Reasons To Be Cheerful

Greg Egan

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1

In September 2004, not long after my twelfth birthday, I entered a state of almost constant happiness. It never occurred to me to ask why. Though school included the usual quota of tedious lessons, I was doing well enough academically to be able to escape into daydreams whenever it suited me. At home, I was free to read books and web pages about molecular biology and particle physics, quaternions and galactic evolution, and to write my own Byzantine computer games and convoluted abstract animations. And though I was a skinny, uncoordinated child, and every elaborate, pointless organized sport left me comatose with boredom, I was comfortable enough with my body on my own terms. Whenever I ran—and I ran everywhere—it felt good.

I had food, shelter, safety, loving parents, encouragement, stimulation. Why shouldn't I have been happy? And though I can't have entirely forgotten how oppressive and monotonous classwork and schoolyard politics could be, or how easily my usual bouts of enthusiasm were derailed by the most trivial problems, when things were actually going well for me I wasn't in the habit of counting down the days until it all turned sour. Happiness always brought with it the belief that it would last, and though I must have seen this optimistic forecast disproved a thousand times before, I wasn't old and cynical enough to be surprised when it finally showed signs of coming true.

When I started vomiting repeatedly, Dr Ash, our GP, gave me a course of antibiotics and a week off school. I doubt it was a great shock to my parents when this unscheduled holiday seemed to cheer me up rather more than any mere bacterium could bring me down, and if they were puzzled that I didn't even bother feigning misery, it would have been redundant for me to moan constantly about my aching stomach when I was throwing up authentically three or four times a day.

The antibiotics made no difference. I began losing my balance, stumbling when I walked. Back in Dr Ash's surgery, I squinted at the eye chart. She sent me to a neurologist at Westmead Hospital, who ordered an immediate MRI scan. Later the same day, I was admitted as an in-patient. My parents learned the diagnosis straight away, but it took me three more days to make them spit out the whole truth.

I had a tumor, a medulloblastoma, blocking one of the fluid-filled ventricles in my brain, raising the pressure in my skull. Medulloblastomas were potentially fatal, though with surgery followed by aggressive radiation treatment and chemotherapy, two out of three patients diagnosed at this stage lived five more years.

I pictured myself on a railway bridge riddled with rotten sleepers, with no choice but to keep moving, trusting my weight to each suspect plank in turn. I understood the danger ahead, very clearly ... and yet I felt no real panic, no real fear. The closest thing to terror I could summon up was an almost exhilarating rush of vertigo, as if I was facing nothing more than an audaciously harrowing fairground ride.

There was a reason for this.

The pressure in my skull explained most of my symptoms, but tests on my cerebrospinal fluid had also revealed a greatly elevated level of a substance called Leu-enkephalin—an endorphin, a neuropeptide which bound to some of the same receptors as opiates like morphine and heroin. Somewhere along the road to malignancy, the same mutant transcription factor that had switched on the genes enabling the tumor cells to divide unchecked had apparently also switched on the genes needed to produce Leu-enkephalin.

This was a freakish accident, not a routine side-effect. I didn't know much about endorphins then, but my parents repeated what the neurologist had told them, and later I looked it all up. Leu-enkephalin wasn't an analgesic, to be secreted in emergencies when pain threatened survival, and it had no stupefying narcotic effects to immobilize a creature while injuries healed. Rather, it was the primary means of signaling happiness, released whenever behavior or circumstances warranted pleasure. Countless other brain activities modulated that simple message, creating an almost limitless palette of positive emotions, and the binding of Leu-enkephalin to its target neurons was just the first link in a long chain of events mediated by other neurotransmitters. But for all these subtleties, I could attest to one simple, unambiguous fact: Leu-enkephalin made you feel *good*.

My parents broke down as they told me the news, and I was the one who comforted them, beaming placidly like a beatific little child martyr from some tear-jerking oncological mini-series. It wasn't a matter of hidden reserves of strength or maturity; I was physically incapable of feeling bad about my fate. And because the effects of the Leu-enkephalin were so specific, I could gaze unflinchingly at the truth in a way that would not have been possible if I'd been doped up to the eyeballs with crude pharmaceutical opiates. I was clear-headed but emotionally indomitable, positively radiant with courage.

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I had a ventricular shunt installed, a slender tube inserted deep into my skull to relieve the pressure, pending the more invasive and risky procedure of removing the primary tumor; that operation was scheduled for the end of the week. Dr Maitland, the oncologist, had explained in detail how my treatment would proceed, and warned me of the danger and discomfort I faced in the months ahead. Now I was strapped in for the ride and ready to go.

Once the shock wore off, though, my un-blissed-out parents decided that they had no intention of sitting back and accepting mere two-to-one odds that I'd make it to adulthood. They phoned around Sydney, then further afield, hunting for second opinions.

My mother found a private hospital on the Gold Coast—the only Australian franchise of the Nevada-based “Health Palace” chain—where the oncology unit was offering a new treatment for medulloblastomas. A genetically engineered herpes virus introduced into the cerebrospinal fluid would infect only the replicating tumor cells, and then a powerful cytotoxic drug, activated only by the virus, would kill the infected cells. The treatment had an 80 percent five-year survival rate, without the risks of surgery. I looked up the cost myself, in the hospital's web brochure. They were offering a package deal: three months’ meals and accommodation, all pathology and radiology services, and all pharmaceuticals, for sixty thousand dollars.

My father was an electrician, working on building sites. My mother was a sales assistant in a department store. I was their only child, so we were far from poverty-stricken, but they must have taken out a second mortgage to raise the fee, saddling themselves with a further fifteen or twenty years' debt. The two survival rates were not that different, and I heard Dr Maitland warn them that the figures couldn't really be compared, because the viral treatment was so new. They would have been perfectly justified in taking her advice and sticking to the traditional regime.

Maybe my enkephalin sainthood spurred them on somehow. Maybe they wouldn't have made such a great sacrifice if I'd been my usual sullen and difficult self, or even if I'd been nakedly terrified rather than preternaturally brave. I'll never know for sure—and either way, it wouldn't make me think any less of them. But just because the molecule wasn't saturating their skulls, that's no reason to expect them to have been immune to its influence.

On the flight north, I held my father's hand all the way. We'd always been a little distant, a little mutually disappointed in each other. I knew he would have preferred a tougher, more athletic, more extroverted son, while to me he'd always seemed lazily conformist, with a world view built on unexamined platitudes and slogans. But on that trip, with barely a word exchanged, I could feel his disappointment being transmuted into a kind of fierce, protective, defiant love, and I grew ashamed of my own lack of respect for him. I let the Leu-enkephalin convince me that, once this was over, everything between us would change for the better.

* * * *

From the street, the Gold Coast Health Palace could have passed for one more high-rise beach front hotel—and even from the inside, it wasn't much different from the hotels I'd seen in video fiction. I had a room to myself, with a television wider than the bed, complete with network computer and cable modem. If the aim was to distract me, it worked. After a week of tests, they hooked a drip into my ventricular shunt and infused first the virus, and then three days later, the drug.

The tumor began shrinking almost immediately; they showed me the scans. My parents seemed happy but dazed, as if they'd never quite trusted a place where millionaire property developers came for scrotal tucks to do much more than relieve them of their money and offer first-class double-talk while I continued to decline. But the tumor kept on shrinking, and when it hesitated for two days in a row the oncologist swiftly repeated the whole procedure, and then the tendrils and blobs on the MRI screen grew skinnier and fainter even more rapidly than before.

I had every reason to feel unconditional joy now, but when I suffered a growing sense of unease instead I assumed it was just Leu-enkephalin withdrawal. It was even possible that the tumor had been releasing such a high dose of the stuff that literally nothing could have made me *feel better*—if I'd been lofted to the pinnacle of happiness, there'd be nowhere left to go but down. But in that case, any chink of darkness in my sunny disposition could only confirm the good news of the scans.

