

Three Wrong Ideas in QFT, GR, and Causality

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<https://youtu.be/VeCB7GM64fI?lc=UgyjCeDUwIUyWVAsUCd4AaABAg>

A Comment on the QqChannel post:

Fotini Markopoulou - Why is Quantum Gravity So Significant? (Jan 16, 2023)

<https://youtu.be/VeCB7GM64fI?t=7m23s>

Fotini Markopoulou, your views on space and time are refreshingly introspective. The relevant QFT flaw is the very human conflation of energy-blind superposition math with the always-finite, energy-bound, and lightspeed-bound algorithms used by the physical universe. Such quantum number conservation algorithms allow events to approach, but never reach, all the states in math-only superpositions.

What we call spacetime emerges from those same algorithms as they ensure very-large-scale quantum number conservation. The xyz relation, for example, provides the rigid orthogonality needed to ensure exact spin conservation across very large sets. For small sets, however, it is not as rigid and leads to the properties we think of as quantum uncertainty.

The xyzt breakdown is a very biological way of organizing such data since it allows faster responses in dangerous situations. However, it is inherently incomplete because it does not respect the indefinite nature of that breakdown for very small particle sets. Classical thinking is an extremely difficult habit to get out of when it is hardwired into your brain.

Finally, superpositions of "happening" and "not happening" are not possible because causality is always bottom-up, beginning before spacetime fully forms. Spin, for example, is one of the simplest forms of self-observation, one that precedes and contributes to the emergence of what we think of as spacetime. That's why spin can do some quite odd "entangled" things from our more rigidly xyzt perspective.

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