

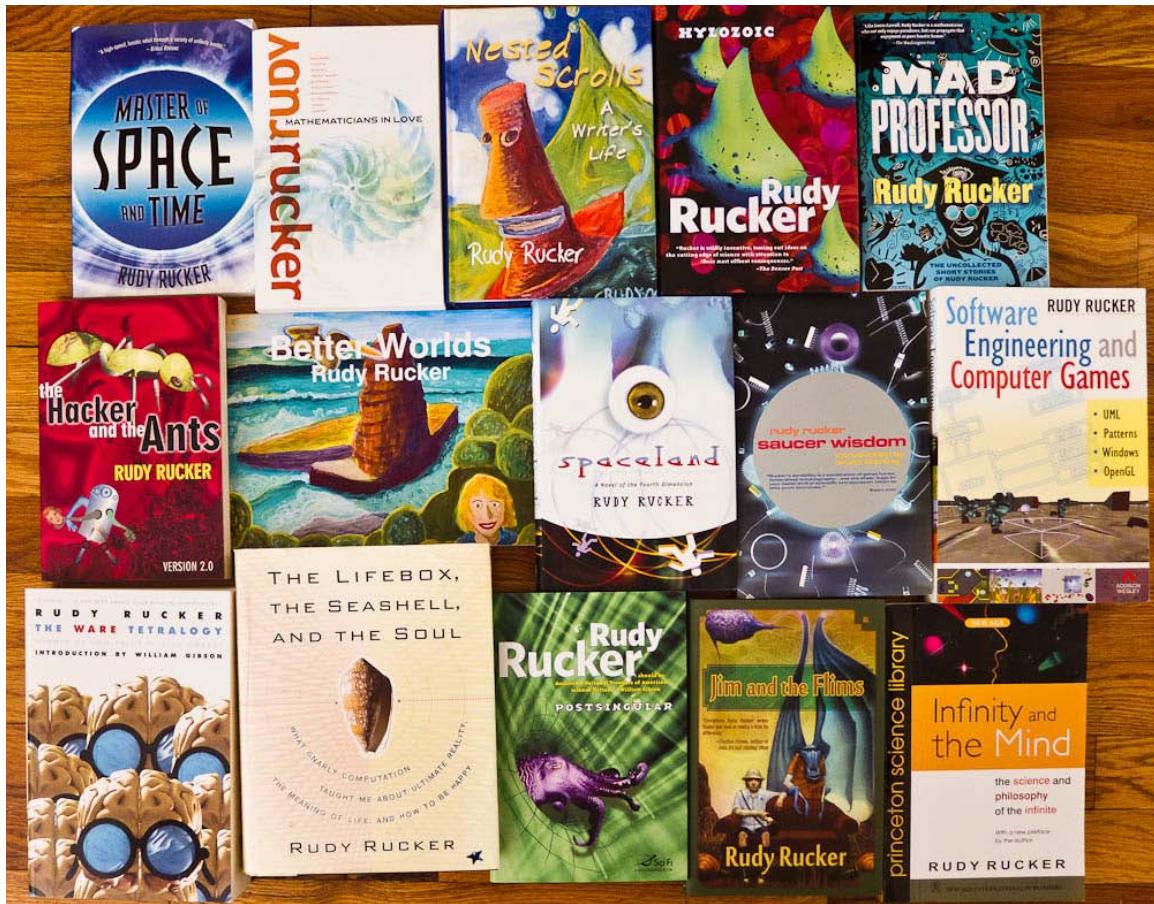
Transreal in Los Gatos

by Rudy Rucker

A TEDx talk given in Los Gatos, October 26, 2011

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2,100 Words.



I got a Ph. D. in mathematics, and I've published popular science books about infinity and about the fourth dimension. I was one of the cyberpunk science fiction writers in the 1980s. I spent about twenty years as a computer science professor at San Jose State. And over the last ten years I've become something of a painter—and you'll see some of my pictures here. I guess the main thing I do is to write science fiction novels. By now I've published twenty of them.