One morning I woke from a nightmare—my first in months—with visions of the tumor as a clawed parasite thrashing around inside my skull. I could still hear the click of carapace on bone, like the rattle of a scorpion trapped in a jam jar. I was terrified, drenched in sweat ... *liberated*. My fear soon gave way to a white-hot rage: the thing had drugged me into compliance, but now I was free to stand up to it, to bellow obscenities inside my head, to exorcize the demon with self-righteous anger.

I did feel slightly cheated by the sense of anticlimax that came from chasing my already-fleeing nemesis downhill, and I couldn't entirely ignore the fact that imagining my anger to be driving out the cancer was a complete reversal of true cause and effect—a bit like watching a forklift shift a boulder from my chest, then pretending to have moved it myself by a mighty act of inhalation. But I made what sense I could of

my belated emotions, and left it at that.

Six weeks after I was admitted, all my scans were clear, and my blood, CSF and lymphatic fluid were free of the signature proteins of metastasizing cells. But there was still a risk that a few resistant tumor cells remained, so they gave me a short, sharp course of entirely different drugs, no longer linked to the herpes infection. I had a testicular biopsy first—under local anesthetic, more embarrassing than painful—and a sample of bone marrow taken from my hip, so my potential for sperm production and my supply of new blood cells could both be restored if the drugs wiped them out at the source. I lost hair and stomach lining, temporarily, and I vomited more often, and far more wretchedly, than when I'd first been diagnosed. But when I started to emit self-pitying noises, one of the nurses steelily explained that children half my age put up with the same treatment for months.

These conventional drugs alone could never have cured me, but as a mopping-up operation they greatly diminished the chance of a relapse. I discovered a beautiful word: *apoptosis*—cellular suicide, programmed death—and repeated it to myself, over and over. I ended up almost relishing the nausea and fatigue; the more miserable I felt, the easier it was to imagine the fate of the tumor cells, membranes popping and shriveling like balloons as the drugs commanded them to take their own lives. *Die in pain, zombie scum!* Maybe I'd write a game about it, or even a whole series, culminating in the spectacular *Chemotherapy III: Battle for the Brain*. I'd be rich and famous, I could pay back my parents, and life would be as perfect in reality as the tumor had merely made it seem to be.

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I was discharged early in December, free of any trace of disease. My parents were wary and jubilant in turn, as if slowly casting off the fear that any premature optimism would be punished. The side-effects of the chemotherapy were gone; my hair was growing back, except for a tiny bald patch where the shunt had been, and I had no trouble keeping down food. There was no point returning to school now, two weeks before the year's end, so my summer holidays began immediately. The whole class sent me a tacky, insincere, teacher-orchestrated get-well email, but my friends visited me at home, only slightly embarrassed and intimidated, to welcome me back from the brink of death.

So why did I feel so bad? Why did the sight of the clear blue sky through the window when I opened my eyes every morning—with the freedom to sleep-in as long as I chose, with my father or mother home all day treating me like royalty, but keeping their distance and letting me sit unnagged at the computer screen for sixteen hours if I wanted—why did that first glimpse of daylight make me want to bury my face in the pillow, clench my teeth and whisper: "*I should have died. I should have died.*"?

Nothing gave me the slightest pleasure. Nothing—not my favorite netzines or web sites, not the *njari* music I'd once reveled in, not the richest, the sweetest, the saltiest junk food that was mine now for the asking. I couldn't bring myself to read a whole page of any book, I couldn't write ten lines of code. I couldn't look my real-world friends in the eye, or face the thought of going online.

Everything I did, everything I imagined, was tainted with an overwhelming sense of dread and shame. The only image I could summon up for comparison was from a documentary about Auschwitz that I'd seen at school. It had opened with a long tracking shot, a newsreel camera advancing relentlessly toward the gates of the camp, and I'd watched that scene with my spirits sinking, already knowing full well what had happened inside. I wasn't delusional; I didn't believe for a moment that there was some source of unspeakable evil lurking behind every bright surface around me. But when I woke and saw the sky, I felt the kind of sick foreboding that would only have made sense if I'd been staring at the gates of Auschwitz.

Maybe I was afraid that the tumor would grow back, but not *that* afraid. The swift victory of the virus in the first round should have counted for much more, and on one level I did think of myself as lucky, and

suitably grateful. But I could no more rejoice in my escape, now, than I could have felt suicidally bad at the height of my enkephalin bliss.

My parents began to worry, and dragged me along to a psychologist for “recovery counseling.” The whole idea seemed as tainted as everything else, but I lacked the energy for resistance. Dr Bright and I “explored the possibility” that I was subconsciously choosing to feel miserable because I'd learned to associate happiness with the risk of death, and I secretly feared that recreating the tumor's main symptom could resurrect the thing itself. Part of me scorned this facile explanation, but part of me seized on it, hoping that if I owned up to such subterranean mental gymnastics it would drag the whole process into the light of day, where its flawed logic would become untenable. But the sadness and disgust that everything induced in me—birdsong, the pattern of our bathroom tiles, the smell of toast, the shape of my own hands—only increased.

I wondered if the high levels of Leu-enkephalin from the tumor might have caused my neurons to reduce their population of the corresponding receptors, or if I'd become “Leu-enkephalin-tolerant” the way a heroin addict became opiate-tolerant, through the production of a natural regulatory molecule that blocked the receptors. When I mentioned these ideas to my father, he insisted that I discuss them with Dr Bright, who feigned intense interest but did nothing to show that he'd taken me seriously. He kept telling my parents that everything I was feeling was a perfectly normal reaction to the trauma I'd been through, and that all I really needed was time, and patience, and understanding.

* * * *

I was bundled off to high school at the start of the new year, but when I did nothing but sit and stare at my desk for a week, arrangements were made for me to study online. At home, I did manage to work my way slowly through the curriculum, in the stretches of zombie-like numbness that came between the bouts of sheer, paralyzing unhappiness. In the same periods of relative clarity, I kept thinking about the possible causes of my affliction. I searched the biomedical literature and found a study of the effects of high doses of Leu-enkephalin in cats, but it seemed to show that any tolerance would be short-lived.

Then, one afternoon in March—staring at an electron micrograph of a tumor cell infected with herpes virus, when I should have been studying dead explorers—I finally came up with a theory that made sense. The virus needed special proteins to let it dock with the cells it infected, enabling it to stick to them long enough to use other tools to penetrate the cell membrane. But if it had acquired a copy of the Leu-enkephalin gene from the tumor's own copious RNA transcripts, it might have gained the ability to cling, not just to replicating tumor cells, but to every neuron in my brain with a Leu-enkephalin receptor.

And then the cytotoxic drug, activated only in infected cells, would have come along and killed them all.

Deprived of any input, the pathways those dead neurons normally stimulated were withering away. Every part of my brain able to feel pleasure was dying. And though at times I could, still, simply feel nothing, mood was a shifting balance of forces. With nothing to counteract it, the slightest flicker of depression could now win every tug-of-war, unopposed.

I didn't say a word to my parents; I couldn't bear to tell them that the battle they'd fought to give me the best possible chance of survival might now be crippling me. I tried to contact the oncologist who'd treated me on the Gold Coast, but my phone calls floundered in a Muzak-filled moat of automated screening, and my email was ignored. I managed to see Dr Ash alone, and she listened politely to my theory, but she declined to refer me to a neurologist when my only symptoms were psychological: blood and urine tests showed none of the standard markers for clinical depression.

The windows of clarity grew shorter. I found myself spending more and more of each day in bed, staring

out across the darkened room. My despair was so monotonous, and so utterly disconnected from anything real, that to some degree it was blunted by its own absurdity: no one I loved had just been slaughtered, the cancer had almost certainly been defeated, and I could still grasp the difference between what I was feeling and the unarguable logic of real grief, or real fear.

