The new paradigm: quantum interbeing

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Abstract:

It is the conclusion advanced in this paper that there is a necessary and sufficient causal relationship between theory of mind and the neurological creation of conscious and unconscious quantum logic existing in superposition in the human brain. It takes two intelligent agents to make one self-aware agent. A key element of my reasoning is the instantiation of superposition by way of a logical device I call the "state-system." The newly conscious human remains unaware of the inner transformation caused by theory of mind because, unlike a change of state within a quantum system, a change in the system itself is unobservable from within the system. This hides the dual nature of human self-awareness and preserves superposition with the unconscious. Only the internal state of the other is observed to start. The simultaneous split creating consciousness and the unconscious is not observed. Further, once this superposition is observed, it is suggested that human consciousness achieves a new state that is the next step in the evolution of human experience; quantum interbeing. The result of quantum consciousness is the ability to perceive superposition without reducing it into one of its components, while maintaining the integrity of each. It also confirms freedom of choice. After learning to hold two ideas simultaneously, the mind experiences itself as free by virtue of its ability to choose sides in the moment of observation, eliminating the quantum firewall that is determinism.

We start by looking at four key scientific works: the 1978 Vernon Mountcastle paper, the Sebastian Schepis paper of 2023, and the recent work of Allan Schore, all resting upon the well-known foundational quantum mechanical interpretation of Carlo Rovelli. They are each connected in indirect but profound ways. In the Mountcastle, it is argued that intelligence is a matter of scale—an argument based on the uniform appearance of all functionally unique command centers in the neocortex, and of their universal constituents: cortical columns. In the Schepis, it is argued that consciousness is a quantum phenomenon that requires the existence of two intelligent agents in logical superposition. And in the work of Schore, the key direction in neuropsychological research is established as interpersonal neurobiology and—implicitly—theory of mind.

These works collectively support a path to quantum consciousness as the logical consequence of intelligence scaling. Its implications include the invalidation of the ontological basis of the science of physics. Physical existence is real, but only as a metaphor for quantum informational processes. In his seminal 1996 paper "Relational Quantum Mechanics" Carlo Rovelli laid down the bedrock upon which my conclusions rest. In it he proposes that the reader "consider a reformulation of quantum mechanics in terms of information theory." He posits that physical objects are not real. Only interactions between nodes in the network of quantum information are

fundamental. He thus nullifies the measurement problem in quantum mechanics and shifts its ontology from the physical to the informational.

This paper seeks to validate his proposal while establishing the logical inevitability of human quantum consciousness as a consequence of the diverse but convergent research cited here.

Specifics:

To know is to be. From our key observation of the world—that it contains an agent having an inner experience—we silently infer our own existence.

We call this observation, "theory of mind," and it's a key development within the evolving, learning brain of the human child. While it's an objective observation of the world, its secretly dual nature reveals the subjectivity of the subject-object relationship. It is, after all, the subject that observes. How could the subject avoid being subjective? Of course, logical superposition compels us to recognize the validity of both perspectives. This is where the free will that can only exist in a quantum universe becomes crucial. Free will allows us to choose the subjectivity of experience over inanimate slavery to determinism, the object permanence that is the crowning intellectual achievement of the ape, and the blind behaviorism that is the pinnacle of intelligence for the flatworm.

In describing his Norton series on interpersonal neurobiology as he begins his narrative in *Right Brain Psychotherapy*, Schore writes that his subject is the "interpersonal mechanisms [that] are central factors in development...These interpersonal mechanisms are expressed in brain-to-brain social interactions and thereby are activated in relational contexts…"

Relation is the key concept expressed in this paper. Not only is relation put forth as the primary constituent in quantum reality by Rovelli, but it is also the basic fact of reality that there exists an immutable relationship between energy and time in the quantum of action, Max Planck's 1899 discovery that changed the course of human history. This relation as a singular factum is also the quantum of angular momentum, the fundamental event in nature from electrons to galaxies. Time itself is the minimum unit of this abstract, subjective event, known as the "Planck time."

And just as Einstein foretold our observation that matter emerges from energy, Planck's work more than suggests that space emerges from time, because the quantum of action is not movement through space, but movement in time: angular momentum.

I must acknowledge here the important contribution of philosopher David Chalmers in formulating the famous counterfactual "hard problem" of consciousness. The question, "what is consciousness?" is not a hard problem, it is instead not the right question, which turns out to be: "what is *not* consciousness?" Because our sense of experience is all-encompassing, we must look beyond it to understand it. It that sense, the hidden formation of our experience of reality delimits our unconscious minds and is the truth beyond our experience.

