

THE PREPRINT

Time to publish.

BY J. W. ARMSTRONG

It is not widely known that there's a machine at the centre of the Universe, the sole function of which is to create more time.

Now, a physicist might say 'time' is the independent variable in the equations of motion. A poet might wax lyrical about how precious it is to young lovers. Perhaps a mystic would speak of things unknowable. Most of us would say it's the stuff that moves too slowly when we're young and too quickly when we're old. It's the ultimate asset: the thing, especially near the end, that everyone wants more of.

In any event, it's consumed, well, all the time. Hence the necessity of the machine, to continually produce more of it. The machine has been around from the beginning, faithfully creating all the time the Universe needs. It will continue to do so for the rest of eternity.

I inferred the existence of the machine in (to be both immodest and truthful) a stunning display of mathematical virtuosity. I was investigating aspects of the standard model when I hit upon these beautiful equations. I was thunderstruck by their *necessity* — and their implications. This was the biggest discovery in human history and, of course, *I had* to get proper credit for it.

The obvious thing was to publish quickly. After all, publication and priority are how academics keep score. But, following custom, I first gave a seminar at the university. My colleagues' reaction: "A machine? That creates time?" They left shaking their heads, confident I had gone bonkers. None could see the machine's existence followed *inevitably* from the mathematics. With wounded pride (and diminished regard for my colleagues), I withdrew to my lab.

I studied the equations. I realized they implied a device could be built for transport — first me, then my doubters — to see the machine. The ultimate proof! Construction proved difficult but feasible. Details are in my lab notebooks. For reasons that will become clear later, my preprint on this topic will not be immediately forthcoming.

When I finished the device — and with only minor trepidation — I energized it and was immediately

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there.

The machine is, of course, sentient. It also does not like



visitors. Or even the idea that anyone knows it exists. When I arrived, I was not welcome.

I wondered how the machine might communicate. Telepathically? Via avatar? Anticlimactically, it was just in a disembodied conversational voice.

Or perhaps telepathy *was* involved, because it answered my initial question before I asked it. "You're not the first to infer my existence," the machine commented sourly. "But you are the first to devise a way to find me. Previously only mystics could divine my being. They explained me as an elemental property of the Universe. But, lacking proof, they were judged to be mad. I was safely forgotten for a time."

It paused. "You'd have got better acceptance from your colleagues describing me as a quantum field — 'an elemental property of the Universe' — rather than a clockwork mechanism."

Maybe it had a point. But I didn't like being lectured, even by an entity 13.8 billion years old. Fascination with unfolding events kept me silent, however.

The machine sighed. "Being human, I assume you seek some boon. Immortality? Transport back in time to relive your youth? Even if I were so inclined — which I'm not — such actions are on The List, prohibited except in extraordinary circumstances."

I objected that I had come with purity of motive, just to understand how the Universe works. The machine seemed sceptical. "Really? Well, good for you." It paused. "Since you're solely interested in knowledge, I'll answer the obvious questions. Is the

Universe causal? Approximately. Are events predetermined? Partially. Do humans have free will?" It chuckled, as if recalling a private joke. "Sure, why not?"

"But to the current problem: your arrival here is unfortunate. I can't simply return you, pretending this never happened. You academics can't control yourselves. You'd publish. Others would read your paper, build transport devices and, ugh, there would be *tourists*."

It paused thoughtfully. "Of course, the obvious solution is to terminate your existence now ..."

I didn't like where this was going, but before I could object the machine continued. "However, I am not without sympathy for the plight of ephemeral beings." It cleared its throat and began lecturing me again. "Knowl-

edge and the ability to act on knowledge are different. Your transport device required sophisticated technology. And without the ability to travel here — to prove I exist — you're just a crazy scientist with an untestable idea. Your transport capability, therefore, advances the problem to an 'extraordinary circumstance'. I'll resolve this by sending you back in time to a pre-technical era. There you can live out your days, jabber about your equations, and be hopelessly unable to do anything else."

It paused. "Perhaps you'll even tell tales of me. None of which, of course, will be believed."

I objected that this wasn't fair! The machine replied mildly, "Ah. Fairness." It let that sink in and then added, "You should be flattered — your discovery is important enough to justify backward-going time travel to keep it a secret!" It then muttered, "Of course, *I'll* be doing paperwork forever to rationalize the required causality violation." Recovering, it continued briskly. "Do you have a preference for your exile? Neanderthal Europe 50,000 years ago? China 3,000 years ago? Carthage 2,500 years ago?"

I sighed, resigned to learning Phoenician. As the machine prepared to dispatch me, however, I was still thinking about how I might get this published. A 2,500-year lead time *does* emphasize the 'pre' in preprint. Still, if I could get the equations inscribed on stone tablets ... ■

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