But I had no way of casting off the gloom and feeling what I wanted to feel. My only freedom came down to a choice between hunting for reasons to justify my sadness—deluding myself that it was my own, perfectly natural response to some contrived litany of misfortunes—or disowning it as something alien, imposed from without, trapping me inside an emotional shell as useless and unresponsive as a paralyzed body.

My father never accused me of weakness and ingratitude; he just silently withdrew from my life. My mother kept trying to get through to me, to comfort or provoke me, but it reached the point where I could barely squeeze her hand in reply. I wasn't literally paralyzed or blind, speechless or feeble-minded. But all the brightly lit worlds I'd once inhabited—physical and virtual, real and imaginary, intellectual and emotional—had become invisible, and impenetrable. Buried in fog. Buried in shit. Buried in ashes.

By the time I was admitted to a neurological ward, the dead regions of my brain were clearly visible on an MRI scan. But it was unlikely that anything could have halted the process even if it had been diagnosed sooner.

And it was certain that no one had the power to reach into my skull and restore the machinery of happiness.

2

The alarm woke me at ten, but it took me another three hours to summon up the energy to move. I threw off the sheet and sat on the side of the bed, muttering half-hearted obscenities, trying to get past the inescapable conclusion that I shouldn't have bothered. Whatever pinnacles of achievement I scaled today (managing not only to go shopping, but to buy something other than a frozen meal) and whatever monumental good fortune befell me (the insurance company depositing my allowance before the rent was due) I'd wake up tomorrow feeling exactly the same.

Nothing helps, nothing changes. Four words said it all. But I'd accepted that long ago; there was nothing left to be disappointed about. And I had no reason to sit here lamenting the bleeding obvious for the thousandth time.

Right?

Fuck it. Just keep moving.

I swallowed my “morning” medication, the six capsules I'd put out on the bedside table the night before, then went into the bathroom and urinated a bright yellow stream consisting mainly of the last dose's metabolites. No antidepressant in the world could send me to Prozac Heaven, but this shit kept my dopamine and serotonin levels high enough to rescue me from total catatonia—from liquid food, bedpans and sponge baths.

I splashed water on my face, trying to think of an excuse to leave the flat when the freezer was still half full. Staying in all day, unwashed and unshaven, did make me feel worse: slimy and lethargic, like some pale parasitic leech. But it could still take a week or more for the pressure of disgust to grow strong enough to move me.

I stared into the mirror. Lack of appetite more than made up for lack of exercise—I was as immune to

carbohydrate comfort as I was to runner's high—and I could count my ribs beneath the loose skin of my chest. I was 30 years old, and I looked like a wasted old man. I pressed my forehead against the cool glass, obeying some vestigial instinct which suggested that there might be a scrap of pleasure to be extracted from the sensation. There wasn't.

In the kitchen, I saw the light on the phone: there was a message waiting. I walked back into the bathroom and sat on the floor, trying to convince myself that it didn't have to be bad news. No one had to be dead. And my parents couldn't break up twice.

I approached the phone and waved the display on. There was a thumbnail image of a severe-looking middle-aged woman, no one I recognized. The sender's name was Dr Z. Durrani, Department of Biomedical Engineering, University of Cape Town. The subject line read: “New Techniques in Prosthetic Reconstructive Neuroplasty.” That made a change; most people skimmed the reports on my clinical condition so carelessly that they assumed I was mildly retarded. I felt a refreshing absence of disgust, the closest I could come to respect, for Dr Durrani. But no amount of diligence on her part could save the cure itself from being a mirage.

Health Palace's no-fault settlement provided me with a living allowance equal to the minimum wage, plus reimbursement of approved medical costs; I had no astronomical lump sum to spend as I saw fit. However, any treatment likely to render me financially self-sufficient could be paid for in full, at the discretion of the insurance company. The value of such a cure to Global Assurance—the total remaining cost of supporting me until death—was constantly falling, but then so was medical research funding, worldwide. Word of my case had got around.

Most of the treatments I'd been offered so far had involved novel pharmaceuticals. Drugs *had* freed me from institutional care, but expecting them to turn me into a happy little wage-earner was like hoping for an ointment that made amputated limbs grow back. From Global Assurance's perspective, though, shelling out for anything more sophisticated meant gambling with a much greater sum—a prospect that no doubt sent my case manager scrambling for his actuarial database. There was no point indulging in rash expenditure decisions when there was still a good chance that I'd suicide in my forties. Cheap fixes were always worth a try, even if they were long shots, but any proposal radical enough to stand a real chance of working was guaranteed to fail the risk/cost analysis.

I knelt by the screen with my head in my hands. I could erase the message unseen, sparing myself the frustration of knowing exactly what I'd be missing out on ... but then, not knowing would be just as bad. I tapped the PLAY button and looked away; meeting the gaze of even a recorded face gave me a feeling of intense shame. I understood why: the neural circuitry needed to register positive non-verbal messages was long gone, but the pathways that warned of responses like rejection and hostility had not merely remained intact, they'd grown skewed and hypersensitive enough to fill the void with a strong negative signal, whatever the reality.

I listened as carefully as I could while Dr Durrani explained her work with stroke patients. Tissue-cultured neural grafts were the current standard treatment, but she'd been injecting an elaborately tailored polymer foam into the damaged region instead. The foam released growth factors that attracted axons and dendrites from surrounding neurons, and the polymer itself was designed to function as a network of electrochemical switches. Via microprocessors scattered throughout the foam, the initially amorphous network was programmed first to reproduce generically the actions of the lost neurons, then fine-tuned for compatibility with the individual recipient.

Dr Durrani listed her triumphs: sight restored, speech restored, movement, continence, musical ability. My own deficit—measured in neurons lost, or synapses, or raw cubic centimeters—lay beyond the range of all the chasms she'd bridged to date. But that only made it more of a challenge.

I waited almost stoically for the one small catch, in six or seven figures. The voice from the screen said, “If you can meet your own travel expenses and the cost of a three-week hospital stay, my research grant will cover the treatment itself.”

I replayed these words a dozen times, trying to find a less favorable interpretation—one task I was usually good at. When I failed, I steeled myself and emailed Durrani's assistant in Cape Town, asking for clarification.

There was no misunderstanding. For the cost of a year's supply of the drugs that barely kept me conscious, I was being offered a chance to be whole again for the rest of my life.

* * * *

Organizing a trip to South Africa was completely beyond me, but once Global Assurance recognized the opportunity it was facing, machinery on two continents swung into action on my behalf. All I had to do was fight down the urge to call everything off. The thought of being hospitalized, of being powerless again, was disturbing enough, but contemplating the potential of the neural prosthesis itself was like staring down the calendar at a secular Judgment Day. On 7 March 2023, I'd either be admitted into an infinitely larger, infinitely richer, infinitely better world ... or I'd prove to be damaged beyond repair. And in a way, even the final death of hope was a far less terrifying prospect than the alternative; it was so much closer to where I was already, so much easier to imagine. The only vision of *happiness* I could summon up was myself as a child, running joyfully, dissolving into sunlight—which was all very sweet and evocative, but a little short on practical details. If I'd wanted to be a sunbeam, I could have cut my wrists anytime. I wanted a job, I wanted a family, I wanted ordinary love and modest ambitions—because I knew these were the things I'd been denied. But I could no more imagine what it would be like, finally, to attain them, than I could picture daily life in 26-dimensional space.

I didn't sleep at all before the dawn flight out of Sydney. I was escorted to the airport by a psychiatric nurse, but spared the indignity of a minder sitting beside me all the way to Cape Town. I spent my waking moments on the flight fighting paranoia, resisting the temptation to invent reasons for all the sadness and anxiety coursing through my skull. *No one on the plane was staring at me disdainfully. The Durrani technique was not going to turn out to be a hoax.* I succeeded in crushing these “explanatory” delusions ... but as ever, it remained beyond my power to alter my feelings, or even to draw a clear line between my purely pathological unhappiness, and the perfectly reasonable anxiety that anyone would feel on the verge of radical brain surgery.

