

TSC 2023 Poster Presentation by Gary Blaise

INTER-SPACIAL ABSTRACTION

and your microtubule network

For just the next few minutes, think of consciousness as an immaterial reality. An abstraction. This idea relies upon a couple of preliminary notions. One is that our universe consists of tiny volumes, or grains of a quantized space which have emerged within a non-spacial background. This same non-spacial quality belongs to all truly abstract objects including mathematics, particle properties, the laws of nature, and possibly consciousness. The other notion is that ideas are immaterial, and that some ideas have a real and independent existence outside of the mind.

Because we don't find abstract objects, or ideas, here in space, could abstraction *itself* form the non-spacial background of a quantized space, a background in which the abstraction of our conscious mind resides? If so, what is the mechanism by which our brain activity here in space corresponds to the activity of our mind in the background? We should begin with space.

QUANTIZED SPACE

Consider that tiny grains of space make up the volume of our universe. While each grain has a real, measured volume, it mostly consists of *unmeasured* particle properties. In other words, the grain's properties are mostly abstract until they become measured and collapse down to a particle of matter or energy. In this way, each grain is a kind of "cosmic emulsion" of discrete volume with unmeasured values for particle properties such as charge, spin, mass, or magnetism. Without measured values, these properties can only exist as ideas and, if space *is* quantized, this may explain why the grains are undetectable; without measured property values, there's nothing to measure . . . nothing to detect.

THE BACKGROUND

Between the grains lies the background from which they have emerged. It's an immaterial background which is neither spacial nor temporal, for if it were either of these things, it would already exist in grains of space.

Every idea is an awareness. Because ideas are of the same non-spacial nature as the background, we might consider the background to be a suitable "place," as it were, for abstraction. Or further, we might consider these immaterial realities to be the same reality; a background of awareness. Consciousness. Like a property line between neighbors, the abstract background forms the perimeter of each grain; a border that limits the extent to which the grain's properties are in force.

PARTICLE EVOLUTION

For every particle, and coherent thing made of particles, there would exist an inevitable **idea** of that thing in the background simply because it's evolving within an abstract background of awareness. The **idea** of the object, whether it be a particle, a protein, a brain, a body, an exaltation of larks, or the Milky Way galaxy is a nested description of the coherent object's constituents in terms of their *measured property values*. It's a *vibrational idea*, if you will, of the object's activity, or changing state of being from moment to moment. Likewise, the vibrational **idea** is updated by the very thing that created it; the object's *activity*, or "vibration," which it notices in each moment of its evolution.

For example, the vibrational **idea** of an electron contains all of the information regarding the properties of the electron such as charge, spin, mass, and magnetism with their specific measured values, and the blending of this **idea**, this abstraction, with the grain's abstract properties will set the unmeasured property values of the grain to the discrete, measured values of the electron's **idea**, at which point the grain can no longer maintain its abstract nature and collapses down to that particular electron.

THE MICROTUBULE NETWORK

Now, if your mind turns out to be an abstraction, it, too, would reside in the background between grains of space where *it* begins as a vibrational **idea** of *your* brain. More specifically, it's an **idea** of your smaller and infinitely more manageable microtubule network. This stringy assemblage of interconnected proteins forms a kind of skeletal transport system for organelles within neurons, axons, and dendrites. The network appears to be the smallest coherent object to pervade the entire brain, yet the largest object whose vibrational **idea** can most easily manage, that is, *evolve* its sequential patterns of protein modification as the source of all brain activity.

In the same way that the electron evolved, your microtubule network is a coherent object, and *it* evolves as its vibrational **idea** blends with those grains which are most likely to become the particles of which it is composed in each moment of its evolution. The blending imparts measured values to the grains' unmeasured particle properties causing the grains to collapse down to the next state of your microtubule network. Its vibrational **idea** is updated in each moment by the new activity.

VIBRATIONAL REPRESENTATIONS

Philosophical ideas such as the verb "is" or the emotional significance of language and art are also represented in the background by the measured property values of microtubule network activity of those creatures who initially experienced the ideas. Every idea, whether it be the vibrational **idea** of an object or a philosophical idea, is a vibrational representation of network activity (sequential patterns of tubulin protein modification) associated with that particular idea, much in the way that a Jacquard loom uses a sequence of punched card patterns to represent a textile design, or in the way that a mechanical musical instrument uses punched card patterns to bring about the abstraction of music. The representation of a philosophical idea in the form of microtubule network patterns occurs because the experience of an idea brings about mind-body interactions which modify the network and such modifications are updated to the network's vibrational **idea**.

YOUR MIND

For example, the vibrational **idea** of your brain's microtubule network initially notices only the object to which it is obligated; your network. It resonates easily in the background with the present-tense idea for the noticing, the purely rational meaning of "is," but with no understanding of its self as an entity; only that it exists in that present moment, with no memory of the previous nor anticipation of the next moment. The present-tense noticing continues to occur in each moment, during which time the vibrational **idea** of your network blends with those grains of potential space-time that are most likely to emerge as the network. Again, the blending of abstractions is essentially the observer effect during which the unmeasured properties of the grains are set to the measured values of the vibrational **idea**, and this causes the grains to collapse down to those particles of matter and energy which will become your microtubule network in each moment of its evolution.