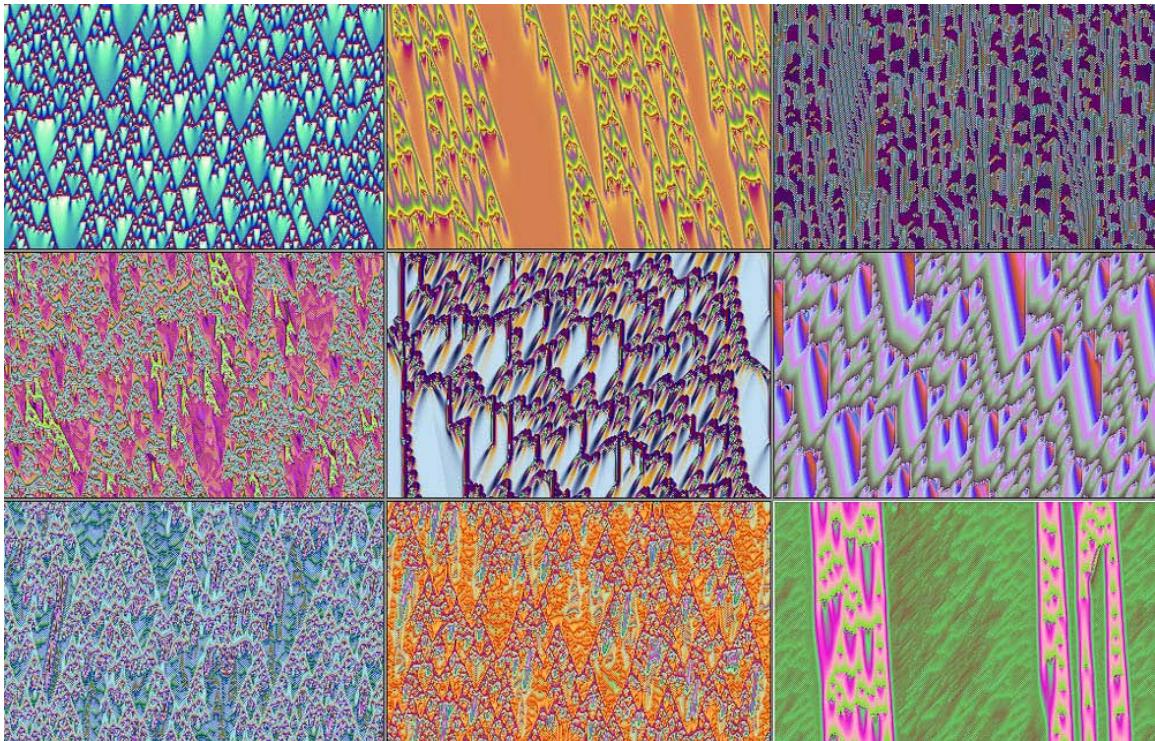


A special approach that I often use for my fantastic novels is something I call *transrealism*. Transrealism means writing science fiction about your real life.

The “real” part of transreal—is that the characters of my novels are inspired by actual people. And the situations come from the world around me. It’s liberating to have quirky, unpredictable characters.

The “trans” part of transreal—I like to use the power chords of SF as a way to thicken and intensify the material. Time travel is a way of talking about memory, aliens are other people, and telepathy is the fleeting hope of finally being fully understood.

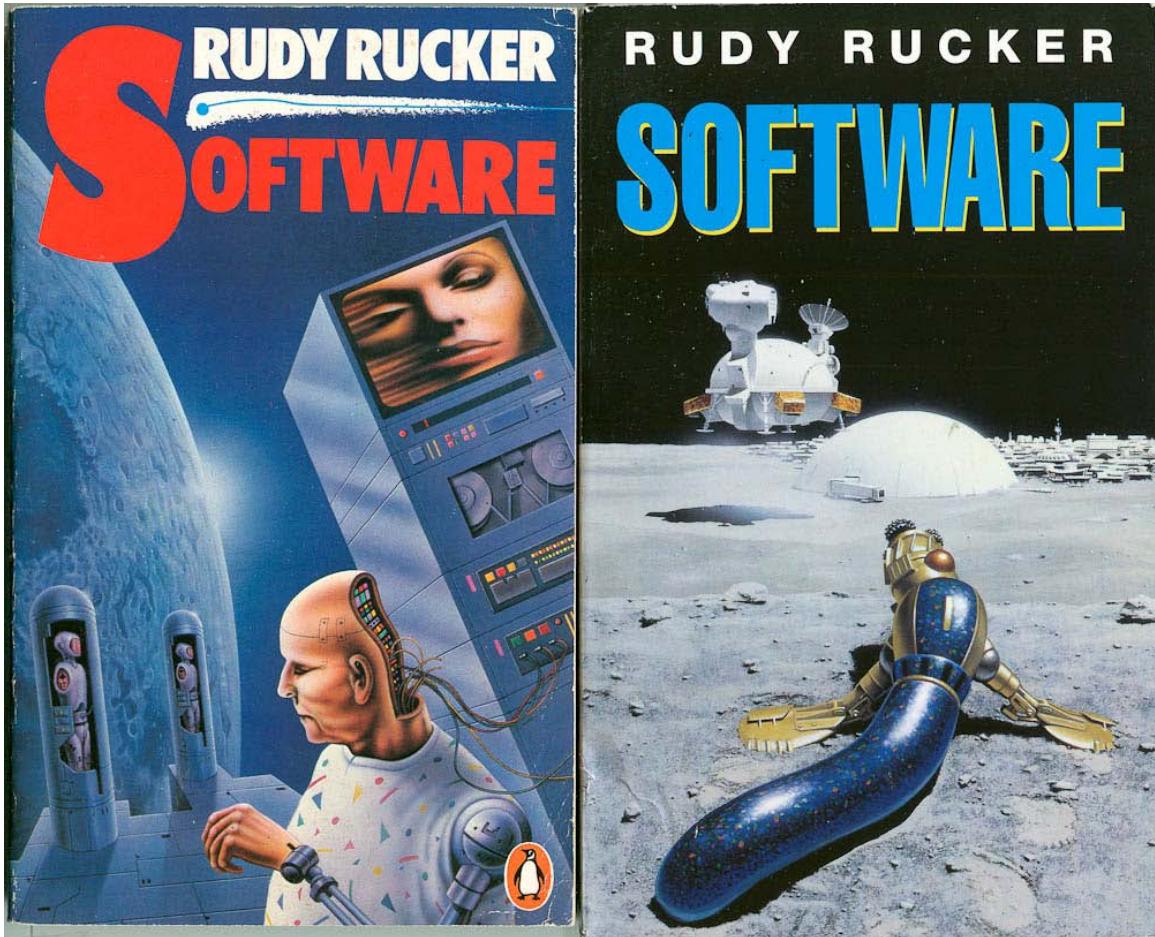
I like blending my worlds: mathematics, computer science, literature and real life.



