

RECURSION¹

Worlds within worlds.

BY SIMON QUELLEN FIELD

The little man opened the door and stepped into Schmidt's office. "Who let you in here?" asked the surprised Schmidt.

"I just did," the little man said, pointing to the door.

"But that's my bathroom," Schmidt said, rising from his chair.

"No matter," said the little man. "In a moment, you won't care. Because I am about to give you the most amazing thing you have ever seen in your life."

He held out his hand, on which there sat a small blue sphere that seemed to shimmer. Schmidt was about to protest when the little man touched the sphere and pulled on it. It grew as it followed his gesture, until it was a large globe, the continents and oceans easily recognizable, clouds moving slowly across the surface. Schmidt stopped and stared. It was so lifelike. He could see three-dimensional details in the landscape, even birds and aeroplanes as the view got closer.

"We call this the Simulation," the little man said. "It's quite realistic. It uses inputs from satellites, of course, but also from all kinds of cameras all over the world, cell phones, traffic cameras, webcams, television. It's quite up-to-date. You can zoom in on anything you like."

He gestured again, and Schmidt felt a dizzy sensation as the view swooped down through clouds to view a city, and then farther down to view a street corner with busy traffic and pedestrians, all moving and in perfect 3D. He could move his head and see behind people and objects. He felt he could reach in and touch things.

"How do —?" Schmidt began.

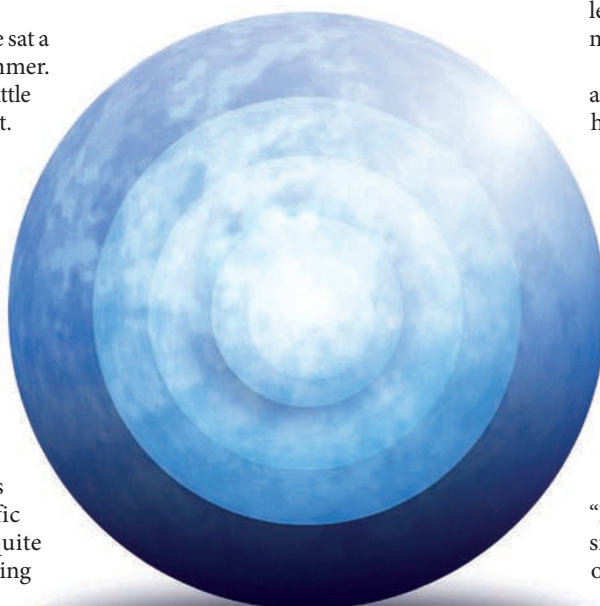
"It's a simulation," the little man said. "There's data input, but most of it is generated. Computers, you know."

The view changed as the little man made subtle movements with his hands. Schmidt seemed to fly through walls, observing people in their homes and at work, going about their routines. A woman brushing her teeth in front of a mirror. A couple arguing at a table in a café. A seductive woman trolling a bar in Paris. A fisherman struggling with a line in Australia.

"It's extremely popular where I come

from," said the little man. "People fly all around, spy on people, hang around women's locker rooms, it's highly addictive. Hardly anything else gets done. People stop talking to each other, stop going to work, they're just fascinated."

Schmidt himself was getting fascinated. It looked so real. He reached his hand out and the sphere responded, moving the scenes around as he gestured. He felt like he was flying, swooping between buildings and under bridges, peering into windows, moving



through solid walls like a ghost. He peeked into corporate boardrooms and spied on meetings in the Kremlin.

"But that's not all," the little man said. "You can go in." He zoomed in on a doorway, until the door was life-sized in front of them. "Any door you like, you just open it and walk in."

He reached for the doorknob, and turned it, pushing the door open. Schmidt looked in, and saw himself in a room that looked just like his office, standing next to a little man with a doorknob in his hand. He swung around and looked at the door to his bathroom, which was now open, and he could see himself looking back.

"How —?" he started to ask.

"Cute trick, eh?" the little man said, closing the door. "You can forget your corporate jet. Anywhere you want to go, you just open the door. That's how I got here, of course."

"That can't be real," Schmidt said, shaking his head.

"No, it isn't," the little man replied. "Like I said, it's a simulation. All done by computers. Collecting and organizing all the world's information, and presenting it in a nice three-dimensional user interface, with natural intuitive gestural inputs. Anyone can learn to use it in seconds, it needs no user manual."

"And you're giving this to me?" Schmidt asked, his gaze still held by the device, his hands still moving to direct the view.

"Free of charge," the little man said. "No catch, it's all yours."

"I can see why people get addicted to this," Schmidt said.

"Yes, that was a problem. Economy went into the crapper, people stopped having kids, food became scarce, things were really going downhill until we came up with this solution."

"What solution was that?" Schmidt asked absently, his attention still riveted on the device in his hands.

"A computer virus," the little man said. "Ingenious, really. It's called infinite recursion. Like putting two mirrors facing each other, so you get a hallway stretching on forever. We put a Simulator inside the Simulator, and the computers spend all their time simulating more simulations, until they don't have any time to do anything else. Everything grinds to a halt after a little while. The toy isn't fun anymore, and people get back to their lives."

"I'm not sure I understand," Schmidt said.

"Give it a minute or two," the little man said. He gestured, and the view zoomed in on Schmidt's office, showing the two men gazing at the sphere. Inside the sphere, two copies of the men were staring at another sphere. "It will come to you," he said. "Or maybe not." ■

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1. Field, S. Q. *Nature* **468**, 1138 (2010).