

The Minkowski Error: Why Deep-Level Corrections Are Never Easy

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(Gmail excerpt)

... as of April 29 I've come to the intransigent and public position that Minkowski's interpretation of spacetime isolated relativity from quantum theory and devastated a century of physics.

... the talky details:

Left alone, patent-office Einstein would have defined spacetime using only material rulers and material clocks, both of which are quantum at small scales. Ruler-and-clock spacetime thus would have lacked any path by which relativistic and quantum theories *could* have diverged. They would have stayed united.

Instead, Einstein's former instructor Minkowski -- one of the same folks whose lack of strong support for Einstein kept him out of universities and working in a patent office -- jumped in and inserted his preference for a classically perfect version of spacetime in which the presence of material objects is deemed irrelevant. This simple insertion irreversibly isolated both relativities from quantum theory. It also enabled non-physical math noise, especially infinities, to creep into the literature and expand exponentially.

Interestingly, Minkowski's insertion also made Einstein's GR *less* predictive at cosmic scales, since ruler-and-clock GR attaches the granularity of spacetime calculations to the availability of fermionic clocks. For regions of the universe with exceedingly low fermion densities, these earlier cut-off points necessarily result in somewhat different GR predictions.

In any case, I did not expect my root-cause backtrack to go that deep in time, and that's a problem for what to do next.

While machines disregard sunk-cost reasoning and social status, humans do not. Even worse, "perfect" spacetime is so deeply embedded in our fast-think mechanisms that we tend to dismiss any alternative as wrong well before allowing slow-think assessment of its merits.

I've twice had life experiences with being shunned in my day job for doing the right thing. Once was after taking on a well-funded federal group, and the other (worse) one was after taking on Microsoft. I did eventually prevail in both, though. Given both the potential for more effective formalisms in applied physics (e.g., qubits) and theoretical physics (e.g., dark "matter"), and especially given the very sad loss of intellectual capital involved, I don't see this as much different.

And besides, in terms of personal research, this is the most delightfully broad and eye-opening root-cause analysis I've ever done. Imagine both SR and GR as *inherently* quantum. Wow, does that ever change some of the math!