

A New Electronic Journal and a New Word NeuroQuantology: Two sides of the same coin

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Editorial

Abstract

NeuroQuantology (ISSN 1303-5150) is a refereed electronic journal dedicated to supporting the interdisciplinary exploration of the nature of quantum physics and its relation to the nervous system. NeuroQuantology publishes material relevant to that exploration from the perspectives afforded by the disciplines of cognitive science, philosophy, psychology, quantum physics, neuroscience and artificial intelligence. Interdisciplinary discussions are particularly encouraged.

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Welcome to the "NeuroQuantology", a new journal designed to bring to you a critical analysis of the best of the world neuroscience and quantum physics literature, written by neuroscientist and physicist to help promote a better understanding of NeuroQuantology in the global science system.

The past decade has seen a rising tide of interest in between quantum physics and neural sciences, accompanied by a surge of publications, new journals and scientific meetings. Demonstrating the relationship between quantum physics and neural science has not been easy. The rise of the scientific research in the last 50 years constitutes a scientific revolution that has reshaped modern science as much as contemporaneous discoveries in molecular biology, neuroscience, quantum physics and other basic sciences. The close of the millennium provides a convenient demarcation point.

For the most part, scientific journal editors do not look favorably on articles and theories that are outside the borders of science and objective reality. Usual publication criteria are simple in principle but difficult to carry out, as any researcher can testify. Few quantum physics and neuroscience articles are found in standard neuroscience journals because they have not met these criteria. Anomalous methods have not been accepted in the realm of scientific neuroscience. The new alternative journals now provide a forum and a resource for such articles.

Why an electronic journal?

The development of technology over the last decade and the extensive access to that technology by the academic community in the developed world has already dramatically altered the process of scholarly research. A new vision of scientific publishing is emerging in the

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neuroscience community. It is based on three fundamental elements: A preprint server, an electronic peer-reviewed, edited journal, and an electronic archive of past published papers. The preprint server offers speed, openness and flexibility. The journal offers validated, certified statements of accepted progress. The online archive offers a desktop accessible statement of the established foundations of scientific truth in Physics. There are several reasons why the journal has found itself a prime target for electronic publication. Few working in the field can be unaware of the "serials crisis"; the proliferation of academic journals, steep rises in prices for these journals and continued uncertainty over higher education funding have placed an intolerable burden on academic libraries, who have found it difficult or impossible to maintain journal subscriptions. From the publisher's point of view, the biggest problem posed by a print journal was the unknown financial impact. What would the added costs be? What income could be generated, and how would it impact current financing systems? As an electronic journal, the usual space limitations of print journals do not apply; however, the editors request that potential authors do not attempt to abuse the medium.

For Lack of a Journal

So we find a need for a journal devoted to the rational analysis of those articles and of the "neuroscience and quantum physics" system. The arrival of the alternative movement requires it. The perception of the relationship between quantum physics and neuroscience increased popularity, whether factual or not, has led to a flurry of press reports, books, and television programs.

The NeuroQuantology will contain four categories of articles. First will be original theories attempting to validate or to challenge published trials or unsubstantiated claims. These works will probably be few at first, but we hope to publish more as the field becomes more popular and as funding for such projects increases. Second will be critical reviews of specific articles published elsewhere. The reviews here will be in-depth analyses, comparing the claims to present knowledge from valid science. Third will be invited essays by scientists and commentators from other fields. Principles for critical analysis can be derived from other fields, especially neuroscience, philosophy, psychology and quantum physics.

The intended audience of the NeuroQuantology will be scientists, other educated adults, and inquiring students. Some background in biochemistry, physics or neuroscience will be helpful in understanding some articles. But the editors intend that the articles be approachable. Technical information and explanations will be expanded wherever possible. The NeuroQuantology publishes from time to time all of the following varieties of articles. Many of these are peer reviewed; all of them are reviewed by editorial staff.

Research articles report original research by the author(s). Articles may be either purely theoretical or experimental or some combination of the two. Articles of special interest occasionally will be followed by a selection of peer commentaries.

- Tutorials introduce a subject area relevant to the study of NeuroQuantology to non-specialists.
- Abstracts summarize the contents of recently published journal articles, books, and conference proceedings.
- Book Reviews give an indication of the contents of recent books and evaluate their merits as contributions to research and/or as textbooks.
- Announcements of forthcoming conferences.

- Advertisements of immediate interest to our audience will be published: grants available; positions available; journal contents; proposals for joint research; etc.

OTHER TOPICS

- Mind-body interaction
- Puzzle of consciousness experience
- Memory and brain
- History of consciousness research
- Neural computation
- Visual awareness/attention
- Correlates of consciousness, meaning of consciousness,
- Mean of self-consciousness,
- control of conscious states, theory of consciousness,
- Vision: from photons to phenomenology
- Gamma oscillation
- Global workspace and brain
- Binocular rivalry
- Split brain
- Quantum entanglement
- Remote effect, distant healing, psi phenomena and quantum aspect
- Nonlocality
- Quantum computation
- Chaos and brain etc.

It will, we believe, help fill the gap in scientific information in a field that could have an enormous impact on the neuroscience and quantum physics. If neuroscience and quantum physics represent two sides of the same coin, an appropriate imitation may be that neuroscience represents heads and quantum physics tails.