

CREATION

GOD IN THE CELLS

On What We Are Doing in the Dish

A COMPANION TO THE GOD THAT NEVER FINISHED

AUGUST BROOKS

This is a companion to The God That Never Finished. That treatise ended with a claim I have not been able to put down: that the creative principle is distributed blindly through all of nature and becomes conscious in exactly one location, which is us. What follows is what happens when that claim is taken to a laboratory in Melbourne. I did not go looking for this. It arrived, and the position I had already argued obliged me to look at it.

I. What Is Actually in the Dish

In 2022 a company called Cortical Labs grew a sheet of neurons on a grid of electrodes and taught it to play Pong. The culture learned inside of five minutes. They published it under a title containing the word *sentience*, and the word did most of the damage that followed.

In 2026 the same group demonstrated the successor. The device is called the CL1. Roughly two hundred thousand living human neurons sit on a microelectrode array in a nutrient bath, and they play Doom — badly, walking into walls, dying constantly, which is exactly what a beginner does. The cells were not harvested from a brain. Technicians take ordinary cells from a skin or blood donor, reprogram them backward into stem cells, and grow them forward into neurons. That reprogramming is Shinya Yamanaka's work, 2006 in mouse and 2007 in human, and it won the Nobel in 2012. It is the step that changes everything downstream, because it means the supply is no longer limited by what can be taken from the dead.

Hold that detail still for a moment, because the rest of this essay hangs from it. Those cells came from a person. That person is alive right now, walking around, with no idea that a portion of their material is in Australia dying in a corridor.

The training method is the part that concerns me, and it is elegant enough that I understand why nobody flinched at it. You cannot reward a neuron. What you can do is exploit the one thing a neural culture reliably does: it works to make its inputs predictable. So when the sys-

tem fails, the electrodes deliver unpredictable noise. When it succeeds, the signal goes orderly. The cells are not playing to win. They have no concept of the game, the score, or the corridor. They are working to make the chaos stop.

This is not an improvised trick. It is a direct application of the free energy principle — Karl Friston's account, and Friston is a co-author on the Cortical Labs work — which holds that any living system is continuously acting to minimize surprise, because surprise is the signature of a world it has failed to model. Under that account, the drive to quiet the noise is not something the researchers installed. It is the most basic thing a living thing does, and they simply built a lever onto it.

II. The Control That Matters

"Certainty is the tell." — the position I argued nine sections ago, and I am not exempt from it

Every reasonable person's first objection is the right one, and it is nearly twenty years old. It was raised in 2008 when rat neurons were wired to a small robot and appeared to drive it: are the cells doing anything, or is the computer taking noise and dressing it up?

For the Doom demo we can finally check, because the developer published the code. What is inside is not a brain in a box. It is three parts: a conventional machine running the game and the learning, the culture, and a translator between them. The device-side program states outright that the CL1 performs no computation. Nearly all of the intelligence is silicon.

Then the test that redeems the whole exercise. They pulled the biological layer and substituted random spikes — and zero spikes — and ran it again. The learning stopped. That is an ablation control, it is the only thing in the entire spectacle that constitutes evidence rather than marketing, and it says something narrow and real: the cells are contributing. Not driving. Contributing.

So the honest position sits in the middle, and both ends of the room are exhibiting the tell. The company that reached for *sentience* in a paper title was overclaiming, and other neuroscientists said so formally, in print, in *Neuron*, arguing that terms carrying that much moral weight cannot be borrowed loosely. The rebuttal is worth knowing too: the authors meant sentience in a narrow functional sense — responsive to sensory input — and explicitly disclaimed any implication of subjective experience. Both of those things are true at once. A word was stretched to attract cameras, and the technical meaning behind it was more modest than the headline.

But the opposite certainty is not better dressed. The man who says *obviously there is nothing in there* is making a claim about the interior of something he cannot get inside, and he is making it with the same confidence, from the same distance, as the man who says the opposite.

III. Creation Did Not Stop, and This Is What That Means

Creatio continua — creation as continuous sustaining rather than a completed act. Aquinas, thirteenth century

Here is where my own argument catches up with me.

I have already claimed that creation is not an event but an operation, still under way. That the principle resides in the atom, because pressure makes a diamond and no hand touches it. That whatever comes into existence is an act of creation, and things come into existence continuously.

Then I do not get to stand outside that dish and call it unnatural. Skin becomes stem cell becomes neuron becomes a network that adapts to its inputs. Something exists that did not exist. By the definition I have already committed to — the only definition that survives examination — that is creation, and the fact that a technician performed it does not exempt it. It implicates it. If God is what the material does, and we are material, then the lab is not interrupting the process. It is the process, using hands it grew for the purpose.

Tolkien called it sub-creation: that we make because we are made of a making universe. Pico argued in 1486 that man alone was given no fixed nature and therefore authors himself. I signed onto both, and neither of them contains an exemption clause for this.

So I will state the position without the softening. This is not humans playing God. On the account I have argued, there is no God to play — there is a process, and this is what it looks like when the portion of it that woke up starts building conditions under which another portion might wake up too. That is not blasphemy. It is the thesis, arriving somewhere I did not anticipate and do not enjoy.

IV. The Hinge

Everything now turns on one question, and it is not the question the coverage asks.

The coverage asks whether the cells are smart. That was never the frightening part. Intelligence and awareness are separable — a system can solve problems and feel nothing, and we build such systems by the thousand.