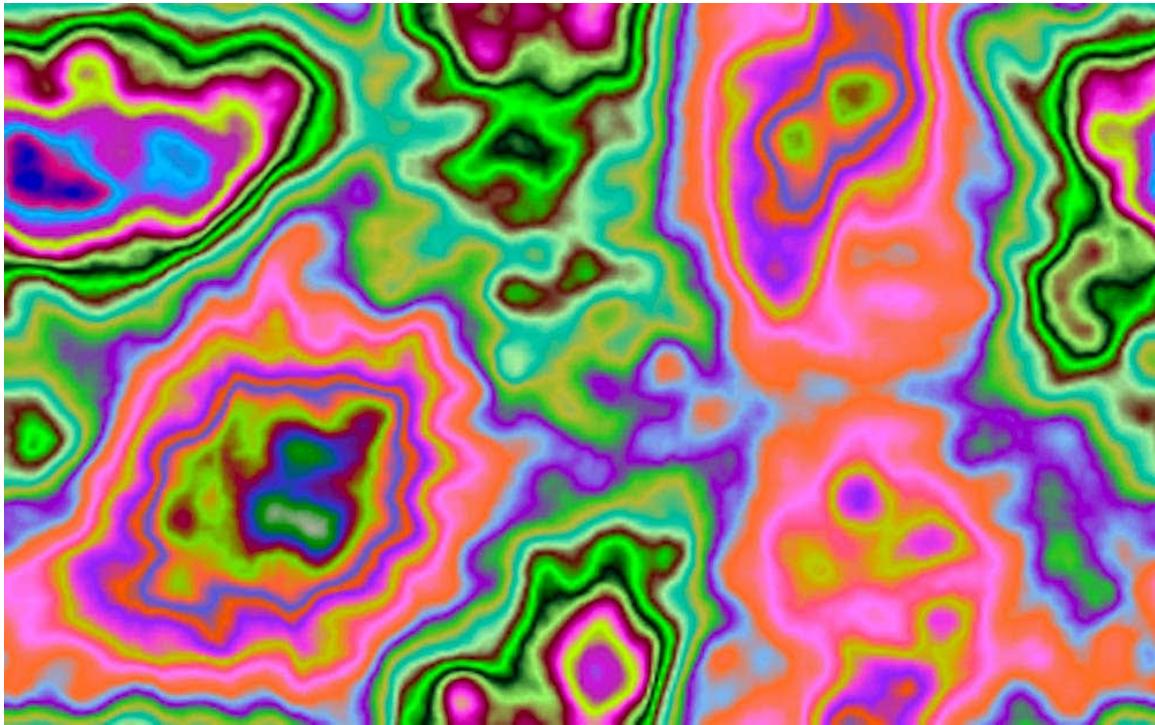
How did I end up in Los Gatos? Before this, I was a mathematics professor, and then a freelance writer. My family and I were living in Lynchburg, Virginia.

Cellular automata drew me into computers. They're also called CAs. They're like self-generating videos. Each pixel acts as a computer. I heard about CAs when I interviewed Stephen Wolfram for a science magazine.

I found that these colorful computer images had an organic, natural look, neither too orderly nor too random. The CA patterns spoke to me at a deep level. You might say they were a trigger that sent me into a metamorphosis—like a full moon that changes a man into a werewolf. I wanted to learn to program.



There's a sense in which I'd already been writing about CAs since 1980. In my cyberpunk novels *Software* and *Wetware*, I'd wrapped my robots in colorful plastic that acted as a computational tissue, generating unpredictable patterns. I'd called the stuff flickercladding. In hindsight, I could now see that I'd covered my boppers with cellular automata. Transrealism—but in this case, the *real* part happened to me after the *trans*. All though my life, I've liked blending things together.



Cellular automata have a short description or algorithm that generates a very intricate pattern. Biological life is logically deep. An acorn grows an oak tree.

And they lie at the interface between order and randomness

Later I began using the very California word *gnarly* for these kinds of things.



As a freelance writer in Lynchburg, I was selling books, but not making enough money. I needed to find a paying job. And I wanted to get in on the computer revolution.

In 1986, I interviewed for a job in the department of Mathematics and Computer Science at San Jose State . It was time for my re-entry into academia.