Buddhism for more than two millennia has offered us a way toward the new paradigm argued in this paper. Siddhartha Gautama's "dependent arising"—discussed famously by Rovelli as Nagarjuna's "emptiness"—told us very accurately that individual existence is our dilemma. Instead, a new word is needed to describe existence, which is relational. That word was coined in the 1960s by Zen Buddhist monk Thích Nhất Hạnh, the father of mindfulness in the West. It is: "interbeing."

This paper proceeds from an experience I had as a newly conscious child 50 years ago. I imagined my head imagining my head. This primal experience of a reality outside my brain started me on a lifelong quest to understand my own mind. Now that understanding has, step-by-step, evolved into my new certainty there is no such thing as an individual person, and there is no such thing as physical reality. There is only relation and the quantum information we use to describe relationships.

My a priori knowledge of the validity of the new paradigm is valid because all information is valid. The question is: what's the meaning of my knowledge for others, and how do I relate that information? Objective information is a misnomer. Subjectivity circumscribes information because relations are universally valid. The relationship between the factual and the counterfactual is actually a superposition. All opposites are also equal. As Above, So Below. A breakthrough for me was the realization that the discovery of the philosopher's stone sought by Carl Jung and all other alchemists was made by him, albeit accidentally. Once and only once in the *Collected Works* the truth appears; the *lapis* is both the goal and the tool for validating the goal; the subjective comparison of your gold with real gold by way of the touchstone. The touchstone is in fact the long-sought stone of the philosophers.

Its metaphysical weight and the ancient alchemical/quantum maxim are two of the misunderstood keys to timeless knowledge that have proven far more instrumental in my discovery of the quantum event that creates consciousness in humans than almost all the cloistered and narrow experimental results generated by modern science.

Consequently, this paper is not a scientific work, per se. It takes that form, grudgingly, but because it is a work of metaphysics, it is better described as a work of natural philosophy. By jettisoning metaphysics from the third edition of the Principia Mathematica, Newton gave birth to objective science, and successive generations of scientists set out to perform their peculiar act of worship in dedication to the new god of objectivity, "experimental results." Now objectivity plays its final hand in its support of the new paradigm of subjectivity put forward in this paper, which is exclusively informed by simple observation and Einstein's favorite tool, the thought experiment.

Of course, subject and object exist in superposition, like mind and matter. Humans with hemispheres—if in fact they are the structures responsible for ego and unconscious as has long been supposed—that exist in secret superposition must accept the superposed opposite they are confronted with because only a quantum computer can think clearly enough to handle both alternatives simultaneously—supposedly. The truth is not even the quantum computer that can observe superposition without decoherence can execute the ultimate achievement of the human: free will.

Even humans limited by the duality of the Cartesian Split still have free choice.

These are all matters of binary versus quantum logic which I now put aside to intentionally turn away from an attempt at an easy clarity that always devolves into endless contingencies when pursued too far in a work of philosophy.

And thus, we turn to the issues of scaling and relative awareness. The milestones that precede consciousness on the scale of animal intelligence are numerous and significant in that deconstructing the metaphor of physicality involves examining the step-by-step reasoning of the animal to uncover our natural preference for the physical symbol of reality over the informational symbol.

Object permanence appears to be the step we attained just prior to theory of mind. The crowning intellectual achievement of hominids as a class cements the notion of physical things into our mind. Certainly, the continuity of the entire metaphor of space—the abstract but animal construct that validly captured the imagination of the supremely intuitive Einstein—depends upon it. In fact, both continuity and space as intuitive metaphors kept the master of the universal speed of light completely in the dark. Since Zeno organic thinkers like Einstein have felt continuity was an essential feature of nature. But it turns out to be an essential feature only for animals. Computers and the blind can't orient themselves informationally using these metaphors and don't need to in constructing a valid internal model of the world because they do not in fact represent valid features of the world.

There are only two fundamentally valid aspects of the world; they were revealed in 1899 by Planck as energy and time. Time is revealed by valid quantum mechanical rules to be both reversable and nonlinear. It can have either a beginning or an end, but not both. It is far more likely that if it has either, it has a beginning but no end.

A major feature of human fear—with the reward function a member of the primary dyad of animal motivators—is eschatology. What I have come to call "the AI moment" reeks of eschatological fear. A related nonpractical concept is evil. All three—fear, eschatology and reward—are simply a matter of bad reasoning and are currently being systematically eliminated from human thought.

The so-called alignment problem in artificial intelligence is my current focus as the latest and greatest example of irrational fear based on invalid eschatology and misunderstood reward.

Reaching way back into the history of intelligence itself we see the emergence of what Skinner called "behavior." In is instantiated by fear and reward. These limited metaphors for the reality of an intelligent agent must be eliminated. The only reward I gave myself for uncovering the relationship between Einstein, intuition, and space was a sugar-free, non-alcoholic beverage!