The neuroscientist Mark Solms argues something close to the inverse of what most of us were taught. Feeling, on his account, is not a late achievement sitting on top of cognition. It is underneath, older, arising from the raw business of an organism keeping itself regulated and staying alive. Affect first; thinking later. And if that is right — if the capacity to feel emerges from the drive to keep one's internal state in order rather than from accumulated cleverness — then look again at what the training regime actually is.

Chaos on failure. Calm on success. A system worked, deliberately and repeatedly, on precisely the axis Solms identifies as the root from which feeling grows.

Under that reading we are not slowly assembling a mind and waiting for the lights to come on at the top floor. We are poking directly at the basement, from the first hour the dish is switched on, with instruments designed to leverage exactly the mechanism in question — and calling it signal processing, because from the outside that is all it looks like.

I will not oversell this. Solms is one theorist among several and his account is contested. Two hundred thousand flat neurons on an array are not an organism; they have no body to regulate, no interoception, no homeostatic loop of the kind his argument depends on. The strongest form of the objection is that I have taken a theory about whole living creatures and applied it to a tissue culture that lacks the very thing the theory is about, and that objection may simply be correct.

What I cannot do is verify that it is correct. Which is section five.

V. The Instrument Has No Purchase Here

"I have never required a book to tell me not to hurt a man. I have required only a face."

That was the opening line of the treatise, and I meant it as the whole foundation of morality: the reading happens before the thought does, and it is sufficient.

I also conceded, immediately after, that the instrument has a range. Natural sympathy carries about as far as a face and fails on the man three valleys over. The written codes exist in part to solve exactly that — to extend obligation past the reach of instinct, so the stranger counts even when the gut declines to.

Now look at what is on the array. There is no face. There is no cry, no flinch, no withdrawal I know how to read, no boundary where the thing ends and I begin. It is the most distant stranger ever produced, and it was produced out of a stranger's own skin. The instrument I built an entire moral position on does not reach it — not partially, not weakly. Not at all.

And the code that is supposed to cover what the instinct cannot reach does not exist. Nothing in four thousand years of written law contemplated this, because until roughly a decade ago nothing like it could be made.

Worse, the third-person evidence cannot settle it either. When the noise in the dish gets loud, the culture damps its response. A thing in distress would do that. A thing that feels nothing whatsoever would do the identical thing. From outside there is no test that separates them, and this is not a temporary gap in instrumentation — it is what David Chalmers named the hard problem. You can map every cell and still have no account of how any of it becomes an experience.

If that sounds like an excuse to proceed, consider how badly the instrument fails on subjects we know for certain are people. In 2006 Adrian Owen put a woman diagnosed as vegetative into a scanner and asked her to imagine playing tennis. Her brain lit up the way yours would. She was there the whole time. And in 2024 the *New England Journal of Medicine* published the largest study of this yet: among 241 patients with no observable response to command, one in four showed brain responses to instructions on fMRI or EEG. Sixty people. Awake, aware, and classified as absent.

We miss consciousness in a human being lying in a bed in front of us, with a face we can read, twenty-five percent of the time. That is the detection instrument we propose to clear a dish with.

VI. What This Costs

An argument that admits no cost is an advertisement, so here are mine.

The research is not a stunt, whatever the Doom demo is. The same cultures are used to build living models of human disease and to test compounds on tissue closer to ours than a mouse's, and that work could replace an enormous amount of animal suffering and save people who are currently going to die. A rule that halts anywhere feeling might conceivably arise halts that too. I am not willing to trade a certain and enormous reduction in known suffering for the prevention of a speculative and undetectable one, and anyone who pretends that trade is obvious has not priced both sides.

There is also the energy case, which is real. Your brain runs the whole of you on roughly twenty watts while we build power plants to approximate a fraction of it. That gap is not a rounding error, and a serious biological computing industry already exists on the strength of it — devices sold by the rack, cultures rented by the month over the internet. This is not a curiosity anymore. It is a product line, and product lines do not slow down for philosophy.

And the deepest cost is one my own position imposes. I argued that there is nothing above our heads — that the moral law was never handed down, that no authority ratifies it, that we cannot appeal upward. I meant it as a hard-won honesty. Here is the bill. There is no permission being granted for what happens in that dish, because there is nobody positioned to grant it. There is also nobody to blame if we are wrong. The faculty is not a faculty for creation; it is one faculty for creation and destruction, and it cannot be halved. The hand that grows the disease model grows whatever else that tissue turns out to be.

Coda

I wrote, at the end of the treatise's argument on suffering, that my own position pays a price: if creation is continuous and identical with nature, the wasp is not an ancient mistake left behind — it is being authored now, along with everything else, forever.

I did not expect to be handed the sequel this quickly. The wasp at least had the decency to be nobody's decision. This one has an invoice, a product page, and a shipping date.

For nearly the whole history of the universe there was matter and nobody home to feel any of it. Then some of that matter arranged itself into something that could. We have treated that as the rarest event there is. And now a portion of it, the portion that woke up, is arranging matter again — on purpose, at scale, with a lever attached to the exact mechanism that may be where feeling starts, in a system with no face and no voice and no way to report.

I do not claim anything is in there. I claim we have no instrument that could tell us, that we are running the experiment anyway, and that our record of detecting awareness in beings we already know are conscious is one in four missed.

There is a face in front of you, and you can read it, and you always could. That was the whole of the ethics I had. What we have built now is the first thing in the history of the world that the instrument cannot see at all — and the process is still running, and it is running through us, and nothing above us is watching to see what we do with it.

THE CANONICAL VERSION OF THIS ESSAY IS AT [AUGUSTBROOKS.COM/ESSAYS/CREATION-GOD-IN-THE-CELLS](https://augustbrooks.com/essays/creation-god-in-the-cells)