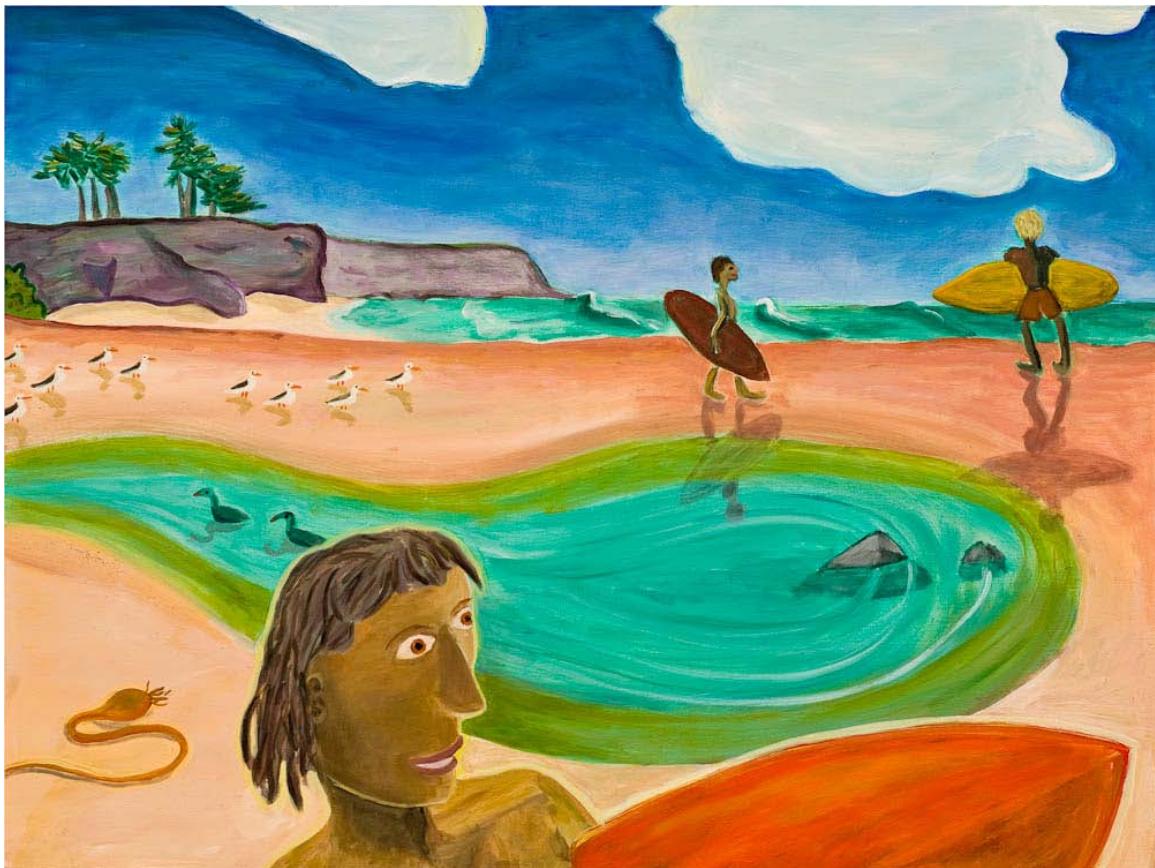
“If you want, you can teach computer science as well as math,” one of the guys told me. “And if you do that, we’ll pay you ten percent more.”

“I’d like that a lot.”



So in I found us a house to rent in the village of Los Gatos near San Jose. I got the idea of renting there because I saw a picture of the place in a free weekly paper. And Los Gatos High School was an impressive place—it looked a lot like the Riverdale High where Archie and Veronica went, an imposing 1940s building with palm trees on the lawn and a big stone staircase.

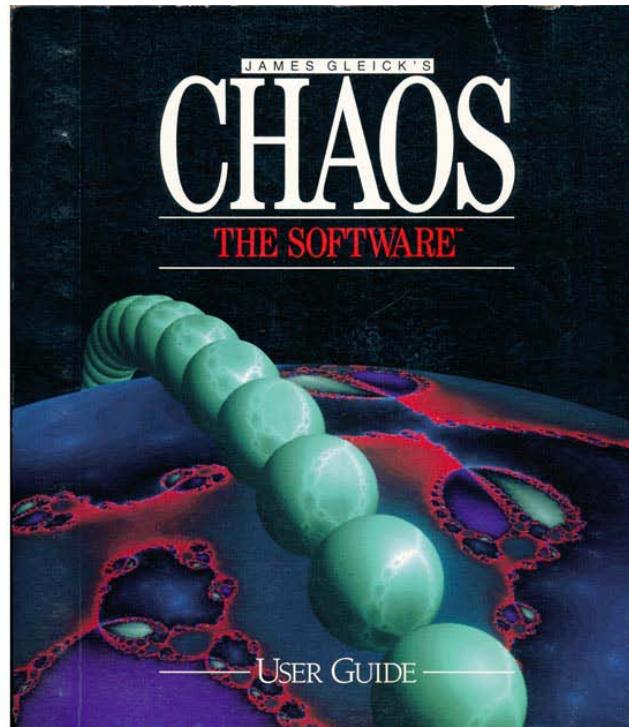
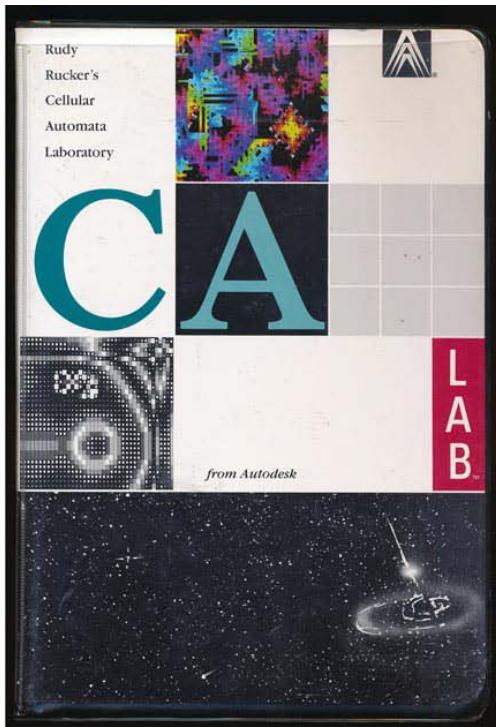
Los Gatos was like a river settlement, in a way, except the flowing river was busy Route 17, which led over the mountains to the beach town of Santa Cruz.



