

FLATLINE

Walter Jon Williams

You can look down from your apartment and see streets full of new automobiles, all smooth geometries that cut the air with a minimum of fuss and are built of carbonweave fiber strong as diamond and less than a millimeter thick. Pollution-free fuel cells provide more power than any internal-combustion engine ever did. Driving one of those cars is as safe as breathing.

You drive a 1952 Buick Roadmaster. Its exterior is made of steel, its aerodynamics are strikingly similar to those of a brick, and it leaves a trail of smoke behind. If you hit something while going fast enough, you die.

Call it a form of protest.

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Your apartment building opens like a flower over the city, a slender alloy shaft topped by a profuse glass-walled blossom. If you look down from your bedroom window you can see the spidery Gaussian architecture of Fantasyland, a hyperevolved Crystal Palace where the latest technological artifacts are made available to an increasingly jaded and unsettled public. Fantasyland's architecture swoops and soars; it strains toward singularities, geometric infinities. You think it's fairly pretentious for what used to be called a shopping mall. Particularly since the Exfoliators sometimes dump bodies in the parking lot.

Ninety degrees in the other direction, you can look out your dining room window to see the matte-black octahedron of Neurodyne Intelgene A.G. The building, 450 meters tall, is packed from end to end with molecular switches bathed in coolant. The total number of microscopic switches in that volume is so huge that even when expressed in scientific notation the figure looks absurd. You work in the nearby factory that produces the coolant, and you've seen the figures. The switches multiply and repair each other and sometimes, every few weeks or so, mutate to more efficient forms. They absorb raw energy in the form of sunlight, store it, transform it into things they can eat. Taken together, the switches form an intelligence far faster, far more complex, than any human brain.

The Neurodyne octahedron is balanced on its point. It looks as if the slightest breeze would push it over.

The octahedron never falls. To some, that's a problem.

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The Club Danton is a place that caters to forms of protest. Political, social, religious, philosophical--if it's aberrant, it's there. The strawberry cheesecake is also good.

The club is in an old brick building under a rusting iron railroad bridge. The bridge doesn't connect anything anymore, and its rails dangle off the ends of the bridge in an oxidized tangle of metal. The bridge would have been torn down long ago except that the club bought it and allowed it to stand. They thought it gave the place atmosphere.

Over the structure looms the planar perfection of the Neurodyne octahedron. This is viewed by some as a comment on things, as another significant metaphor.

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After finishing your four-hour shift at the underground Neurodyne facility--you supervise automated

machines that ship coolant to AIs--you head for the Club Danton. It's a job you've held for four years, ever since the Providence Privateers let you go after two inglorious seasons. The team managers didn't approve of the fact you didn't like pain. You hadn't been told you were supposed to.

As you drive past the octahedron, you observe that a Regressers cult, dressed in homespun, hair and beards long, is using the building for shelter, setting cookfires in its shadow. Neurodyne doesn't care. The cult can push and shove all it wants, and the octahedron still won't fall off its point.

You drive to the club and park under the bridge. Gustav (latest version) sits on his customary window seat, and you wave hello. He signals you to join him.

Gustav is a dwarf. No one has to be a dwarf these days, not unless he wants to be, so Gustav is a dwarf by way of making a statement. He has stunted his body as metaphor for what he believes society has done to his soul. Gustav is a dedicated revolutionary, and wants to wean people away from their technology.

Because he does things that are illegal, Gustav makes it hard for people to find him. He has no fixed abode, and changes his appearance regularly. Little molecular machines beneath his skin alter the structure of his face every few days.

Molecular machines are the principal technology that Gustav wants to wean people away from. Dedicated revolutionaries, you suspect, learn to live with these sorts of contradictions.

You get out of the Buick and walk into the club. There are some truly repulsive people in here, many of them having altered their appearance to include scales, fangs, multiple eyes, and devil horns. There are giants, dwarfs, hermaphrodites, lunatics, killers. It's all stance, a form of protest. All a game, even though sometimes the players die. Their lives don't mean much to them.

Everyone in the Club Danton is a flatliner. They're all just about as useful as the railroad bridge above their heads, with its short rusting tracks leading from one precipice to another.