Wouldn't it be bliss, not to have to fight to tell the difference all the time? Forget happiness; even a future full of abject misery would be a triumph, so long as I knew that it was always for a reason.

* * * *

Luke De Vries, one of Durrani's postdoctoral students, met me at the airport. He looked about 25, and radiated the kind of self-assurance I had to struggle not to misread as contempt. I felt trapped and helpless immediately; he'd arranged everything, it was like stepping on to a conveyor belt. But I knew that if I'd been left to do anything for myself the whole process would have ground to a halt.

It was after midnight when we reached the hospital in the suburbs of Cape Town. Crossing the car park, the insect sounds were wrong, the air smelled indefinably alien, the constellations looked like clever forgeries. I sagged to my knees as we approached the entrance.

“Hey!” De Vries stopped and helped me up. I was shaking with fear, and then shame too, at the spectacle I was making of myself.

“This violates my Avoidance Therapy.”

“Avoidance Therapy?”

“Avoid hospitals at all costs.”

De Vries laughed, though if he wasn't merely humoring me I had no way of telling. Recognizing the fact that you'd elicited genuine laughter was a pleasure, so those pathways were all dead.

He said, “We had to carry the last subject in on a stretcher. She left about as steady on her feet as you are.”

“That bad?”

“Her artificial hip was playing up. Not our fault.”

We walked up the steps and into the brightly lit foyer.

* * * *

The next morning—Monday, 6 March, the day before the operation—I met most of the surgical team who'd perform the first, purely mechanical, part of the procedure: scraping clean the useless cavities left behind by dead neurons, prising open with tiny balloons any voids that had been squeezed shut, and then pumping the whole oddly-shaped totality full of Durrani's foam. Apart from the existing hole in my skull from the shunt 18 years before, they'd probably have to drill two more.

A nurse shaved my head and glued five reference markers to the exposed skin, then I spent the afternoon being scanned. The final, three-dimensional image of all the dead space in my brain looked like a spelunker's map, a sequence of linked caves complete with rock falls and collapsed tunnels.

Durrani herself came to see me that evening. “While you're still under anesthetic,” she explained, “the foam will harden, and the first connections will be made with the surrounding tissue. Then the microprocessors will instruct the polymer to form the network we've chosen to serve as a starting point.”

I had to force myself to speak; every question I asked—however politely phrased, however lucid and relevant—felt as painful and degrading as if I was standing before her naked asking her to wipe shit out of my hair. “How did you find a network to use? Did you scan a volunteer?” Was I going to start my new life as a clone of Luke De Vries—inheriting his tastes, his ambitions, his emotions?

“No, no. There's an international database of healthy neural structures—20,000 cadavers who died without brain injury. More detailed than tomography; they froze the brains in liquid nitrogen, sliced them up with a diamond-tipped microtome, then stained and electron-micrographed the slices.”

My mind balked at the number of exabytes she was casually invoking; I'd lost touch with computing completely. “So you'll use some kind of composite from the database? You'll give me a selection of typical structures, taken from different people?”

Durrani seemed about to let that pass as near enough, but she was clearly a stickler for detail, and she hadn't insulted my intelligence yet. “Not quite. It will be more like a multiple exposure than a composite. We've used about 4,000 records from the database—all the males in their twenties or thirties—and wherever someone has neuron A wired to neuron B, and someone else has neuron A wired to neuron C ... you'll have connections to both B *and* C. So you'll start out with a network that in theory could be pared down to any one of the 4,000 individual versions used to construct it—but in fact, you'll pare it down to your own unique version instead.”

That sounded better than being an emotional clone or a Frankenstein collage; I'd be a roughly hewn sculpture, with features yet to be refined. But—

"Pare it down how? How will I go from being potentially anyone, to being ... ?" *What?* My 12-year-old self, resurrected? Or the 30-year-old I should have been, conjured into existence as a remix of these 4,000 dead strangers? I trailed off; I'd lost what little faith I'd had that I was talking sense.

Durrani seemed to grow slightly uneasy, herself—whatever my judgment was worth on that. She said, "There should be parts of your brain, still intact, which bear some record of what's been lost. Memories of formative experiences, memories of the things that used to give you pleasure, fragments of innate structures that survived the virus. The prosthesis will be driven automatically toward a state that's compatible with everything else in your brain—it will find itself interacting with all these other systems, and the connections that work best in that context will be reinforced." She thought for a moment. "Imagine a kind of artificial limb, imperfectly formed to start with, that adjusts itself as you use it: stretching when it fails to grasp what you reach for, shrinking when it bumps something unexpectedly ... until it takes on precisely the size and shape of the phantom limb implied by your movements. Which itself is nothing but an image of the lost flesh and blood."

That was an appealing metaphor, though it was hard to believe that my faded memories contained enough information to reconstruct their phantom author in every detail—that the whole jigsaw of who I'd been, and might have become, could be filled in from a few hints along the edges and the jumbled-up pieces of 4,000 other portraits of happiness. But the subject was making at least one of us uncomfortable, so I didn't press the point.

I managed to ask a final question. "What will it be like, before any of this happens? When I wake up from the anesthetic and all the connections are still intact?"

Durrani confessed, "That's one thing I'll have no way of knowing, until you tell me yourself."

* * * *

Someone repeated my name, reassuringly but insistently. I woke a little more. My neck, my legs, my back were all aching, and my stomach was tense with nausea.

But the bed was warm, and the sheets were soft. It was good just to be lying there.

"It's Wednesday afternoon. The operation went well."

I opened my eyes. Durrani and four of her students were gathered at the foot of the bed. I stared at her, astonished: the face I'd once thought of as "severe" and "forbidding" was ... riveting, magnetic. I could have watched her for hours. But then I glanced at Luke De Vries, who was standing beside her. He was just as extraordinary. I turned one by one to the other three students. Everyone was equally mesmerizing; I didn't know where to look.

"How are you feeling?"

I was lost for words. These people's faces were loaded with so much significance, so many sources of fascination, that I had no way of singling out any one factor: they all appeared wise, ecstatic, beautiful, reflective, attentive, compassionate, tranquil, vibrant ... a white noise of qualities, all positive, but ultimately incoherent.

But as I shifted my gaze compulsively from face to face, struggling to make sense of them, their meanings finally began to crystallize—like words coming into focus, though my sight had never been blurred.

I asked Durrani, “Are you smiling?”

“Slightly.” She hesitated. “There are standard tests, standard images for this, but ... please, describe my expression. Tell me what I'm thinking.”

I answered unselfconsciously, as if she'd asked me to read an eye chart. “You're ... curious? You're listening carefully. You're interested, and you're ... hoping that something good will happen. And you're smiling because you think it will. Or because you can't quite believe that it already has.”

She nodded, smiling more decisively. “Good.”

I didn't add that I now found her stunningly, almost painfully, beautiful. But it was the same for everyone in the room, male and female: the haze of contradictory moods that I'd read into their faces had cleared, but it had left behind a heart-stopping radiance. I found this slightly alarming—it was too indiscriminate, too intense—though in a way it seemed almost as natural a response as the dazzling of a dark-adapted eye. And after 18 years of seeing nothing but ugliness in every human face, I wasn't ready to complain about the presence of five people who looked like angels.

Durrani asked, “Are you hungry?”

I had to think about that. “Yes.”

One of the students fetched a prepared meal, much the same as the lunch I'd eaten on Monday: salad, a bread roll, cheese. I picked up the roll and took a bite. The texture was perfectly familiar, the flavor unchanged. Two days before, I'd chewed and swallowed the same thing with the usual mild disgust that all food induced in me.

Hot tears rolled down my cheeks. I wasn't in ecstasy; the experience was as strange and painful as drinking from a fountain with lips so parched that the skin had turned to salt and dried blood.

