

FOUNDATIONS OF MIND <sub>4</sub>  
QUANTUM MECHANICS MEETS NEURODYNAMICS

Seán O Nualláin FOM/VOI

We announced FOM <sub>4</sub> as follows;

"Quantum Mechanics Meets Neurodynamics:  
An Emerging 21st Century Science of Consciousness  
A Meeting Announcement and Invitation

In Honor of the Late Walter Freeman on the  
90th Anniversary of his Birth

The recently deceased Karl Pribram and his student Walter Freeman, giants of neuroscience, argued cogently that the current American and Asian brain science mega-projects will shortly follow their European counterpart into collapse. Their long and full lives included over a century of experimentation in a neurodynamics paradigm, in which individual neurons' firing emerged from holistic brain processes. In short, the current extravagantly funded mega-projects are several orders of magnitude too simple in their assumptions. At the same time Pribram and Freeman were at the height of their careers in the 1970's, a group of underemployed physicists centered in the SF Bay area was at the same time considering the implications of the trails blazed by David Bohm and John Bell.

Join us for a day of discussion and controversy featuring many of the players from these original revolutions.

Free for Full-time students. For others a suggested donation: \$100. Nobody will be turned

away for lack of funds.

<http://www.foundationsofmind.org/donate/>

The conference is organized by [Foundations of Mind](#) founder Sean O Nualláin, and hosted by the CIIS [Center for Consciousness Studies](#).

Contact "info" at <[info@foundationsofmind.org](mailto:info@foundationsofmind.org)>, 510-7258877; and Allan Combs, Director of the CIIS Center for Consciousness Studies <[CCS@CIIS.EDU](mailto:CCS@CIIS.EDU) or [ACombs@CIIS.EDU](mailto:ACombs@CIIS.EDU)>.

Dr. O Nualláin is the author of the highly acclaimed book [One Magisterium](#) and many other works. He was also the last full-time researcher at the Freeman lab (2007-2008).

Preliminary schedule:

9:00 a.m. Welcome

9-10 to 9-45a.m. Neurodynamics; the Divergent Approaches of Walter Freeman, Karl Pribram and William Hoffman

Sean O Nualláin

Abstract: In a 2014 review of his friend and teacher Karl Pribram's intellectual autobiography, "The Form Within," Walter Freeman argued that adherence to the "neuron doctrine" will likely wreck the US and Asian Brain projects as it did the Markram/EC one. For neuroscience to prosper, it must instead embrace field effects. Yet the approaches by Pribram and Freeman focus on different levels of brain process; Pribram's holonomic approach arises from consideration of the "microscopic" level, in particular individual neurons, while Freeman was interested in mass action at the "mesoscopic" level. The speaker was fortunate enough to work with both and the first part of the talk will examine computer simulations of each neurodynamics paradigm.

The lesser-known William Hoffman, an American contemporary of these two greats, had an occasionally intense rivalry with Pribram. Nor was he an experimentalist of anything like their caliber; instead, he championed a "geometry of systems" approach that could encompass Mathematical fiber bundles and category theory. While his work is necessarily more speculative, it will be argued that the three may have trail-blazed for much of 21st century neuroscience.

9 - 45 a.m.-12 - 30 am The Quantum Freeman

In the final decade of a full and distinguished life and career, Walter Freeman undertook a dialogue with those approaching mind from the quantum science perspective. At the outset, this dialogue seemed quixotic; it was received wisdom that quantum effects could not persist at physiological temperatures. Perhaps as a result, his early forays in this area focused on phenomena—like anomalous dispersion—that are shared with classical physics. His subsequent development was shaped by two forces. The first was his work with Giuseppe Vitiello, with whom he developed a quantum field theory approach to certain issues of cortical representation and processing. Secondly, under the aegis of the foundations of mind group, in 2014 he re-kindled an old dialogue with his contemporary,

the great Henry Stapp, still with us. At this point, through the work of Engel and others, it was clear that quantum effects could persist at physiological temperatures. If it can be established that these are relevant to issues of mind—particularly of voluntary action—the consequences are enormous. We may, as John Searle has argued, have found the only real proof of free will; we may also, a la Penrose, intriguing evidence that the human mind can engage in actions beyond the scope of Church-Turing computability.