But because *every idea is an awareness*, the vibrational **idea** of your network soon begins to notice-its-self-noticing the evolution of its object. More specifically, in addition to being stimulated by the *phenomenal* activity of the network, the **idea** of your network is stimulated by *its very own abstract activity* of noticing! The idea of the self-noticing resonates in the background with the simplest philosophical, but *rational* idea of self-awareness; the present-perfect tense of "I am" (or, "I have been and continue to be"). Once again, this idea is just a part of the mix of properties which are observed upon those grains of potential space-time which are most likely to evolve as your microtubule network and, likewise, those are the grains which dutifully collapse down to your network.

The resultant network activity works its way back through your brain and down into your body where it creates motions, and these motions are sensed by your brain which brings about new microtubule activity. The new activity is acknowledged, that is, updated to your vibrational **idea** which blends, this time, with an *irrational* meaning for the bodily motions. This second, irrational meaning is the emotion and it provides significance for the previous, rational

idea of “I am.” At this moment, the **idea** of your network becomes your early mind; an “existential core” which consists primarily of tenses for the verb “to be” from which your more familiar mind will develop.

Vibrational representations for philosophical ideas such as “I am,” compassion, or the law of probability are created when they are experienced by any creature, from any time. And because these representations in the form of microtubule network activity are *abstract* objects, philosophical ideas exist everywhere and every when throughout the abstract background in a way similar to how material objects exist everywhere and every when throughout space-time thanks to the relativistic effect of simultaneity. Further—because they are both abstract—the vibrational **idea** of your network will “resonate,” or blend, with any philosophical idea whose microtubule pattern sequences are similar enough to yours, much in the way that clocks with unsynchronized pendulums will pull together if placed upon the same shelf. The properties of successful philosophical comminglings will then become expressed in successive moments of your microtubule network. The activity of these moments will then bring about an experience through the acquisition of an irrational meaning as previously described. In this way, your mind acquires ideas through a “best resonance” between its current ideas and new ideas of similar property values.

EVOLUTION OF YOUR MIND

Having achieved self-awareness, your mind goes on to assemble itself in the form of ideas, or experiences of itself and of the world. Each experience begins as your mind becomes stimulated by either a worldly event through your physical senses (a phenomenon.), or by an abstract stimulation originating from within your mind such as a memory. (I call this a noumenon.)

For noumena, the experiential process is similar to your initial experience of self-awareness; a previously stored idea in your mind resonates with rational meaning in the background to form a thought candidate. The candidate converges upon those grains which will become your network and, with each collapse, the network’s activity works its way back through your brain and body where it brings about a physical feeling. The feeling quickly brings about new network patterns and this event is acknowledged by your mind. That is, the patterns are updated to the vibrational **idea** of your microtubule network, now deep within the “existential core” of your mind. Once again, the **idea** of the patterning resonates with an irrational meaning in the background for the physical feeling. This second, irrational meaning is the required emotion which lends significance to the earlier, rational meaning, resulting in the completed thought; an experience.

For phenomena, the experiential process is slightly different; rather than your mind’s self-stimulation, it’s your physical senses which are stimulated by a worldly event, and this activates your microtubule network. From here it’s the same as for noumena; the activity is acknowledged by your mind which blends with a rational meaning in the background for the phenomenon to form a thought candidate. The candidate converges upon your network which brings about a physical feeling, a change in microtubule activity, its acknowledgment by your mind, its resonance with an irrational meaning—the *emotion*—and the resultant thought; a new experience.

NCC

Because your microtubule network is the smallest thing whose activity affects the entire brain, yet the largest thing which is most easily evolved through the blending of abstractions, you could say that the network is the neural correlate of consciousness. Every idea that ever was, or ever will be, is available throughout the abstract background of quantized space and time. Furthermore, *all ideas exist in the form of microtubule network patterns* of the brained creatures whose minds firstly experienced them. That is, each idea is a nested list of measured particle property values of the tubulin pattern sequences which blended with those grains of potential space-time that emerged as the microtubule network of that creature whose mind firstly experienced the idea. A growing mind acquires ideas through a “best resonance” between the current collection of ideas of which it is composed and new ideas with similar property values. It’s a blending of abstractions based upon your experience.

For example, Lucy Australopithecus may have regarded fire as a comforting warmth for the very first time, as opposed to a fearful danger, when she was finally able to resonate with some simplified idea of children singing 'round a campfire three million years later. The pleasant concept of fire was always available to her thanks to the timeless, placeless nature of abstraction. Likewise, the riddle of dark matter will be solved in the near future when someone's creative notion of it is able to resonate well enough with a satisfying description of dark matter; an idea with which our present notions are unable to resonate but one which has always been there and available for the taking . . . or, I should say, for the resonating!

For more information about this idea, please see the book, *Between Space*.

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