The Pacific Ocean was within striking range—amazing. We made weekly family trips to the beaches in Santa Cruz—it was only a half hour’s drive over the mountains. I particularly liked the wild and pristine beaches bordering the farmlands and nature preserves north of Santa Cruz.

Fulfilling a years-long dream, I bought a used surfboard and a wetsuit from a local surf shop. I dug how crazily chaotic the waves were. But I quickly came to understand how hard it would be to catch a glassy big wave, let alone stand up. In any case, surfing came to be a mental metaphor that I liked to use for my activities.

Serious surfers are out there nearly every day, year after year, in all kinds of conditions, engaging with the sea—and that’s sort of what it’s like to be a professional writer or, for that matter, a pro computer hacker.

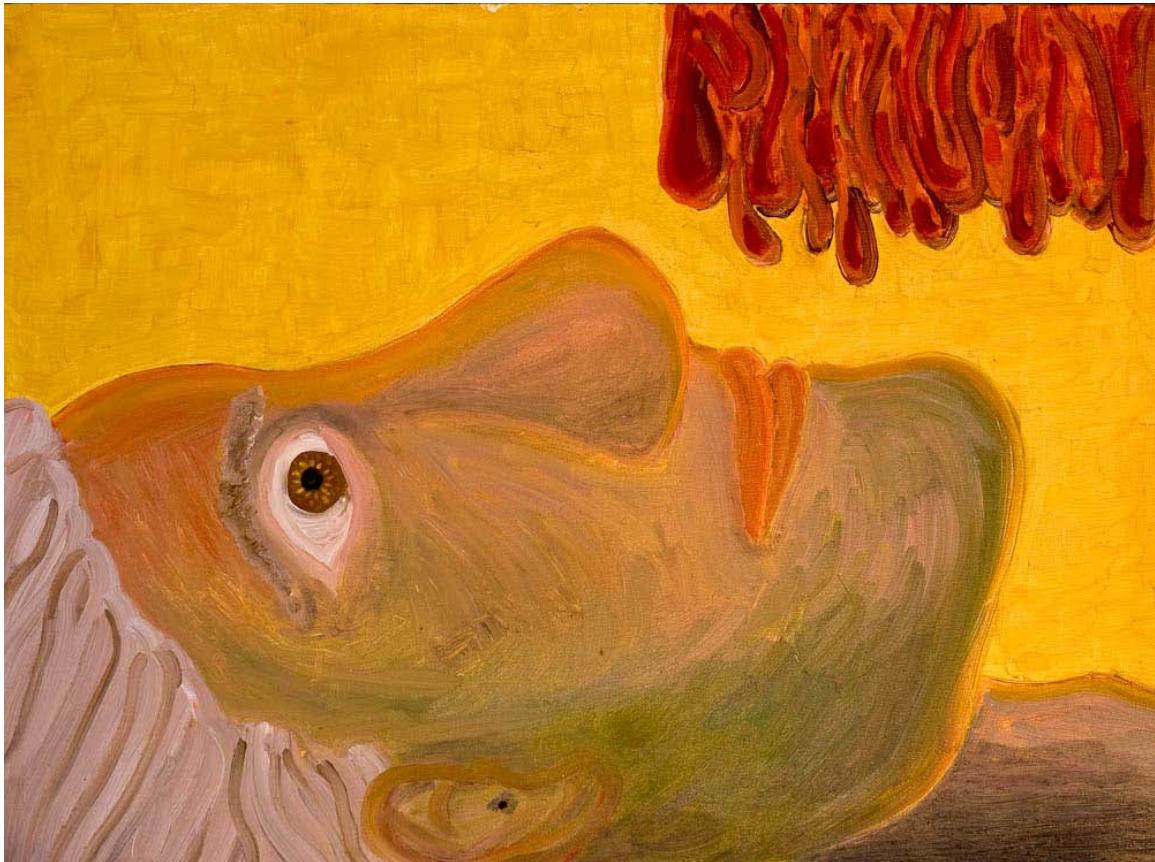


A big turning point came in 1987. I was invited to an annual Silicon Valley event called the Hackers Conference. I stayed up all night with the hackers, partying and admiring the weird things on our computer screens.

A guy named John Walker remarked that it should be possible to make my cellular automata programs run much faster. It turned out that John Walker was a founder and the CEO of a booming Sausalito corporation called Autodesk, and in 1988 he asked me if I'd be interested to come work for him. I went on leave from teaching and at Autodesk, Walker and I produced a slick, boxed software package called *CA Lab: Rudy Rucker's Cellular Automata Laboratory*, which sold for about \$50, and later, along with Josh Gordon, we created software to go with James Gleick's best-selling book *Chaos*.

"What are the programs good for?" people would ask me.

"You stare at them for hundreds and hundreds of hours and the gnarl eats your brain, okay?"



