition of the ‘orthodox’ interpretation of quantum mechanics. The third part addresses, in a non-technical fashion, the implications of the theory for some of the most profound questions that mankind has contemplated: How does the world come to be just what it is and not something else? How should humans view themselves in a quantum universe? What will be the impact on society of the revised scientific image of the nature of man? The final part contains a mathematical appendix for the specialist and a glossary of important terms and ideas for the interested layman. This new edition has been updated and extended to address recent debates about consciousness.

**No Matter, Never Mind**

It is by now commonly agreed that the proper study of consciousness requires a multidisciplinary approach which focuses on the varieties and dimensions of conscious experience from different angles. This book, which is based on a workshop held at the University of Skövde, Sweden, provides a microcosm of the emerging discipline of consciousness studies and focuses on some important but neglected aspects of consciousness. The book brings together philosophy, psychology, cognitive neuroscience, linguistics, cognitive and computer science, biology, physics, art and the new media. It contains critical studies of subjectivity vs objectivity, nonconceptuality vs conceptuality, language, evolutionary aspects, neural correlates, microphysical level, creativity, visual arts and dreams. It is suitable as a text-book for a third-year undergraduate or a graduate seminar on consciousness studies. (Series A)

**Schatten des Geistes**

An exploration of cutting-edge theories on the electromagnetic basis of consciousness • Details, in nontechnical terms, 12 credible theories, each published by prominent professionals with extensive scientific credentials, that describe how electromagnetic fields may be the basis for consciousness • Examines practical applications of electromagnetic-consciousness theory, including the use of contemporary brain stimulation devices to modify and enhance consciousness • Explores the work of William Köhler, Susan Pockett, Johnjoe McFadden, Rupert Sheldrake, Ervin Laszlo, William Tiller, Harold Saxton Burr, Sir Roger Penrose, Stuart Hameroff, Mari Jibu, Kunio Yasue, Karl Pribram, Alfred North Whitehead, and James Clerk Maxwell, as well as the author’s own theories In this scientific exploration of the origin of consciousness, Shelli Renée Joye, Ph.D., explores 12 credible theories, each published by prominent professionals with extensive scientific credentials, that describe how electricity in the form of electromagnetic fields is the living consciousness that runs through the brain. Each of these theories supports the idea that the electromagnetic field itself is the basis of
consciousness and that this source of consciousness peers out into the space-time universe through our human sensory systems, flowing with awareness throughout the bloodstream and nervous system. Following her exploration of electromagnetic-consciousness theories, Joye then examines practical applications, describing how electric fields might be manipulated and controlled to modify and enhance the operation of consciousness in the human brain. She explores the use of contemporary brain stimulation devices that offer benefits such as decreased addiction cravings and anxiety, reduced depression and chronic pain, enhanced mathematical abilities, accelerated learning, and greater insight during mindfulness meditation. Revealing the cutting edge of consciousness studies, Joye shows that consciousness is not an isolated function of the individual brain but is connected to the larger electromagnetic field that not only encompasses the entire physical universe but also is deeply involved in the creation of matter and the material world.

Mindful Universe

Quantum theory is essentially a rationally coherent theory of the interaction of mind and matter, and it allows our conscious thoughts to play a causally efficacious and necessary role in brain dynamics. It therefore provides a natural basis, created by scientists, for the science of consciousness. As an illustration it is explained how the interaction of brain and consciousness can speed up brain processing, and thereby enhance the survival prospects of conscious organisms, as compared to similar organisms that lack consciousness. As a second illustration it is explained how, within the quantum framework, the consciously experienced "I" directs the actions of a human being. It is concluded that contemporary science already has an adequate framework for incorporating causally efficacious experimental events into the physical universe in a manner that: (1) puts the neural correlates of consciousness into the theory in a well defined way, (2) explains in principle how the effects of consciousness, per se, can enhance the survival prospects of organisms that possess it, (3) allows this survival effect to feed into phylogenetic development, and (4) explains how the consciously experienced "I" can direct human behaviour.

Fractals of Brain, Fractals of Mind


Der Pauli-Jung-Dialog und seine Bedeutung für die moderne Wissenschaft

Strong claims have been made for emergence as a new paradigm for understanding science, consciousness, and religion. Tracing the past history and current definitions of the concept, Clayton assesses the case for emergent phenomena in the natural world and their significance for philosophy and theology. Complex emergent phenomena require irreducible levels of explanation in physics, chemistry and biology. This pattern of emergence suggests a new approach to the problem of consciousness, which is neither reducible to brain states nor proof of a mental substance or soul. Although emergence does not entail classical theism, it is compatible with a variety of religious positions. Clayton concludes with a defence of emergentist panentheism and a Christian constructive theology consistent with the new sciences of emergence.