As painful, and as compelling. When I'd emptied the plate, I asked for another. *Eating was good, eating was right, eating was necessary.* After the third plate, Durrani said firmly, “That's enough.” I was shaking with the need for more; she was still supernaturally beautiful, but I screamed at her, outraged.

She took my arms, held me still. “This is going to be hard for you. There'll be surges like this, swings in all directions, until the network settles down. You have to try to stay calm, try to stay reflective. The prosthesis makes more things possible than you're used to ... but you're still in control.”

I gritted my teeth and looked away. At her touch I'd suffered an immediate, agonizing erection.

I said, “That's right. I'm in control.”

* * * *

In the days that followed, my experiences with the prosthesis became much less raw, much less violent. I could almost picture the sharpest, most ill-fitting edges of the network being—metaphorically—worn smooth by use. To eat, to sleep, to be with people remained intensely pleasurable, but it was more like an impossibly rosy-hued dream of childhood than the result of someone poking my brain with a high voltage wire.

Of course, the prosthesis wasn't sending signals into my brain in order to make my brain feel pleasure. *The prosthesis itself* was the part of me that was feeling all the pleasure—however seamlessly that process was integrated with everything else: perception, language, cognition ... the rest of me. Dwelling

on this was unsettling at first, but on reflection no more so than the thought experiment of staining blue all the corresponding organic regions in a healthy brain, and declaring, "*They* feel all the pleasure, not you!"

I was put through a battery of psychological tests—most of which I'd sat through many times before, as part of my annual insurance assessments—as Durrani's team attempted to quantify their success. Maybe a stroke patient's fine control of a formerly paralyzed hand was easier to measure objectively, but I must have leaped from bottom to top of every numerical scale for positive affect. And far from being a source of irritation, these tests gave me my first opportunity to use the prosthesis in new arenas—to be happy in ways I could barely remember experiencing before. As well as being required to interpret mundanely rendered scenes of domestic situations—what has just happened between this child, this woman, and this man; who is feeling good and who is feeling bad?—I was shown breathtaking images of great works of art, from complex allegorical and narrative paintings to elegant minimalist essays in geometry. As well as listening to snatches of everyday speech, and even unadorned cries of joy and pain, I was played samples of music and song from every tradition, every epoch, every style.

That was when I finally realized that something was wrong.

Jacob Tsela was playing the audio files and noting my responses. He'd been deadpan for most of the session, carefully avoiding any risk of corrupting the data by betraying his own opinions. But after he'd played a heavenly fragment of European classical music, and I'd rated it 20 out of 20, I caught a flicker of dismay on his face.

"What? You didn't like it?"

Tsela smiled opaquely. "It doesn't matter what I like. That's not what we're measuring."

"I've rated it already, you can't influence my score." I regarded him imploringly; I was desperate for communication of any kind. "I've been dead to the world for 18 years. I don't even know who the composer was."

He hesitated. "J.S. Bach. And I agree with you: it's sublime." He reached for the touchscreen and continued the experiment.

So what had he been dismayed about? I knew the answer immediately; I'd been an idiot not to notice before, but I'd been too absorbed in the music itself.

I hadn't scored any piece lower than 18. And it had been the same with the visual arts. From my 4,000 virtual donors I'd inherited, not the lowest common denominator, but the widest possible taste—and in ten days, I still hadn't imposed any constraints, any preferences, of my own.

All art was sublime to me, and all music. Every kind of food was delicious. Everyone I laid eyes on was a vision of perfection.

Maybe I was just soaking up pleasure wherever I could get it, after my long drought, but it was only a matter of time before I grew sated, and became as discriminating, as focused, as *particular*, as everyone else.

"Should I still be like this? *Omnivorous?*" I blurted out the question, starting with a tone of mild curiosity, ending with an edge of panic.

Tsela halted the sample he'd been playing—a chant that might have been Albanian, Moroccan, or Mongolian for all I knew, but which made hair rise on the back of my neck, and sent my spirits soaring. Just like everything else had.

He was silent for a while, weighing up competing obligations. Then he sighed and said, “You'd better talk to Durrani.”

* * * *

Durrani showed me a bar graph on the wallscreen in her office: the number of artificial synapses that had changed state within the prosthesis—new connections formed, existing ones broken, weakened or strengthened—for each of the past ten days. The embedded microprocessors kept track of such things, and an antenna waved over my skull each morning collected the data.

Day one had been dramatic, as the prosthesis adapted to its environment; the 4,000 contributing networks might all have been perfectly stable in their owners’ skulls, but the Everyman version I'd been given had never been wired up to anyone's brain before.

Day two had seen about half as much activity, day three about a tenth.

From day four on, though, there'd been nothing but background noise. My episodic memories, however pleasurable, were apparently being stored elsewhere—since I certainly wasn't suffering from amnesia—but after the initial burst of activity, the circuitry for defining what pleasure *was* had undergone no change, no refinement at all.

“If any trends emerge in the next few days, we should be able to amplify them, push them forward—like toppling an unstable building, once it's showing signs of falling in a certain direction.” Durrani didn't sound hopeful. Too much time had passed already, and the network wasn't even teetering.

I said, “What about genetic factors? Can't you read my genome, and narrow things down from that?”

She shook her head. “At least 2,000 genes play a role in neural development. It's not like matching a blood group or a tissue type; everyone in the database would have more or less the same small proportion of those genes in common with you. Of course, some people must have been closer to you in temperament than others—but we have no way of identifying them genetically.”

“I see.”

Durrani said carefully, “We could shut the prosthesis down completely, if that's what you want. There'd be no need for surgery—we'd just turn it off, and you'd be back where you started.”

I stared at her luminous face. *How could I go back?* Whatever the tests and the bar graphs said ... *how could this be failure?* However much useless beauty I was drowning in, I wasn't as screwed-up as I'd been with a head full of Leu-enkephalin. I was still capable of fear, anxiety, sorrow; the tests had revealed universal shadows, common to all the donors. Hating Bach or Chuck Berry, Chagall or Paul Klee was beyond me, but I'd reacted as sanely as anyone to images of disease, starvation, death.

And I was not oblivious to my own fate, the way I'd been oblivious to the cancer.

But what was my fate, if I kept using the prosthesis? Universal happiness, universal shadows ... half the human race dictating my emotions? In all the years I'd spent in darkness, if I'd held fast to anything, hadn't it been the possibility that I carried a kind of seed within me: a version of myself that might grow into a living person again, given the chance? *And hadn't that hope now proved false?* I'd been offered the stuff of which selves were made—and though I'd tested it all, and admired it all, I'd claimed none of it as my own. All the joy I'd felt in the last ten days had been meaningless. I was just a dead husk, blowing around in other peoples’ sunlight.

I said, “I think you should do that. Switch it off.”

Durrani held up her hand. “Wait. If you're willing, there is one other thing we could try. I've been discussing it with our ethics committee, and Luke has begun preliminary work on the software ... but in the end, it will be your decision.”

“To do what?”

“The network can be pushed in any direction. We know how to intervene to do that—to break the symmetry, to make some things a greater source of pleasure than others. Just because it hasn't happened spontaneously, that doesn't mean it can't be achieved by other means.”

I laughed, suddenly light-headed. “So if I say the word ... *your ethics committee* will choose the music I like, and my favorite foods, and my new vocation? They'll decide who I become?” Would that be so bad? Having died, myself, long ago, to grant life now to a whole new person? To donate, not just a lung or a kidney, but my entire body, irrelevant memories and all, to an arbitrarily constructed—but fully functioning—*de novo* human being?

Durrani was scandalized. “No! We'd never dream of doing that! But we could program the microprocessors to let *you* control the network's refinement. We could give you the power to choose for yourself, consciously and deliberately, the things that make you happy.”

* * * *

De Vries said, “Try to picture the control.”