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The curve that represents the capabilities of artificial intelligence, plotted against time, rises over the last two decades to a near-vertical line, soaring right off the chart in the direction of infinity, a singularity similar in form to those implied by the architecture of Fantasyland. If human potential were plotted on the same graph, the resultant stuttering line would barely nudge upward. It's flat, as flat as the destinies of most people on our sad and unstable planet.

Molecular machines radically increased production and efficiency. They think faster, conceptualize better, learn from their mistakes, move data in the wink of an eye. They are perfectly efficient: no wasted resources, no pollution, no harmful side effects. They were intended to liberate us from drudgery, boredom, and even our mortality, to unleash hidden reserves of human potential.

For all but a few, the reserves of human potential remain hidden. A fraction of the population--maybe two percent--possesses the imagination and ability to make use of the new technology, to use it to express themselves, their ideals, to bring themselves to full flower.

The rest of us drowned in a sea of microscopic intelligence. We gorged on new consumer toys till we were sick of them. Our leisure time was dutifully employed in arts and crafts, "realizing ourselves" as the phrase went, until we learned despair by comparing our product with the elegant, efficient designs of nanotechnology. Molecular machines could rebuild our bodies, turn us into superbeings. But there is still an upper physiological limit on brain size, on brain power. We can't become the human equivalent of the

Neurodyne building. Our technology had outevolved us. We had become useless, lacking in meaning.

Religion or ideology appealed to many, but both seemed irrelevant to the basic dilemma. Cults and gangs and terrorists proliferated: none made much of an impression. Even the ultimate resort of the frustrated--full-scale war--failed. World War XVII lasted maybe six minutes. No one died. One side's machines so outevolved the other's that the losers had no choice but surrender. Whichever side gives the machines greater freedom inevitably triumphs.

The gifted two percent will fulfill the human dream, fly to the stars, live as gods, reach an ultimate understanding of the universe. The rest of us, the flatliners, grow more and more irrelevant. We don't even have the consolation of meaning anything anymore, not even to ourselves.

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"Hey," says Gustav. "It's the jock. Mr. Neutrality."

You sit down and order plum brandy and cheesecake. You can see the bulge of a pistol under Gustav's armpit. Whatever his current appearance, there's been a desperate look in his eyes lately.

Gustav changes his face but he never changes his height, which of course makes him easier to find than he'd like to be. In the conflict between practicality and principle, principle won out. You admire Gustav for that, although of course it tends to make you wary. People with principles have a way of getting other people killed.

"Not been sleeping?" you ask.

"I need your help."

You contemplate the plum brandy against the light. "That's what Ugarti said to Rick, and look where it got him."

"Just a place to stay. Till I get a new face."

You shrug. "Probably. But only if I know who's after you."

"I had a little ideological dispute last night with the Romantic Marxists. They want to build Socialist Man with genetic technology. I keep telling them that genetic technology is the *problem*." He sighed. "The debate got a little heated. I had to shoot one of them to make my point."

"The last time I got involved in one of your disputes," you say, "the Exfoliators tried to fire a rocket-propelled grenade through my apartment window. Lucky the window was evolved polarized titanium and the thing bounced off."

The Exfoliators are very serious people. They believe that nothing has meaning if it's given to you by technology. They believe that objects acquire meaning only if they are taken, preferably by violence, from someone who doesn't want to give them up. The Exfoliators, due to their seriousness, have gone a long way toward controlling the local black market in human-made goods.

"Don't worry," Gustav says. "The Romantic Marxists only use old-line technology. They'll probably come after me with flintlock pistols. If they were Evolved Marxists, there might be problems."

"Okay," you say, sampling the cheesecake, "but if anyone blows up my Buick, it's your ass."

"Giving me shelter is the least you can do for the revolution," Gustav says. "Since you won't do anything

else."

"Show me something that can matter," you say, "and I'll do it. But you're not risking my neck for something that can't possibly work. Which is everything you've suggested so far."

On stage, a woman is being auctioned off to the freaks below. She is allowing her body and pride to be abused as a form of protest against their (and her) general uselessness. The bidding is spirited. Even among the jaded, sex still sells.