How Consciousness Became the Universe

The problem of how the brain produces consciousness, subjectivity and "something it is like to be" remains one of the greatest challenges to a complete science of the natural world. While various scientists and philosophers approach the problem from their own unique perspectives and in the terms of their own respective fields, Biophysics of Consciousness: A Foundational Approach attempts a consilience across disparate disciplines to explain how it is possible that an objective brain produces subjective experience. This volume unites the crème de la crème of physicists, neuroscientists, and psychiatrists in the attempt to understand consciousness through a foundational approach encompassing ontological, evolutionary, neurobiological, and Freudian interpretations with the focus on conscious phenomena occurring in the brain. By integrating the perspectives of these diverse disciplines with the latest research and theories on the biophysics of the brain, the book tries to explain how consciousness can be an adaptive and causal element in the natural world.
Developing Supersensible Perception


Neurophilosophy of Consciousness

This collective volume is the first to discuss systematically what are the possibilities to model different aspects of brain and mind functioning with the formal means of fractal geometry and deterministic chaos. At stake here is not an approximation to the way of actual performance, but the possibility of brain and mind to implement nonlinear dynamic patterns in their functioning. The contributions discuss the following topics (among others): the edge-of-chaos dynamics in recursively organized neural systems and in intersensory interaction, the fractal timing of the neural functioning on different scales of brain networking, aspects of fractal neurodynamics and quantum chaos in novel biophysics, the fractal maximum-power evolution of brain and mind, the chaotic dynamics in the development of consciousness, etc. It is suggested that the margins of our capacity for phenomenal experience, are fractal-limit phenomena. Here the possibilities to prove the plausibility of fractal modeling with appropriate experimentation and rational reconstruction are also discussed. A conjecture is made that the brain vs. mind differentiation becomes possible, most probably, only with the imposition of appropriate symmetry groups implementing a flowing interface of features of local vs. global brain dynamics. (Series B)

Neurophilosophy of Consciousness, , Vol. III

Dieser Buchtitel ist Teil des Digitalisierungsprojekts Springer Book Archives mit Publikationen, die seit den Anfängen des Verlags von 1842 erschienen sind. Der Verlag stellt mit diesem Archiv Quellen für die historische wie auch die disziplinengeschichtliche Forschung zur Verfügung, die jeweils im historischen Kontext betrachtet werden müssen. Dieser Titel erschien in der Zeit vor 1945 und wird daher in seiner zeittypischen politisch-ideologischen Ausrichtung vom Verlag nicht beworben.

Biophysics of Consciousness

This edited volume examines aspects of the mind/consciousness that are relevant to the interpretations of quantum mechanics. In it, an international group of contributors focus on the possible connections between quantum mechanics and consciousness. They look at how consciousness can help us with quantum mechanics as well as how quantum mechanics can contribute to our understanding of consciousness. For example, what do different interpretations aimed at solving the measurement problem in quantum mechanics tell us about the nature of consciousness, such as von Neumann's interpretation? Each interpretation has, associated to it, a corresponding metaphysical framework that helps us think about possible “models” of consciousness. Alternatively, what does the nature of consciousness tell us about the role of the observer and time reversibility in the measurement process? The book features 20 papers on contemporary approaches to quanta and mind. It brings together the work of scholars from different disciplines with diverse views on the connections between quanta and mind, ranging from those who are supportive of a link between consciousness and quantum physics to those who are very skeptical of such link. Coverage includes such topics as free will in a quantum world, contextuality and causality, mind and matter interaction, quantum panpsychism, the quantum and quantum-like brain, and the role of time in brain-mind dynamics.

Quantenrealität

This book results from a group meeting held at the Institute for Scientific Exchange in Torino, Italy. The central aim was for scientists to "think together" in new ways with those in the humanities inspired by quantum theory and especially quantum brain theory. These fields of inquiry have suffered conceptual estrangement but now are ripe for rapprochement, if academic parochialism is put aside. A prevalent theme of the book is a moving away from individual elements and individual actors acting upon each other, toward a coordinate hermeneutics that manifests as a coherent totality. Among the topics covered are image in photography and in neuroscience; language; time; brain and mathematics; quantum brain dynamics and quantum communication.

