

The Paradigm Discourses

“Cloning”

Clones are people two.

Theory and Experiment were in the dining room, sitting on the opposite long sides of the massive table. Envelopes and coins were everywhere, stacked, leaned, jumbled, a tornado’s love nest.

Experiment picked up another pair of coins, rubbed them together until they became spooky, then placed them in separate envelopes.

Theory complained, “We’ve been over this, a thousand times, it doesn’t matter how we each measure our stream of envelopes, horizontal, vertical, flipped; the data is always random, no signal, nothing but noise. True, the noise is correlated, but that can only be confirmed by bringing them together, at subletter speeds. I don’t care if Paradigm’s symmetric spacetime intervals are relativistically consistent, I don’t care if we can use them to tell left from right, you can’t use quantum nonlocality to break letter speed.”

“Data to date would so suggest. Tentatively, I am inclined to agree, but I don’t think we should give up just yet. Nobody ‘understands’ quantum mechanics, all our mental models are wrong in one way or another, all we can do is compute, like deaf and dumb monkeys on some arcane mechanical calculators. It’s infuriating. So, let’s try this, I’m going to add an envelope...”

“Lovely, more trial and error. Do you realize how many permutations there are?” He looked around for Mathematics, but without success.

“Let me continue.” He took the third envelope, already containing a coin, stacked it on top of his member of the EPR pair shared with Theory, opened them together, and wrote down a pair of binary digits. He handed them to Theory.

“What am I supposed to do with these?”

Just in time, Mathematics showed up, handed Experiment a card with a table of four numbers and corresponding directions on it. “Thanks, that was fast.” He handed the card to Theory, “Find the numbers I just gave you on this card, then rotate your envelope according to the directions.”

Theory’s eyebrows furrowed, he looked at the numbers, then the card, ‘cheat sheet’ he thought to himself, found them and the indicated directions, rotated his envelope and then opened it. Out came the coin. Experiment held his up, they matched.

Theory, “Wait a minute...” He pulled Mathematics over, heads down together in an intense confab of whispers and calculations. When he came up for air, his emotions, strange thought, were in a superposition, elation & deflation, all at the same time. “That wasn’t FTL.”

“Nope. The numbers I passed you require a classical channel.”

“But I’ve a copy of your third coin.”

“Yep. That required the non-classical, nonlocal, spooky action-at-a-distance, quantum channel.”

“You teleported it? You flippen teleported it! How’d you figure this out?”

“Just by dorking around. I repeat, we do not understand quantum physics.”

Mathematics, “Wait till he shows you the next one.”

Theory gave him a dirty look. “Fine. Lay it on me.”

Experiment prepared two pairs of envelopes with spooky coins, sent one of each pair to Theory, then combined his cross pair of envelopes, repeated his joint opening of them, and handed those results over to Theory also. Two bits as before.

Theory performed the indicated rotations on one of the envelopes. Then held up a finger, “Stop, don’t tell me.”

Another confab with Mathematics, more whispers, more calculations, perhaps a hushed exclamation of “I don’t believe it,” but eventually Theory held up his pair of envelopes, one from each of Experiment’s original EPR entangled spooky-coins. He looked at them, then at Experiment, “These are entangled now, aren’t they? They will behave just as if we had placed spooky-coins into them, but these envelopes have no common history. They’ve never met before, never interacted, never even been near each other. Experiment, *you’re* spooky.”

Experiment laughed, “That’s the nicest thing you’ve ever said to me.”

“What do you call...this?”

Experiment hemmed and hawed, looked at his feet. Finally, “Well, Dogma calls it *entanglement swapping*.” Experiment shrugged.

“You couldn’t talk him out of it? Convinced him of another name? Better jargon?”

“Nope, and you know Dogma and his place-schemes. Once established, they don’t change.”

”What you’ve actually done is teleport an entanglement.”

“So we have.”