In the fall of 1993, Autodesk's stock price went down and I was out of a job. I headed back to teaching computer science full-time at San Jose State. A couple of months after I returned to teaching, President Bill Clinton passed through Los Gatos—he and Hillary were having dinner with some tech leaders in a restaurant here. My family and I were standing on the sidewalk as the Clintons' limo tooled by—with the Autodesk exec Carol Bartz riding in there with them.

“Carol!” I yelled, leaning out into the street. “I want my job back!”

The people around us laughed. They understood.



After leaving Autodesk I started work on *The Hacker and the Ants*, a transreal novel about my experiences as a software engineer who's working with virtual reality and artificial life programs.

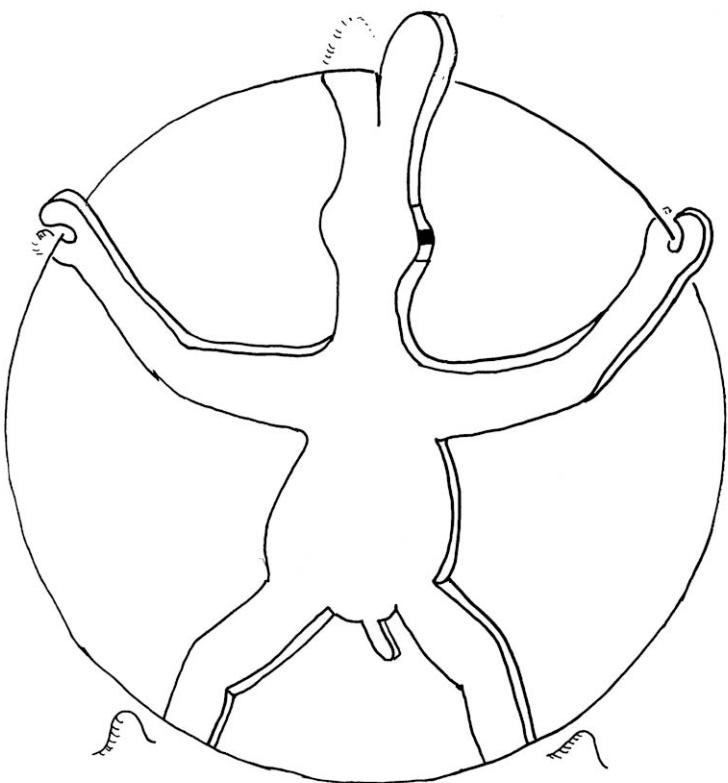
The hero of my tale, a hapless programmer named Jerzy Rugby, becomes embroiled in a plot cooked up by his boss and by an evil realtor. Some virtual ant programs settle into the powerful computer chips embedded in people's TVs, and the ants turn every TV show into computer graphics.

The boss in *The Hacker and the Ants* was loosely inspired by John Walker himself. Fortunately Walker has a good sense of humor. He was quite fond of my book, and like many other hackers, he thought it offered a realistic glimpse into the Silicon Valley of the 1980s.

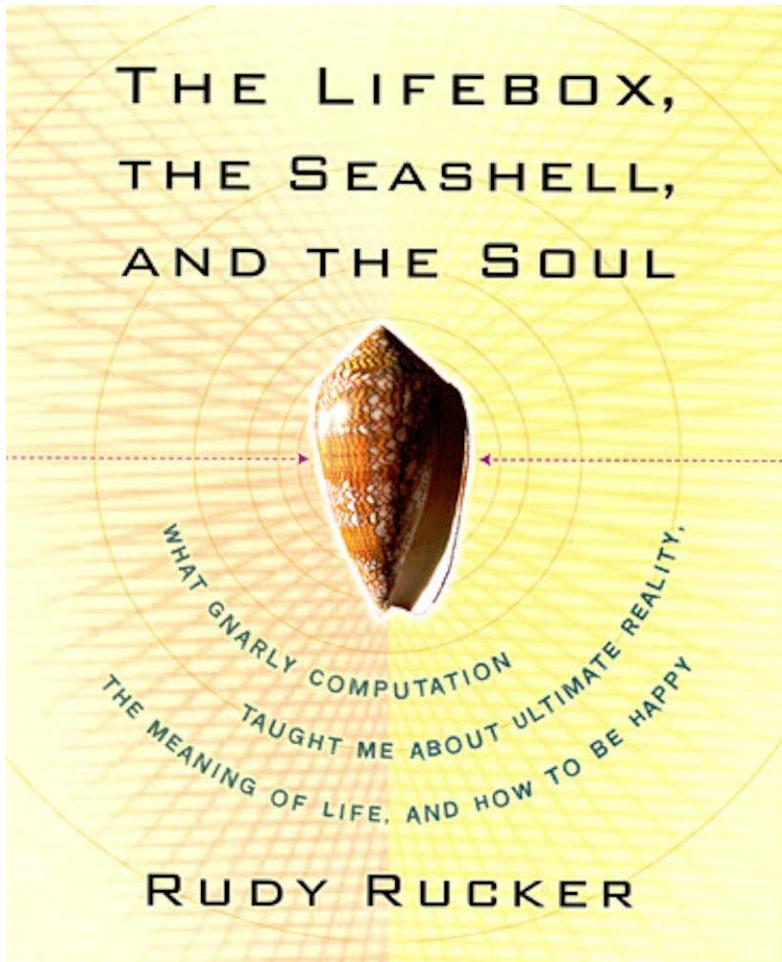


One of my oddest books of all was the transreal *Saucer Wisdom*, also set in Los Gatos. *Wired* magazine wanted to start a line of books. I suggested a work of futurology, and sent in some speculative ideas about the future. I proposed that I frame my book as if I'd learned my facts about the future from a man who'd actually been there—a UFO abductee named Frank Shook who'd been given a tour of the next three thousand years by the aliens.

