

Reasons not to publish

It's enough to give you the jitters.

Roger made the greatest discovery in scientific history by noticing a jitter in his left eye.

He was hiking in the high Sierras on a crisp autumn day, alone in the Glass Creek valley. The jitter was not a fluttering bird, but an entire tree jumping in and out of focus, light playing on it in eerie, slanted shafts. He watched it for a while, then walked under the pine. The bark was smooth, not like a real pine, and it, too, stuttered beneath his fingers. The whole tree and all around it flickered, went grainy and sometimes vanished.

Roger was a mathematical physicist and had seen something like this before. A bad simulation, jumpy and scattered, just like this pine. His face paled, but the conclusion was clear. This back country that he loved to hike through off-season was ... a simulation.

Probably, he judged, it was not so sharp because there was nobody around. No need to spend computation time to keep pine needles waving if there's no audience. Just distribute motion between the harmonics of limbs, branches and clusters, and save computing time. He knew that a cheap simulation of light scattering replaced a detailed calculation with plausible rules of thumb, much quicker than the real thing, but realistic — as long as nobody looked too closely.

So Roger looked around, closely. Mammoth Mountain jittered still, shifting colours. An eerie prickling climbed his spine. So ... he was a simulation.

It took a day and night of hard drinking to do some hard thinking about the implications. From his condo in Mammoth he watched the looming mountain and it was fine, not jumpy. But back in the Glass Creek valley again, the same flickering, blinking in and out. A cost-smart sim, stretched to its limits.

What did the Programmer God want? To watch a universe evolve, or just a simmed Earth? To rerun human history? Was the software even written by humans at all? He glanced around, uneasy.

Why was the simulation getting stressed now? Maybe the computation cost of running a world of 6 billion people had stretched resources? Some of those people, like Roger, felt complex internal states. That must cost a bundle in bit-rate. With the population rising, computation costs were going up fast. Maybe the system had hit the wall, strained to its limit. That could explain why nobody had noticed this before. Or had they?

The people he saw in the Mammoth streets might be simple programs. To test



that, Roger walked up to a few at random and they acted just like real people — except nothing was real, he reminded himself. Could God the Programmer run some people like him, with full interior states, and use rubrics for the mob? Probably, as they were running short on bit rate.

In a way, he felt liberated. He certainly couldn't care about fake people. All else being equal, you shouldn't care as much about how your actions affect the rest of the world. Only the Programmer God mattered, because She could erase you.

How many had noticed? Noticed that the flaws of nature told us that the laws of nature were from software, running on some machine?

Population was rising. Some people might need to be pruned to lower costs. How to stay alive, then?

Be interesting to the Programmer. Be famous. Or original. Or maybe funny. Roger was none of these, really. Maybe he was in mortal danger of being erased.

But he *did* know that this sim-Earth was fake. It seemed unlikely that its purpose was to see how many figured out that they

lived in a simulation. If many did, maybe the world got erased.

So ... he should prevent others from finding out. By not drawing attention to the jittering pine, to Glass Creek at all.

And be interesting to the Programmer. Live in the moment. Enjoy life! It was a lot like Zen Buddhism.

Walking home, he watched Mammoth Mountain gleaming firm and true in a sharp eggshell sky. It felt sharp, real. Where there were real people like him, with complex inner thoughts, the Programmer spent the computational time to make the world work. Elsewhere, not. God had a budget.

But ... how many other people had made this discovery and kept quiet? The biggest discovery in history, throwing both religion and science into a cocked hat ... and nobody dared speak its name. Roger stopped at a wine shop and bought the best bottle they had.

Gregory Benford

Gregory Benford is a professor of physics at the University of California, Irvine, and a novelist.