I closed my eyes. He said, “Bad idea. If you get into the habit, it will limit your access.”

“Right.” I stared into space. Something glorious by Beethoven was playing on the lab's sound system; it was difficult to concentrate. I struggled to visualize the stylized, cherry-red, horizontal slider control that De Vries had constructed, line by line, inside my head five minutes before. Suddenly it was more than a vague memory: it was superimposed over the room again, as clear as any real object, at the bottom of my visual field.

“I've got it.” The button was hovering around 19.

De Vries glanced at a display, hidden from me. “Good. Now try to lower the rating.”

I laughed weakly. *Roll over Beethoven.* “How? How can you try to like something less?”

“You don't. Just try to move the button to the left. Visualize the movement. The software's monitoring your visual cortex, tracking any fleeting imaginary perceptions. Fool yourself into seeing the button moving—and the image will oblige.”

It did. I kept losing control briefly, as if the thing was sticking, but I managed to maneuver it down to 10 before stopping to assess the effect.

“Fuck.”

“I take it it's working?”

I nodded stupidly. The music was still ... *pleasant* ... but the spell was broken completely. It was like listening to an electrifying piece of rhetoric, then realizing half-way through that the speaker didn't believe a word of it—leaving the original poetry and eloquence untouched, but robbing it of all its real force.

I felt sweat break out on my forehead. When Durrani had explained it, the whole scheme had sounded

too bizarre to be real. And since I'd already failed to assert myself over the prosthesis—despite billions of direct neural connections, and countless opportunities for the remnants of my identity to interact with the thing and shape it in my own image—I'd feared that when the time came to make a choice, I'd be paralyzed by indecision.

But I knew, beyond doubt, that I should *not* have been in a state of rapture over a piece of classical music that I'd either never heard before, or—since apparently it was famous, and ubiquitous—sat through once or twice by accident, entirely unmoved.

And now, in a matter of seconds, I'd hacked that false response away.

There was still hope. I still had a chance to resurrect myself. I'd just have to do it consciously, every step of the way.

De Vries, tinkering with his keyboard, said cheerfully, "I'll color-code virtual gadgets for all the major systems in the prosthesis. With a few days' practice it'll all be second nature. Just remember that some experiences will engage two or three systems at once ... so if you're making love to music that you'd prefer not to find so distracting, make sure you turn down the red control, not the blue." He looked up and saw my face. "Hey, don't worry. You can always turn it up again later if you make a mistake. Or if you change your mind."

3

It was nine p.m. in Sydney when the plane touched down. Nine o'clock on a Saturday night. I took a train into the city center, intending to catch the connecting one home, but when I saw the crowds alighting at Town Hall station I put my suitcase in a locker and followed them up on to the street.

I'd been in the city a few times since the virus, but never at night. I felt like I'd come home after half a lifetime in another country, after solitary confinement in a foreign gaol. Everything was disorienting, one way or another. I felt a kind of giddy *déjà vu* at the sight of buildings that seemed to have been faithfully preserved, but still weren't quite as I remembered them, and a sense of hollowness each time I turned a corner to find that some private landmark, some shop or sign I remembered from childhood, had vanished.

I stood outside a pub, close enough to feel my eardrums throb to the beat of the music. I could see people inside, laughing and dancing, sloshing armfuls of drinks around, faces glowing with alcohol and companionship. Some alive with the possibility of violence, others with the promise of sex.

I could step right into this picture myself, now. The ash that had buried the world was gone; I was free to walk wherever I pleased. And I could almost feel the dead cousins of these revellers—reborn now as harmonics of the network, resonating to the music and the sight of their soul-mates—clamoring in my skull, begging me to carry them all the way to the land of the living.

I took a few steps forward, then something in the corner of my vision distracted me. In the alley beside the pub, a boy of 10 or 12 sat crouched against the wall, lowering his face into a plastic bag. After a few inhalations he looked up, dead eyes shining, smiling as blissfully as any orchestra conductor.

I backed away.

Someone touched my shoulder. I spun around and saw a man beaming at me. "Jesus loves you, brother! Your search is over!" He thrust a pamphlet into my hand. I gazed into his face, and his condition was transparent to me: he'd stumbled on a way to produce Leu-enkephalin at will—but he didn't know it, so he'd reasoned that some divine wellspring of happiness was responsible. I felt my chest tighten with

horror and pity. At least I'd known about my tumor. And even the fucked-up kid in the alley understood that he was just sniffing glue.

And the people in the pub? Did they know what they were doing? Music, companionship, alcohol, sex ... where did the border lie? When did justifiable happiness turn into something as empty, as pathological, as it was for this man?

I stumbled away, and headed back toward the station. All around me, people were laughing and shouting, holding hands, kissing ... and I watched them as if they were flayed anatomical figures, revealing a thousand interlocking muscles working together with effortless precision. Buried inside me, the machinery of happiness recognized itself, again and again.

I had no doubt, now, that Durrani really had packed every last shred of the human capacity for joy into my skull. But to claim any part of it, I'd have to swallow the fact—more deeply than the tumor had ever forced me to swallow it—that happiness itself meant nothing. Life without it was unbearable, but as an end in itself, it was not enough. I was free to choose its causes—and to be happy with my choices—but whatever I felt once I'd bootstrapped my new self into existence, the possibility would remain that all my choices had been wrong.

* * * *

Global Assurance had given me until the end of the year to get my act together. If my annual psychological assessment showed that Durrani's treatment had been successful—whether or not I actually had a job—I'd be thrown to the even less tender mercies of the privatized remnants of social security. So I stumbled around in the light, trying to find my bearings.

On my first day back I woke at dawn. I sat down at the phone and started digging. My old net workspace had been archived; at current rates it was only costing about ten cents a year in storage fees, and I still had $36.20 credit in my account. The whole bizarre informational fossil had passed intact from company to company through four takeovers and mergers. Working through an assortment of tools to decode the obsolete data formats, I dragged fragments of my past life into the present and examined them, until it became too painful to go on.

The next day I spent twelve hours cleaning the flat, scrubbing every corner—listening to my old *njari* downloads, stopping only to eat, ravenously. And though I could have refined my taste in food back to that of a 12-year-old salt-junky, I made the choice—thoroughly un-masochistic, and more pragmatic than virtuous—to crave nothing more toxic than fruit.

In the following weeks I put on weight with gratifying speed, though when I stared at myself in the mirror, or used morphing software running on the phone, I realized that I could be happy with almost any kind of body. The database must have included people with a vast range of ideal self-images, or who'd died perfectly content with their actual appearances.

Again, I chose pragmatism. I had a lot of catching up to do, and I didn't want to die at 55 from a heart attack if I could avoid it. There was no point fixating on the unattainable or the absurd, though, so after morphing myself to obesity, and rating it zero, I did the same for the Schwarzenegger look. I chose a lean, wiry body—well within the realms of possibility, according to the software—and assigned it 16 out of 20. Then I started running.

I took it slowly at first, and though I clung to the image of myself as a child, darting effortlessly from street to street, I was careful never to crank up the joy of motion high enough to mask injuries. When I limped into a chemist looking for liniment, I found they were selling something called prostaglandin modulators, anti-inflammatory compounds that allegedly minimized damage without shutting down any vital repair

processes. I was skeptical, but the stuff did seem to help; the first month was still painful, but I was neither crippled by natural swelling, nor rendered so oblivious to danger signs that I tore a muscle.

And once my heart and lungs and calves were dragged screaming out of their atrophied state, *it was good*. I ran for an hour every morning, weaving around the local back streets, and on Sunday afternoons I circumnavigated the city itself. I didn't push myself to attain ever faster times; I had no athletic ambitions whatsoever. I just wanted to exercise my freedom.