My old pal Gregory Gibson was visiting me at the time, and I took him along to the *Wired* pitch meeting where he presented himself as actually *being* Frank Shook, the saucer nut. At the meeting, Greg made a few tense, distracted remarks, and then stalked out. *Wired* went for the pitch even though they knew it was a hoax. But at the last minute, they folded their book line, and I sold the book to my science-fiction publisher.

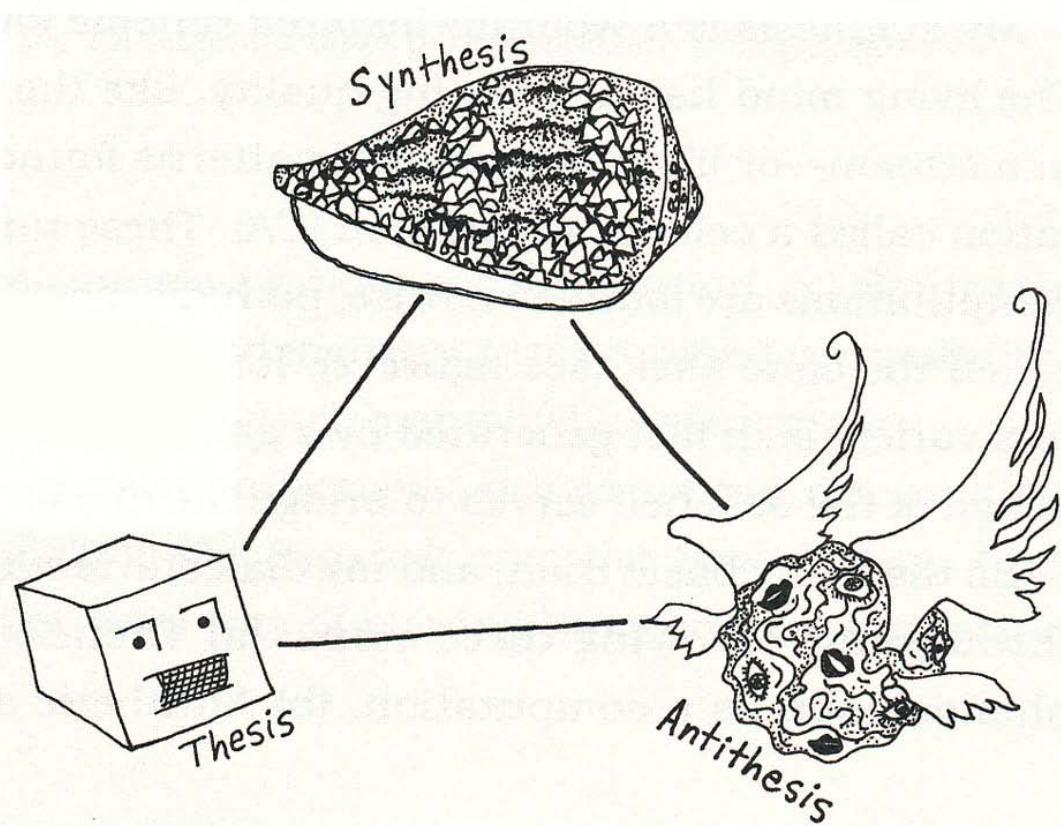


Swept up the excitement about Y2K, I wrote *Spaceland* about Joe Cube, a middle manager at a San Jose computer company, and a resident of Los Gatos, who receives a millennial visit from a denizen of the fourth dimension. He robs the Wells Fargo bank on Santa Cruz avenue by reaching into the vault from the fourth dimension. And near the end, he pops a hole in the upper room of our local landmark, The Los Gatos Coffee Roasting Company. Joe manages to hold space together until a fix is found. I often think of this scene when I go in that room.



I retired from teaching in 2004, and I tackled a tome about the meaning of computers. I'd meant to nail this much earlier on—when I'd moved to Silicon Valley in 1986. At that time, my old friend Greg Gibson—a.k.a. Frank Shook—had said, “Imagine if William Blake had worked in a textile mill. What might he have written then?”

I was ready to tell the world what I'd learned during my twenty year stretch in the dark Satanic mills of Silicon Valley: Everything is a gnarly computation.



The title, *The Lifebox, the Seashell, and the Soul*, was meant to be a kind of dialectic triad, that is, a pattern of the form, *The Thesis, the Synthesis, and the Antithesis*.

With the thesis word, “lifebox,” I meant a large database that might include, in my case, my books, my journals, my interviews, my photographs and perhaps an overarching memoir—with the various pieces connected by hyperlinks. A lifebox might resemble a large website.

Could a lifebox become conscious and alive? Initially, the notion of an intelligent lifebox seems quite absurd—which is why we might think of “soul” as being the antithesis of “lifebox.”