Tuning the Mind in the Frequency Domain: Karl Pribram and the Quantum Field Theory of Consciousness

Shelli Joye

Wolfgang Pauli's Background Physics

Chris Cochran

Consciousness in the universe - The 'Orch OR' theory

Stuart Hameroff

Henry Stapp & David Presti, dialogue with Walter

In Search of Consciousness: No "Objective Reduction" (collapse) of the Wave Function in Quantum Gravity

John Hagelin

1-2 p.m. Break

2 p.m. Freeman; Neurodynamics, Dreams and Psi

Nonlocal remote perception - Russel Targ

Using Psychic Phenomena to Test Walter Freeman's Devotion to Connecting Neuropil to Hard Problems - Stanley Klein

Chair and discussant: Leslie Allan Combs

3 p.m. How Hippies Can Save the Second Quantum Revolution

Cynthia Sue Larson

It is widely acknowledged that we are now in the midst of the second quantum revolution, which depends upon our ability to more fully understand and harness a conceptual awareness of quantum mechanics. The arrival of such new programs as Europe's "Quantum Manifesto" launching new initiatives in quantum technology indicates there has never been a time of greater need for fully understanding the quantum paradigm. A fresh look at the ideas of those who first led this charge in 1975 with the Fundamental Fysiks Group promises to ensure this second quantum revolution can steer the world in a more utopian than dystopian direction.

Science hasn't disproven free will - Ruth Kastner

Paradigm Shift Ready to Happen - Elizabeth Rauscher

The Quantum Paradigm - George Weissmann

Ontology, Epistemology, Consciousness, and Closed Timelike Curves – Fred Alan Wolf

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The New Post-Quantum Mechanics of Consciousness - Jack Sarfatti

6:00 pm Panel Discussion: Physics, Psychology & Neuroscience

Simply put, while physics claims the most veridical description of reality, psychology claims to explain physics. Neurology claims a reduction of psychology to its terms.

Seán Ó Nualláin, Henry Stapp, Leslie Allan Combs, Jack Sarfatti

Chair Leslie Allan Combs

7-30 pm short music and poetry recital

Walter regarded himself as Irish. Michael Volk, a candidate for DAOM, doctor of acupuncture and oriental medicine in CIIS, and a musician doing for Irish mandolin what Grisman did for bluegrass mandolin will explore new directions for Irish music with the band "Kurka Boshkin"

There will be a surprise guest for the poetry section."

As ever, a full account of how the event went can be found at

<https://cynthiasuelarson.wordpress.com/2017/01/31/foundations-of-mind-iv-conference-quantum-mechanics-meets-neuroscience/>

We wish to get one issue out of the way. Recently, PBS in the USA has sold a version of non-dualism pioneered by Chopra and Kafatos called "You are the universe".

(Chopra et al, 2017). There are myriad insuperable problems with the Chopra/Kafatos "work". Let us start with the unconstrained meaning they impose on the word "consciousness". It is the universe. It is also a substrate in which experiences, including thoughts arise.

Yet consciousness has been narrowed down successfully in cognitive science the past 30 years to reflect moments in which images, sensations, and indeed "thoughts" are globally broadcast throughout the CNS. It has been honed back to its Latin root on "Con-scio"; I know together, having previously "cut up" the world analytically. Moreover, it inevitably involves intentionality – *intendere*, pointing at, something in the external world.

So much for the classical side. In QM, consciousness inevitably involves infinities, be they encoded in a pilot wave, Hilbert space, or whatever. Moreover, it does seem consistent with every interpretation that an "Uroboros", prior to subject-object differentiation, realizes itself post observation as distinct subject and object. In doing so, as Wheeler correctly argues, it participates in the creation of the cosmos. On a phenomenal level, one can experience self-transcendence literally; that is, immersion in a reality transcending the self.

So what Spiro/Chopra/Kafatos mean by "consciousness" is in fact "Uroboros". Their worldview goes so far as to say that math arises in "consciousness". It is at this point they

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need to engage with the skeptics like Lashley and his follower Jackendoff, who – no doubt excessively – made a nevertheless strong argument that no causal event ever occurs in consciousness. This is de trop, but the S/D/K alternative reduces us to the nihilism that made India so easy a target for the British, Mughals, and everyone else who wanted a part of it. It is noticeable that few of the current brilliant crop of Indian engineers are Vedantins..

Chopra, D., and Kafatos, M.C. (2017). *You Are the Universe* (Harmony, Random House, NY).

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