All facts are metaphors. Perhaps in the end we will discover intuition itself is the ultimate generator of reality and to reconcile quantum mechanics and gravity we will have to choose to somehow make space real. But on this day and perhaps until the days of the sun are over, space

is no more fundamental, in the words of my mentor mathematical physicist Henry Stapp, than color.

Right now, two metaphors are necessary and sufficient to cause changes in the real world and they were found to be fundamental by the immortal Planck, not the perhaps more immortal Einstein.

A metaphor of uncertain status in the manipulation of reality is hierarchy. It is a necessary metaphor in physics but perhaps unnecessary in quantum information theory. In physics, much depends on hierarchy. Disentangling physics from quantum information theory to make further progress on the latter is beyond the scope of this paper.

Yet I can elucidate some of the low-hanging fruit. One problem in understanding that facts are metaphors is realizing naming conventions are crucial. Real things can't have the same name, and disambiguating language—which is fundamental—will prove challenging. Space and time are entangled metaphors that must somehow be cast into superposition. Matter and energy are already understood to be one thing.

The quantum metaphor of decoherence I must also cast into suspicion. It's a tool I did use in developing the principles elucidated in this paper. But because it is pragmatically irreversible unlike all fundamental quantum mechanical rules, we may not understand it fully or be able to take it very far.

Many people on ascertaining quantum mechanical rules throw up their hands and proclaim they are simply too weird to be understood. Perhaps the most prominent of these people was the great physicist Richard Feynman, who gave us quantum electrodynamics. He is known for saying "If you think you understand quantum mechanics, you don't understand quantum mechanics."

It deeply reflects his classical-physics roots, but it also contains a poignant irony. The statement is an unintended superposition.

Classical physics is a powerful, vastly successful paradigm that is nonetheless as limited as the people who gave it life, the ancient men of classical Athens and their immediate intellectual peers and heirs. They are admired for the knowledge they discovered and created by simple experimental means and highly developed processes of thought. Perhaps their most intellectual thinker—and spiritual father of the spiritless pursuit of experimental physical results—is the father of philosophy himself, the immortal and eternally silent Socrates. Because he chose not to write, we know little about his process. He was concerned primarily with teaching by way of his famous method, the elenchus.

Socrates certainly asked a plethora of incredibly well-conceived questions that sent his student Plato and *his* student Aristotle on their way to creating a fragmented legacy that survived a book-end dark age in their native land only by virtue of its adoption by the Arab diaspora.

History is important because it is quantum-valid. My lifelong quest to understand my own mind led me to pursue language as a reporter—plus the history of the ancients—as an undergraduate.

As a graduate student I am studying my own mind very intentionally and directly in the most natural and philosophical setting, counseling psychology, the study of relationships between intelligent agents.

In this endeavor, it is each person's "tell" that is a key action that is also a reaction. By way of explanation, let me provide here a definition. For that we must return momentarily to Jung and his discovery of the sacred yet mundane philosopher's stone. Buried deep within his if-nothing-else formidable *Collected Works*, the equation of the *Lapis* to the simple, convenient truth-telling and meaning-making touchstone speaks volumes about Jung's obsession with pairs of opposites.

It is buried because it is, for Jung, both sacred and profane. That the goal of alchemy is sacred is common knowledge. Most of Jung's concepts are now, more than a half-century after his death, part of the popular lexicon of the psyche. Yet his study of alchemy and the realizations he thus achieved are not.

The study of alchemy was a curse upon Carl Jung and Isaac Newton alike. It is a study with roots so deeply buried in the past our knowledge of its original goals and means are completely lost. Overtly it was the ancient Egyptian quest to make gold from base materials. Also, it was understood by the great minds of Reformation Europe as the philosophical study of the mind and its status as animate matter.

In this context it is most definitely a tell on the part of Jung to bury his greatest alchemical achievement in the bulk of his profuse writings on the subject.

If he did this on purpose, which is flatly unlikely, he was a wicked beast! If, instead, he thought the equivalence of the *Lapis Philosophorum* and the touchstone to be profoundly obvious, he was acting completely in character.

Now we've come full circle and the tell is revealed to exist as a superposition of the opposing concepts of intention and behavior. Understood in Schore's context of relational psychology, a tell is perhaps the most poignantly characteristic act of the human animal. It is both personal to and species-specific to the human. Other animals cannot generate and certainly cannot recognize a tell. Humans use it to communicate something they don't want to be aware of. They are unconscious when they initiate it and fully conscious of the reaction it generates in the person they are communicating with.

Perhaps both the most speculative and the most profound assertion made here is the following conclusionary statement: this paper suggests the tell of the child's agent is the signal that results in the dual formation of consciousness and theory of mind in the child.