Quantum Closures and Disclosures

This international selection of 34 papers from the Tokyo '99 conference held at the United Nations University gives a valuable state of the art overview of consciousness research. Not only the recognized European and American approaches but also the distinguishing approaches from many Japanese researchers are presented. It will provide a world-wide audience with a comprehensive outlook for the remarkable potential contribution in the future scene of consciousness research. The Tokyo '99 declaration to promote scientists' ethical warning against the thoughtless aiming of consciousness research at warfare is also included. (Series B)

Neurophilosophy of Consciousness, Vol. VII

Quantum Mind

This introduction to the dissipative quantum model of brain and to its possible implications for consciousness studies is addressed to a broad interdisciplinary audience. Memory and consciousness are approached from the physicist point of view focusing on the basic observation that the brain is an open system continuously interacting with its environment. The unavoidable dissipative character of the brain functioning turns out to be the root of the brain's large memory capacity and of other memory features such as memory association, memory confusion, duration of memory. The openness of the brain implies a formal picture of the world which is modeled on the same brain image: a sort of brain copy or "double", where world objectiveness and the brain implicit subjectivity are conjugated. Consciousness is seen to arise from the permanent "dialogue" of the brain with its Double. The author's narration of his (re-)search gives a cross-over of the physics of elementary particles and condensed matter, and the brain's basic dynamics. This dynamic interplay makes for a "satisfying feeling of the unity of knowledge". (Series A)

Mind and Emergence

Gruppentheorie und ihre Anwendung auf die Quantenmechanik der Atomspektren

I would like to invite all those studious of the mind/brain interface puzzle to share our insights. What follows represents an ongoing series of reflections on the ontology of consciousness based on some intuitions on life, language acquisition and survival strategies to accommodate the biological, psychic and social imperatives of human life in its ecological niche, thus the BPS model. For the latest publication click on BPS Model. http://www.delaSierra-Sheffer.net/ID-Neurophilo-net/index.htm

The Electromagnetic Brain

The classical mechanistic idea of nature that prevailed in science during the eighteenth and nineteenth centuries was an essentially mindless conception: the physically described aspects of nature were asserted to be completely determined by prior physically described aspects alone, with our conscious experiences entering only passively. During the twentieth century the classical concepts were found to be inadequate. In the new theory, quantum mechanics, our conscious experiences enter into the dynamics in specified ways not fixed by the physically described aspects alone. Consequences of this radical change in our understanding of the connection between mind and brain are described. This second edition contains two new chapters investigating the role of quantum phenomena in the problem of free will and in the placebo effect.

Information und die innere Struktur des Universums

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, Hiroshi Umezawa, to whom the book is dedicated. 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. This change of perspective results in a radically new vision of how the brain functions.

Heaven Therapy

Quantum Closures and Disclosures thinks together two seemingly irreconcilable discourses: An application of
quantum field theory to brain functioning, called quantum brain dynamics, and the continental
postphenomenological tradition, especially the work of Martin Heidegger and Jacques Derrida. Underlying both
developments is a new ontology of nonCartesian dual modes whose rich provenance is their “between.” World
is disclosed in the lumen naturale of dual modes belonging-together in their between; all presencing is a
function of a “conjugate” form of match in the between. This surprising rapprochement between a powerful
tradition within continental philosophy and the 20th-century quantum revolution in science is fruitfully applied
to crucial issues in philosophy, brain science, mathematics and psychiatry. Related Titles: Quantum Brain
Unveiled: The dissipative quantum model of the brain, by Giuseppe Vitiello (2001)

Brain and Being
Quantum Boundaries of Life, Volume 82 in the Advances in Quantum Chemistry series, presents current topics
in this rapidly developing field that have emerged at the cross section of mathematics, physics, chemistry and
biology. Topics covered include Quantum Considerations of Neural Memory, Functional Neural Electron
Transport, Plasmon-polariton mechanism of the saltatory conduction in myelinated axons, Quantum Field
Theory Formulation of Brain Dynamics: Nonequilibrium, Multi Field Theory Formulation of Brain Dynamics,
Quantum Protein Folding, Classical-Quantum Interplay in Living Neural Tissue Function, Quantum Effects in
Life Dynamics, Quantum transport and utilization of free energy in protein α-helices, and much more. The
book’s message is simple. Mystics prefer to put consciousness in the cosmos to avoid Darwinism. If the seat of
consciousness is found to evolve within all animals, then we have a Darwinian understanding not only of the
origin of life and species according to natural selection but also concerning consciousness and, in particular,
life being quantum Darwinian. Presents surveys of current topics in this rapidly-developing field that has
emerged at the cross section of the historically established areas of mathematics, physics, chemistry and
biology Features detailed reviews written by leading international researchers