Soon the act of running melted into a kind of seamless whole. I could revel in the thudding of my heart and the feeling of my limbs in motion, or I could let those details recede into a buzz of satisfaction and just watch the scenery, as if from a train. And having reclaimed my body, I began to reclaim the suburbs, one by one. From the slivers of forest clinging to the Lane Cove river to the eternal ugliness of Parramatta Road, I crisscrossed Sydney like a mad surveyor, wrapping the landscape with invisible geodesics then drawing it into my skull. I pounded across the bridges at Gladesville and Iron Cove, Pyrmont, Meadowbank, and the Harbor itself, daring the planks to give way beneath my feet.

I suffered moments of doubt. I wasn't drunk on endorphins—I wasn't pushing myself that hard—but it still felt too good to be true. *Was this glue-sniffing?* Maybe ten thousand generations of my ancestors had been rewarded with the same kind of pleasure for pursuing game, fleeing danger, and mapping their territory for the sake of survival, but to me it was all just a glorious pastime.

Still, I wasn't deceiving myself, and I wasn't hurting anyone. I plucked those two rules from the core of the dead child inside me, and kept on running.

* * * *

Thirty was an interesting age to go through puberty. The virus hadn't literally castrated me, but having eliminated pleasure from sexual imagery, genital stimulation, and orgasm—and having partly wrecked the hormonal regulatory pathways reaching down from the hypothalamus—it had left me with nothing worth describing as sexual function. My body disposed of semen in sporadic joyless spasms—and without the normal lubricants secreted by the prostate during arousal, every unwanted ejaculation tore at the urethral lining.

When all of this changed, it hit hard—even in my state of relative sexual decrepitude. Compared to wet dreams of broken glass, masturbation was wonderful beyond belief, and I found myself unwilling to intervene with the controls to tone it down. But I needn't have worried that it would rob me of interest in the real thing; I kept finding myself staring openly at people on the street, in shops and on trains, until by a combination of willpower, sheer terror, and prosthetic adjustment I managed to kick the habit.

The network had rendered me bisexual, and though I quickly ramped my level of desire down considerably from that of the database's most priapic contributors, when it came to choosing to be straight or gay, everything turned to quicksand. The network was not some kind of population-weighted average; if it had been, Durrani's original hope that my own surviving neural architecture could hold sway would have been dashed whenever the vote was stacked against it. So I was not just 10 or 15 per cent gay; the two possibilities were present with equal force, and the thought of eliminating *either* felt as alarming, as disfiguring, as if I'd lived with both for decades.

But was that just the prosthesis defending itself, or was it partly my own response? I had no idea. I'd been a thoroughly asexual 12-year-old, even before the virus; I'd always assumed that I was straight, and I'd certainly found some girls attractive, but there'd been no moonstruck stares or furtive groping to back up that purely esthetic opinion. I looked up the latest research, but all the genetic claims I recalled from various headlines had since been discredited—so even if my sexuality had been determined from birth,

there was no blood test that could tell me, now, what it would have become. I even tracked down my pre-treatment MRI scans, but they lacked the resolution to provide a direct, neuroanatomical answer.

I didn't want to be bisexual. I was too old to experiment like a teenager; I wanted certainty, I wanted solid foundations. I wanted to be monogamous—and even if monogamy was rarely an effortless state for anyone, that was no reason to lumber myself with unnecessary obstacles. *So who should I slaughter?* I knew which choice would make things easier ... but if everything came down to a question of which of the 4,000 donors could carry me along the path of least resistance, whose life would I be living?

Maybe it was all a moot point. I was a 30-year-old virgin with a history of mental illness, no money, no prospects, no social skills—and I could always crank up the satisfaction level of my only current option, and let everything else recede into fantasy. I wasn't deceiving myself, I wasn't hurting anyone. It was within my power to want nothing more.

* * * *

I'd noticed the bookshop, tucked away in a back street in Leichhardt, many times before. But one Sunday in June, when I jogged past and saw a copy of *The Man Without Qualities* by Robert Musil in the front window, I had to stop and laugh.

I was drenched in sweat from the winter humidity, so I didn't go in and buy the book. But I peered in through the display toward the counter, and spotted a HELP WANTED sign.

Looking for unskilled work had seemed futile; the total unemployment rate was 15 per cent, the youth rate three times higher, so I'd assumed there'd always be a thousand other applicants for every job: younger, cheaper, stronger, and certifiably sane. But though I'd resumed my on-line education, I was getting not so much nowhere, fast as everywhere, slowly. All the fields of knowledge that had gripped me as a child had expanded a hundredfold, and while the prosthesis granted me limitless energy and enthusiasm, there was still too much ground for anyone to cover in a lifetime. I knew I'd have to sacrifice 90 per cent of my interests if I was ever going to choose a career, but I still hadn't been able to wield the knife.

I returned to the bookshop on Monday, walking up from Petersham station. I'd fine-tuned my confidence for the occasion, but it rose spontaneously when I heard that there'd been no other applicants. The owner was in his 60s, and he'd just done his back in; he wanted someone to lug boxes around, and take the counter when he was otherwise occupied. I told him the truth: I'd been neurologically damaged by a childhood illness, and I'd only recently recovered.

He hired me on the spot, for a month's trial. The starting wage was exactly what Global Assurance were paying me, but if I was taken on permanently I'd get slightly more.

The work wasn't hard, and the owner didn't mind me reading in the back room when I had nothing to do. In a way, I was in heaven—ten thousand books, and no access fees—but sometimes I felt the terror of dissolution returning. I read voraciously, and on one level I could make clear judgments: I could pick the clumsy writers from the skilled, the honest from the fakers, the platitudinous from the inspired. But the prosthesis still wanted me to enjoy everything, to embrace everything, to diffuse out across the dusty shelves until I was no one at all, a ghost in the Library of Babel.

* * * *

She walked into the bookshop two minutes after opening time, on the first day of spring. Watching her browse, I tried to think clearly through the consequences of what I was about to do. For weeks I'd been on the counter five hours a day, and with all that human contact I'd been hoping for ... *something*. Not

wild, reciprocated love at first sight, just the tiniest flicker of mutual interest, the slightest piece of evidence that I could actually desire one human being more than all the rest.

It hadn't happened. Some customers had flirted mildly, but I could see that it was nothing special, just their own kind of politeness—and I'd felt nothing more in response than if they'd been unusually, formally, courteous. And though I might have agreed with any bystander as to who was conventionally good-looking, who was animated or mysterious, witty or charming, who glowed with youth or radiated worldliness ... I just didn't care. The 4,000 had all loved very different people, and the envelope that stretched between their far-flung characteristics encompassed the entire species. That was never going to change, until I did something to break the symmetry myself.

So for the past week, I'd dragged all the relevant systems in the prosthesis down to 3 or 4. People had become scarcely more interesting to watch than pieces of wood. Now, alone in the shop with this randomly chosen stranger, I slowly turned the controls up. I had to fight against positive feedback; the higher the settings, the more I wanted to increase them, but I'd set limits in advance, and I stuck to them.

By the time she'd chosen two books and approached the counter, I was feeling half defiantly triumphant, half sick with shame. I'd struck a pure note with the network at last; what I felt at the sight of this woman rang true. And if everything I'd done to achieve it was calculated, artificial, bizarre and abhorrent ... I'd had no other way.

I was smiling as she bought the books, and she smiled back warmly. No wedding or engagement ring—but I'd promised myself that I wouldn't try anything, no matter what. This was just the first step: to notice someone, to make someone stand out from the crowd. I could ask out the tenth, the hundredth woman who bore some passing resemblance to her.

I said, “Would you like to meet for a coffee sometime?”

She looked surprised, but not affronted. Indecisive, but at least slightly pleased to have been asked. And I thought I was prepared for this slip of the tongue to lead nowhere, but then something in the ruins of me sent a shaft of pain through my chest as I watched her make up her mind. If a fraction of that had shown on my face, she probably would have rushed me to the nearest vet to be put down.