Gustav watches, interested. You turn away and concentrate on the cheesecake. The proceedings do not appeal to you.

So you're old-fashioned.

The auction concludes, and Gustav groans. "Lewis," he says.

"Lewis bought her?" you ask, surprised.

"Lewis is coming *here*."

"Too late to leave, I suppose."

He covers his eyes. "Too late."

Lewis plops down in one of the vacant chairs. He wears his usual eager grin. You try hard to conceal your dismay.

Lewis is in his middle twenties but looks ten years younger. He's plump and pale and has chubby chipmunk cheeks. He's losing his hair. He's brilliant, so far as you can tell, but somewhere he went wrong and joined the rest of us. He has enough smarts and imagination to become one of the people who could really direct the new technology, live and prosper by it, but he developed a sympathy for the underdog, and now he's trying to overthrow the status quo. Without any possibility of success, of course. Each scheme has been more preposterous than the last, and he drones on about them in excruciating, and incomprehensible, detail. The last scheme was a plan to topple the Neurodyne octahedron into the Fantasyland parking lot by use of grappling hooks hanging from a hijacked space elevator.

He takes a small vial from his pocket and puts it on the table, then grabs one of the forks from the place settings and begins digging into your cheesecake. "Guess what I've got," he says.

You and Gustav look at each other. "Tell me," you say.

"Victory's ours. Prepare to take power." He nudges the vial across the table toward you.

"With that?" you ask.

He finishes the cheesecake, leans back in his chair, and grins. "I've done it," he says. He picks up the vial and shakes it. "Something new. We can return to human beings control of their own destiny. Isn't it great?"

Gustav gives you a tired smile. "Right," you say. "And for this I gave up my cheesecake."

He giggles. "You don't believe me. Listen. I've really done it this time." He displays the vial. "Tailored microviruses." He raises a clenched fist. "Death to the oppressors!"

"Let me guess," you say. "You want me to help you disperse them where I work."

"Of course," he says. "How else will the plan work?"

"Better start *thinking* of how else, Lewis."

Lewis is crestfallen. "You mean you won't help me?"

Gustav lights a cigar. "Of course he won't," he says. "Mr. Neutrality never helps *anybody*. Even when somebody sensible, like me, comes up with a scheme that might work."

"Oh. Right." Lewis is undeterred. "You don't think it'll work. Let me explain it to you." He blinks up at you. "You know anything about phage viruses?"

"Oh for chrissake!" You signal for more cheesecake. You're going to have to raise your blood sugar before you can tolerate much more of this.

"Viruses, see, are shaped just like little hypodermic syringes. They have a tough protein coat that protects the nucleic acid in the middle, and when they infect a bacterium they inject the nucleic acid through the cell wall. *They totally lose their identity as individuals*. They're undetectable except as genetic material, and that genetic material can subvert the genetic programming of the host cell."

"Now you're going to tell me that you've got an invincible viral weapon," you say, "and that all I have to do is put some of it into the coolant at work, and that it will destroy all the artificial intelligences in the world."

Lewis blinks at you. "Right," he says. "I knew you'd do it." Your cheesecake arrives. Lewis takes it from the waitress and begins to eat.

Gustav can't take it anymore. He jams his cigar-filled face right into Lewis's. "Do you know how often he's been asked that?" he demands. "Do you know how often *I've* asked him to do that? I've had access to *dozens* of invincible viral weapons! And *not one of them* was worth a shit when it came time to use them." Lewis, a bemused look on his face, gazes into Gustav's face at two inches' range and continues to eat your cheesecake.

"Mine's better," he says. "Instead of the protein sheath, I used a double layer of evolved aluminum only two molecules thick. When the coolant is heated in use, the outer layer melts and frees the inner layer to find a target and attack it."

"You *fuckhead!*" Gustav roars. "You think the AIs haven't figured out where their greatest weakness is? You think they haven't taken steps to protect themselves against a weapon like yours?" He points at you. "Embarrassed as I am to admit it, Mr. Neutrality here was *right* to turn all those people down."