Mind, Matter and Quantum Mechanics
Perceived Reality, Quantum Mechanics, and Consciousness 3. Quantum Reality and Mind 4. Space, Time and
Consciousness 5. Does the Universe have Cosmological Memory? Does This Imply Cosmic Consciousness? 6.
Detecting Mass Consciousness: Effects of Globally Shared Attention and Emotion II: Neuroscience, Cosmology
and the Evolution of Consciousness of the Universe 9. Paleolithic Cosmic Consciousness of the Cosmos 10. The
Brain and Consciousness: Dynamics and Evolution 11. Quantum Physics the Multiplicity of Mind: Split-Brains,
Fragmented Minds, Dissociation, Quantum Consciousness 12. Many Mansions: Special Relativity,
Consciousness in the Universe: Neuroscience, Quantum Space-Time Geometry and Orch OR Theory 15.
Consciousness, Quantum Physics, Relativity, Precognition, Retrocausation, Multiple Dimensions,
of Consciousness. Past Present Future Exist Simultaneously. Entanglement, Tachyons, Relative Time, Circle of
Time, Quantum Time, Dream Time, PreCognition, Retrocausation, Deja Vu, and Premonitions 18. The
Observer’s Now, Past and Future in Physics from a Psycho-Biological Perspective 19. Synchronicity,
Entanglement, Quantum Information and the Psyche 20. Consciousness, the Paranormal and Higher
Dimensions IV. Uncertainty Principle, Parallel Universes, Wave Functions, Entanglement, Violations of
Causality, and Paradoxes of Time Travel 21. Multiverse Scenarios in Cosmology: Classification, Cause,
Challenge, Controversy, and Criticism 22. Classical Anthropic Everett Model: Indeterminacy in a Preordained
Worlds 24. Logic of Quantum Mechanics, Parallel Worlds and Phenomenon of Consciousness V: THE AFFECT OF
CONSCIOUSNESS OBSERVING THE UNIVERSE 25. Consciousness and Quantum Physics: A Deconstruction of this
The Conscious Observer in the Quantum Experiment 29. Does Quantum Mechanics Require A Conscious Observer?
30. Quantum Physics, Advanced Waves and Consciousness

The Emerging Physics of Consciousness
Seeks answers to these questions using the underlying assumption that consciousness can be understood
using the intellectual potential of modern physics and other sciences. There are a number of theories of
consciousness, some based on classical physics while others require the use of quantum concepts. The latter
ones have a “paranormal” form of match in the between of the scientific establishment while simultaneously claiming that
classical approaches are doomed to failure. The contributing authors presents a spectrum of opinions from both
sides of this on-going scientific debate, allowing readers to decide for themselves which of the
approaches are most likely to succeed.

How Consciousness Became the Universe
The Transparent Becoming of World undertakes a penetrating inquiry into the quotidian world we take for
granted and the brain that silently hoists our bubbles of world-thrownness. After critiquing the traditional
views of direct realism, indirect realism and Idealism, the continual becoming of world is explained by a novel
integration of process dynamics, as formulated by Whitehead, Heidegger and Bohm, with the burgeoning field
of quantum neuropsychology. A rich ontological duality newly opened by quantum brain theory is exploited:
the “between-two” of dual quantum modes. Existence as world-thrownness is between-two in waking and
dreaming alike. This highly original interdisciplinary book may be of interest to philosophers, psychologists,
neuroscientists, consciousness researchers, indeed anyone attracted to the enigma of their own lived
The Transparent Becoming of World

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)

My Double Unveiled

There is a growing feeling that standard cognitive science has not fulfilled many of the expectations which were initially attached to it. At least two critical approaches lend themselves to those who are looking for new perspectives to understanding the human mind. For the first, there is the critique which has been inspired by recent natural science, especially by quantum theory and neuroscience. For the second, continental philosophers, especially postphenomenological and postmodern thinkers, have been critical of some of the main goals which cognitive science pursues. The underlying idea of this publication is that the fragmentation of the prevailing philosophical scene can be overcome only by a freely evolving dialogue between all these different points of view. In this volume we can see a whole variety of responses to this invitation to dialogue. These responses cover, among others, the following areas: quantum physical perspectives to the study of mind, cognitive neuroscience, cognitive musicology and postmodern visions. Topics covered include: non-conceptual experience and content, quantum, brain dynamics, collective thinking, implicate order, mindware and neural anomalies.