

Is The Brain Euclidean Geometry Or Non-Euclidean Geometry?

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Psychiatrists are so fascinated with the serial transfer of molecules in gap junctions.

Gap junctions surely are important. How are gap junctions interpreted?

What of intra-neuronal function?

What of the interconnected, dependent-arising nature of the inter-neuronal wake-states, functions, and connections?

What is the del-operator of intra-neuronal function and inter-neuronal function, including gap junctions?

What is the molecular computing view? At-once (and ‘all functions’, unfolding)?

What is natural function? What is it to work with the mind, as it is, with time or sudden insight?

What is it like to contextualize and describe a situation, and the domains of life?

I value the book *Fundamental Wisdom Of The Middle Way* by Nagarjuna translated by Nishijima. From what I’ve worked with so far, the verse has been dynamite. Sometimes the commentary is useful, and other times I see things in the verse that the commentary does not reflect. Sometimes, I take issue with the commentary (and I think most of the commentary was written by Brad Warner, perhaps reflecting closely Nishijima’s own views). For instance, at one point the commentary says something like, in an introduction to a chapter, that “our minds are the product of our brains.” While the brain is surely important, this may or may not be the depth truth, or not the complete picture – what is the deepest level of reason and of the external world, the present moment, and reality – this world – which seems similar to God (to quote a previous verse, Nagarjuna’s four reliable facts) – but it does I feel fall into the trap in America of seeing the mind just in terms of brain function: if we could only grasp what it is that is (especially material) brain function, we’d really see what we’re dealing with in the mind. But in Zen (and other schools of Buddhism) one penetrates the mind, with the mind – and just this world.

So: is the brain Euclidean geometry or Non-Euclidean geometry?

Is the neuronal and neuronal interconnections important, in that they may function in certain non-classical computational ways, say as molecular computers, perhaps recognizing even quantum states?

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Is it wave-states and newly awakened states and function, ever in the present moment, just the past, the present, and the future, one unfolding space? Is it infinite, boundless, limitless, like space? Is it impermanence, and impermanence-totality? How is what all of this does, its very actuality, represented as awareness, perception, view, and thought? Is this the mind, also, or is the mind this, and does the brain encapsulate all of this? (The brain would be important, just as one's body is! But what is this being, but neither being nor non-being? (See *The Diamond Sutra* and *The Lankavatara Sutra*, and one's own insight.) Then, one can work with truth: is the brain mathematics, and its undefined terms, that George E. Martin describes in his introduction to axiom systems in chapter 4 of *Foundations Of Geometry And The Non-Euclidean Plane*? Is the brain a predecessor in reason to mathematics, and does it involve the present-moment unfolding?) Of course, there is this or that, but they're inseparable, neither one nor two; it's one arising world, just this world, one space, and we penetrate this with the Buddha-nature.

One thing that I feel is overlooked in our talk of the brain sometimes, in America, is that we see it as matter-only. Then if we see it as strictly causal terms, as inert molecules causing this or that in another molecule, isolated, it might be difficult to consider its ever-unfolding states, the actual, in terms of physical or mental states, ever-present. And it might be difficult to see the actual functioning of the mind in real terms, as they are, and forget that we're even dealing with something we can all probe.

In addition, Nishijima and Warner point out in other commentary paragraphs that to see things as strictly abstract (or thought or spiritual) or concrete (or material or physical) is a mistake, and one-sided. While we can work with either, it is (as Nagarjuna says), "When we see the fusion of the abstract and the concrete, we see the real world, before us." (This illuminates both the abstract and the concrete, and this enables us to see their ensuing fusion, just the real world. So it's also reflective of a dynamic process.)

I also find it helpful to think, "that was a concrete thought or event – in mind"; and then, of course, to respond, or to reason, or to probe, or to develop an inquiry about it. This can require training and practice, and Zen may have its own realization, within oneself, with the four reliable facts.

I find Dogen's statement from his rendition of The Heart Sutra in *Shobogenzo* to be helpful, something like, "There is matter, feeling, thinking, enaction, consciousness. Matter is the immaterial, and the immaterial is matter. Likewise for feeling, thinking, enaction, consciousness."

Minsky's work in *The Society Of Mind* (the triangle-diagrams and explanations that represent 'combinatorial unfolding interconnected relational action-memes' (my term)) shows just this type of wake-statedness-unfolding, and seen with the no-thing of Zen, can be quite useful.

Endnote – A Parallel Question

A parallel question: Is the brain all molecules, or all the the above, that I've mentioned? Or seen as all molecules, an 'at-once'? (See *The Diamond Sutra* section 13.) That is, is it the fusion of the abstract and the concrete, present-moment? And: can an idea and thought-and-action be discussed, in a psych unit, with respect to the situation, and relevant or surprising context?

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Endnote – The Domains Of Life

The domains of life (my term) are: the mental, the existential, the social, the societal, the experiential, and the physical.

Endnote – The Concrete

I think sometimes even if we're religious we see the concrete world as strictly concrete, and attach our view and minds to this concrete world as our physical, very material-only existence. But take a window: it is the wall (dependent arising) and the frame which is the fusion of the abstract (geometric rectangle) and the concrete (material wood or steel). Similarly for the window's glass pane. A planet and a planet's orbit is the fusion of the abstract (the mathematical law of motion) with the concrete (the material sphere) to yield the actual, real situation.

Endnote – The Four Reliable Facts

Related to the this paper, and Nagarjuna's four reliable facts: reason, the external world, the present moment, and reality – this world – it seems something similar to God, I have the following observations:

- 1) Once one penetrates the matter somewhat, in Zen, this becomes so salient.
- 2) Reason: reason reason, meditative reason, creative reason, reason behind mathematics (and other formal systems), logical reason, penetrating reason, perceptual reason.

Enjoy!

P.S. The mind, and truth.

References

The Foundations Of Geometry And The Non-Euclidean Plane by George E. Martin.
Fundamental Wisdom Of The Middle Way by Nagarjuna translated by Nishijima.
Shobogenzo by Dogen translated by Nishijima and Cross. (See his essays Makka-Hanya-Haramitsu and Zenki.)
The Society Of Mind by Marvin Minsky.
The Diamond Sutra And The Sutra Of Hui-neng translated by A. F. Price and Wong Mou-lam.
The Lankavatara Sutra translated by D. T. Suzuki.

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