"You haven't been listening." Lewis finishes your cheesecake. "That's what I meant about my sheath being only two molecules thick. The whole virus is only five millimicrons across. The smallest *real* virus is twenty. The target won't be looking for something that small. They can't filter it. Look at the projections." He reaches into his briefcase and pulls out a thick sheet of printouts. "Something the size of the Neurodyne building--maybe three hours, and the whole thing turns to cream cheese."

You glance at the printouts. "Where'd you get this stuff done?"

Lewis gives you a triumphant grin. "I bought time on Neurodyne, of course. I had to break the program up into bits, so the AI wouldn't figure out what I was asking it."

"Time on Neurodyne," you say. "That's expensive."

He shrugs. "I took on a job for the Exfoliators. They wanted a new kind of nerve gas to use on the Robin Cult. I strung 'em along for a couple months, took their money, did this instead." He giggles again. "Boy, are they gonna look *stupid*."

The cigar falls from Gustav's lips. "You took money from the Exfoliators and *didn't do the work*?"

Lewis gives a laugh. "Clever, huh?"

"You *asshole*!"

Which, you guess, is the last thing Lewis hears, because as Gustav turns away to find his cigar, an Exfoliator assassin, his face altered to look like an armor-plated dinosaur, steps up behind Lewis and takes him apart. Literally. The weapon he uses is a handle from which extrude a number of carbon strands, each only molecules thick, each stiffened with a charge of static electricity. The invisible wires move through bone and sinew, nerve and organ, and slice Lewis into thin layers. He comes apart like a potato cut into home fries. The chair he's sitting in comes apart with him.

You and Gustav, far too late, hit the floor, about the time slices of Lewis begin to fall like leaves.

The next thing you see is the waitress staring down at the mess. "Oh, *gross*!" she says. The assassin is already gone.

The vial, still intact, bounces to the floor right next to your hand.

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For several days you and Gustav stare at the vial that sits on the table in your apartment. You don't talk about it. You try very hard to pretend it doesn't exist. Finally you sigh and ask Gustav (newer version) to find you some equipment. You use the equipment to take the stuff from the vial and put fractional amounts of it into tailored gel caps. When you go to work next day, supervising the automated assembly line that is making coolant for AIs all over North America, you begin dropping Lewis's ultimate viral weapon into every hundredth container. The gel caps dissolve and release the virus.

A few days later, trouble starts. It isn't long before the AIs figure out what the problem is and how to fight it. At Neurodyne, which is the only place where you can access the figures, the dataflow in and out of the octahedron is thrown almost twenty minutes off schedule.

Twenty minutes: that's longer than the last several world wars. The biggest disruption in years.

It takes the AIs about three days to trace the troubles back to you. Maybe the disruptions slowed them down, or maybe they just wanted to be sure. You had cleaned up your apartment, and there was nothing to find, so they couldn't fire you. You just got transferred to a less sensitive job.

You don't mind. Now you've got more time to learn about virology. You and Gustav are going into the sabotage business. He's got the contacts, and you've got access to the Neurodyne terminals. Lewis had the right idea. Maybe you can improve on his basic design.

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You don't want to talk about Lewis's death changing anything. It wasn't that you suddenly realized how Lewis had died for his viral weapon, that you wanted to give meaning to his tragic life--nothing like that. Lewis, whatever his IQ, was an idiot. He deserved what happened to him. He *asked* for it.

You've gone into the sabotage business for reasons entirely your own. You've done it to give meaning to

your life.

You know that it's not going to change the world, not going to overthrow the structure of modern society. The Neurodyne octahedron isn't going to fall off its point, not for anything you're likely to do. But what you're doing is more constructive than religious cults or black markets or despair. If nothing else you're improving the AIs, helping them get smarter and tougher. In that sense, maybe you're an agent of evolution.

You're beginning to understand why the Privateers let you go. If you do something, you've got to do it all the way. With football, that includes pain. You have to love the game in spite of pain, in spite of what it does to you. With your new profession, the deal includes futility. You have to love the job in spite of the fact that it may not mean anything to anybody except you, that it may not change anything at all except the way you look at yourself.

You're learning to love the job. The challenge, the excitement, even the pointlessness.

Love, you find, is a wonderful thing.