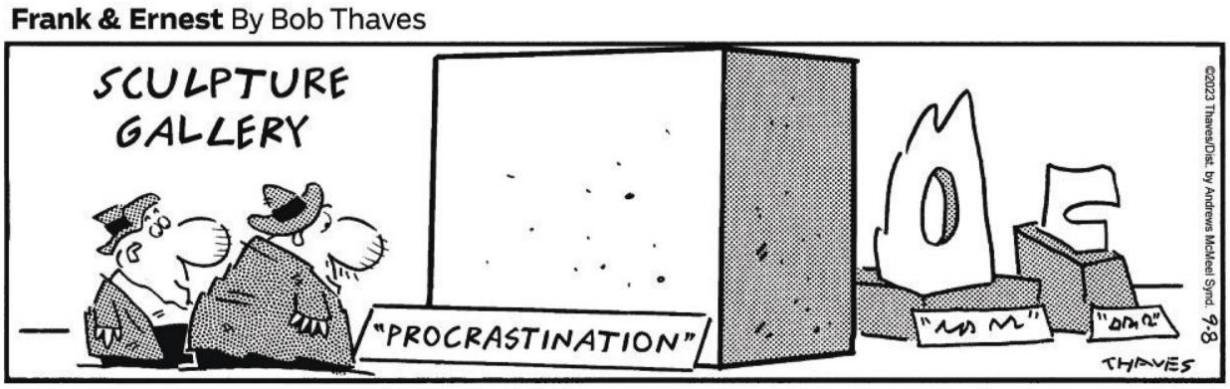
Chapter 9
"R&D"



Credit – Frank & Ernest: "Procrastination" (need permission)

Does the universe make sense? Do we have any reason to assume that it does, or even more philosophical, that it should? Based on archeology, best guess is our species took some 12,000 years from the dawn of civilization to figure out the scientific method. Why did it take so long?

Bell's inequality, and the experiments that validate it, indicate that nature is nonlocal. How can something over there, way over there, affect something here? Sounds like voodoo. Didn't we leave all that superstitious stuff behind?

Those who have retreated to "shut up and compute" are not irrational, they are pragmatic. In hindsight, they may even turn out to be strategic; make progress however you can and have faith that eventually the insights will come. Indeed, the insights may not be possible without the progress that such a pragmatic strategy enables. Procrastination as a strategic choice; but evolution built that algorithm into us too.

So here we have this crazy idea, Quantum Temporal Paradox (QTP), that what collapses a quantum system is some kind of self-referential entanglement; a closed causal loop that looks temporally paradoxical in all bases – except one.

There is a lot to like in this hypothesis, but there is also a long list of objections. The objections are the stringent requirements that separate merely good ideas from correct ideas. QTP is a good idea, but only nature can tell us if it is the correct idea. Dogma's eloquent rant, his many fingers, are the signposts that we must reach. The motivation is in the pros, but the science is in the cons.

Two themes will be constant companions in what follows: paradigms and self-reference. Most scientific presentations are rather dry, they concisely present the setting, the problem, the attack, and the results. As they should. But the downside of this discipline and professional norm, is that it hides the messiness of the creative process. Why this problem? What was the insight that suggested that solution? What was considered but rejected?

In times of normal science this small loss is more than offset by the gains in efficiency, transparency, and reproducibility. In a paradigm shift, however, the messiness is essential in communicating the new "place-scheme." Without it, the subtle shifts in meaning of the various

terms that exist in both paradigms end up thwarting any dialog between them; the participants talk past each other. In a very real sense, they are speaking different languages, a situation masked by the fact that they are using the very same words.

Therefore, what is to come is going to be less structured, more like a story. A story of inspired guesses, ruthless filtering, unexpected connections, serendipity, insights gained, and challenges overcome. A story with many twists and turns, and perhaps even a dead end or two.

In Act II the quest begins. A scientific quest, a quest to solve the quantum measurement problem.