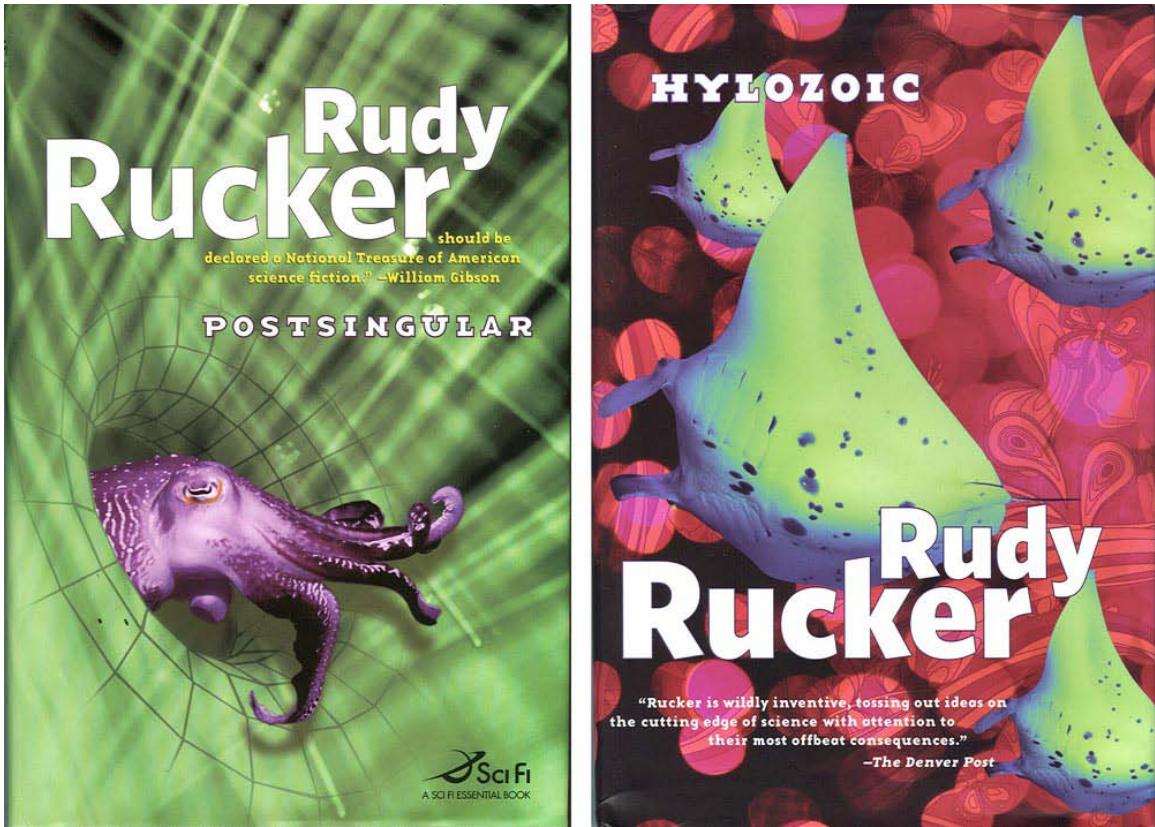
But maybe someday, a lifebox *could* have something like a soul—if you were to equip it with the right kind of software and run it on the right kind of hardware.

As a example of a simple program that might create AI, Stephen Wolfram had noticed that a tiny cellular automaton program can produce the intricate triangular lattices seen on the cone shells of the South Pacific. And this where the synthesis-word “seashell” of my book title comes in.



Soon after this, in 2005, I had fun writing another Bay Area novel, *Mathematicians in Love*. The book plays out in Los Gatos, Santa Cruz and Berkeley, and it features a couple of punk math grad students who repeatedly alter reality while competing for the same woman—which is how they happen to end up in an offbeat sheet of reality in which, unlike in our actual world, the future is predictable. They get to their alternate sheets by surfing through the beautiful natural arch at Pfeiffer Beach in Big Sur.

And they're threatened by flying cone shell aliens from the world of cellular automata. Again, I was merging together the various worlds I love—science fiction, real life, and computer science. It's all the same.



Next I became interested in the popular notion of an impending technological singularity after which computers are intelligent and everything is changed. Some people had taken it up with a nearly religious fervor. I found the hype to be overblown, even annoying, I liked the idea of leapfrogging past it—thus my title, *Postsingular*.

Earlier SF writers learned to write about starships, telepathy, robots, and aliens. It's really no harder for us to write about worlds where a toothpick might be as smart as Albert Einstein. After writing *Postsingular*, I launched into a sequel, a novel called *Hylozoic*.

Hylozoism

From Wikipedia, the free encyclopedia

Hylozoism is the [philosophical](#) point of view that all matter (including the universe as a whole) is in some sense alive.

“Hylozoic” is a real word that means “pertaining to the philosophical doctrine that matter is intrinsically alive.” Humans have learned how to tweak the quantum computations that are inherent in ordinary matter. Human-level artificial intelligence is ubiquitous—a stone has a mind now, and you can talk to it. Every object is conscious and alive. I think we’ll get there after we’re done with biotech.



What next? I'm publishing my autobiography, [Nested Scrolls](#). We've come full circle from the 1960s. Everything is gnarly, and everything is alive.