She said, “That would be nice. I'm Julia, by the way.”

“I'm Mark.” We shook hands.

“When do you finish work?”

“Tonight? Nine o'clock.”

“Ah.”

I said, “How about lunch? When do you have lunch?”

“One.” She hesitated. “There's that place just down the road ... next to the hardware store?”

“That would be great.”

Julia smiled. “Then I'll meet you there. About ten past. OK?”

I nodded. She turned and walked out. I stared after her, dazed, terrified, elated. I thought: This is simple. Anyone in the world can do it. It's like breathing.

I started hyperventilating. I was an emotionally retarded teenager, and she'd discover that in five minutes flat. Or, worse, discover the 4,000 grown men in my head offering advice.

I went into the toilet to throw up.

* * * *

Julia told me that she managed a dress shop a few blocks away. “You're new at the bookshop, aren't you?”

“Yes.”

“So what were you doing before that?”

“I was unemployed. For a long time.”

“How long?”

“Since I was a student.”

She grimaced. “It's criminal, isn't it? Well, I'm doing my bit. I'm job-sharing, half-time only.”

“Really? How are you finding it?”

“It's wonderful. I mean, I'm lucky, the position's well enough paid that I can get by on half a salary.” She laughed. “Most people assume I must be raising a family. As if that's the only possible reason.”

“You just like to have the time?”

“Yes. Time's important. I hate being rushed.”

We had lunch again two days later, and then twice again the next week. She talked about the shop, a trip she'd made to South America, a sister recovering from breast cancer. I almost mentioned my own long-vanquished tumor, but apart from fears about where that might lead, it would have sounded too much like a plea for sympathy. At home, I sat riveted to the phone—not waiting for a call, but watching news broadcasts, to be sure I'd have something to talk about besides myself. *Who's your favorite singer/author/artist/actor? I have no idea.*

Visions of Julia filled my head. I wanted to know what she was doing every second of the day; I wanted her to be happy, I wanted her to be safe. *Why?* Because I'd chosen her. But ... why had I felt compelled to choose anyone? Because in the end, the one thing that most of the donors must have had in common was the fact that they'd desired, and cared about, one person above all others. *Why?* That came down to evolution. You could no more help and protect everyone in sight than you could fuck them, and a judicious combination of the two had obviously proved effective at passing down genes. So my emotions had the same ancestry as everyone else's; what more could I ask?

But how could I pretend that I felt anything real for Julia, when I could shift a few buttons in my head, anytime, and make those feelings vanish? Even if what I felt was strong enough to keep me from wanting to touch that dial...

Some days I thought: it must be like this for everyone. People make a decision, half-shaped by chance, to get to know someone; everything starts from there. Some nights I sat awake for hours, wondering if I was turning myself into a pathetic slave, or a dangerous obsessive. Could anything I discovered about Julia drive me away, now that I'd chosen her? Or even trigger the slightest disapproval? And if, when,

she decided to break things off, how would I take it?

We went out to dinner, then shared a taxi home. I kissed her goodnight on her doorstep. Back in my flat, I flipped through sex manuals on the net, wondering how I could ever hope to conceal my complete lack of experience. Everything looked anatomically impossible; I'd need six years of gymnastics training just to achieve the missionary position. I'd refused to masturbate since I'd met her; to fantasize about her, to *imagine her* without consent, seemed outrageous, unforgivable. After I gave in, I lay awake until dawn trying to comprehend the trap I'd dug for myself, and trying to understand why I didn't want to be free.

* * * *

Julia bent down and kissed me, sweatily. “That was a nice idea.” She climbed off me and flopped onto the bed.

I'd spent the last ten minutes riding the blue control, trying to keep myself from coming without losing my erection. I'd heard of computer games involving exactly the same thing. Now I turned up the indigo for a stronger glow of intimacy—and when I looked into her eyes, I knew that she could see the effect on me. She brushed my cheek with her hand. “You're a sweet man. Did you know that?”

I said, “I have to tell you something.” *Sweet? I'm a puppet, I'm a robot, I'm a freak.*

“What?”

I couldn't speak. She seemed amused, then she kissed me. “I know you're gay. That's all right; I don't mind.”

“I'm not gay.” *Anymore?* “Though I might have been.”

Julia frowned. “Gay, bisexual ... I don't care. Honestly.”

I wouldn't have to manipulate my responses much longer; the prosthesis was being shaped by all of this, and in a few weeks I'd be able to leave it to its own devices. Then I'd feel, as naturally as anyone, all the things I was now having to choose.

I said, “When I was twelve, I had cancer.”

I told her everything. I watched her face, and saw horror, then growing doubt. “You don't believe me?”

She replied haltingly, “You sound so matter-of-fact. *Eighteen years?* How can you just say, ‘I lost eighteen years’?”

“How do you want me to say it? I'm not trying to make you pity me. I just want you to understand.”

When I came to the day I met her, my stomach tightened with fear, but I kept on talking. After a few seconds I saw tears in her eyes, and I felt like I'd been knifed.

“I'm sorry. I didn't mean to hurt you.” I didn't know whether to try to hold her, or to leave right then. I kept my eyes fixed on her, but the room swam.

She smiled. “What are you sorry about? You chose me. I chose you. It could have been different for both of us. But it wasn't.” She reached down under the sheet and took my hand. “It wasn't.”

* * * *

Julia had Saturdays off, but I had to start work at eight. She kissed me goodbye sleepily when I left at

six; I walked all the way home, weightless.

I must have grinned inanely at everyone who came into the shop, but I hardly saw them. I was picturing the future. I hadn't spoken to either of my parents for nine years, they didn't even know about the Durrani treatment. But now it seemed possible to repair anything. I could go to them now and say: *This is your son, back from the dead. You did save my life, all those years ago.*

There was a message on the phone from Julia when I arrived home. I resisted viewing it until I'd started things cooking on the stove; there was something perversely pleasurable about forcing myself to wait, imagining her face and her voice in anticipation.

I hit the PLAY button. Her face wasn't quite as I'd pictured it.

I kept missing things and stopping to rewind. Isolated phrases stuck in my mind. *Too strange. Too sick. No one's fault.* My explanation hadn't really sunk in the night before. But now she'd had time to think about it, and she wasn't prepared to carry on a relationship with 4,000 dead men.

I sat on the floor, trying to decide what to feel: the wave of pain crashing over me, or something better, by choice. I knew I could summon up the controls of the prosthesis and make myself happy—happy because I was "free" again, happy because I was better off without her ... happy because Julia was better off without me. Or even just happy because happiness meant nothing, and all I had to do to attain it was flood my brain with Leu-enkephalin.

I sat there wiping tears and mucus off my face while the vegetables burned. The smell made me think of cauterization, sealing off a wound.

I let things run their course, I didn't touch the controls—but just knowing that I could have changed everything. And I realized then that, even if I went to Luke De Vries and said: I'm cured now, take the software away, I don't want the power to choose anymore ... I'd never be able to forget where everything I felt had come from.

* * * *

My father came to the flat yesterday. We didn't talk much, but he hasn't remarried yet, and he made a joke about us going nightclub-hopping together.

At least I hope it was a joke.

Watching him, I thought: he's there inside my head, and my mother too, and ten million ancestors, human, proto-human, remote beyond imagining. What difference did 4,000 more make? Everyone had to carve a life out of the same legacy: half universal, half particular; half sharpened by relentless natural selection, half softened by the freedom of chance. I'd just had to face the details a little more starkly.

And I could go on doing it, walking the convoluted border between meaningless happiness and meaningless despair. Maybe I was lucky; maybe the best way to cling to that narrow zone was to see clearly what lay on either side.

When my father was leaving, he looked out from the balcony across the crowded suburb, down toward the Parramatta river, where a storm drain was discharging a visible plume of oil, street litter, and garden run-off into the water.

He asked dubiously, "You happy with this area?"

I said, "I like it here."