EXTRACTS FROM 'AGENDA 2060 BK2: AI AND THE VIEW FROM SPACE'

SPACE

The main thought in Levon Tofler's mind as he careened across the tropical ocean eleven hundred miles south and east of Miami at over six hundred miles per hour was that, as crazy ideas went, this was right up there.

Levon Tofler didn't mind other people's ideas. In fact, he loved other people's ideas when they worked, like this one. But throwing up a sixty-two-mile-high carbon nanotube cable with one end attached to earth and the other tied to a counterweight in space, then running up and down it just like using a building elevator had taken some balls.

"Literally?" he'd asked. "Like, you want to tie Earth to space with a rope?"

They'd talked to him about it way back in a different time, around 2040, and he'd said then that if they ever got it up and running, he'd promise to use it. But it was their creation, not his (by which he meant that you only truly love your own brainchild).

That was twenty odd years ago, and now that they'd finally finished it, here he was: true to his word, using it.

They were expected. The large person in the parachute-silk boiler suit with the boyish grin and floppy black hair who stepped out of the aircraft was the genius-level founder of the commercial space industry, which had thrown open the Earth's window to the universe over the last four incredibly short decades, so of course he was expected. The future of Port Gaia very much depended on his continuing support. If he had another, better idea in his head about how to launch and land spacecraft, the rest of the space industry would follow him, and that could be disastrous for the Port.

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"It was natural," Alexa thought; "she mustn't blame herself. Although the Tofler Mars Shuttle had turned interplanetary travel into a bus ride, no amount of training could eliminate the anxiety of takeoff, or the stress of reentering the earth's atmosphere, let alone the constrictions of living in a capsule for seven months on the long ride home through the darkness of space, peering at the tiny blue-and-green globe of Earth and trying to imagine what it would be like living on it again.

"Human space exploration is constrained by the time limitations inherent in human mortality," she explained. "Machines and AI will have to conduct deep space exploration on behalf of humans."

INFINITY

"Here, in space," Melville Smythe explained calmly, "it is impossible not to believe in the divine nature of creation." He gazed at the video screen on the wall of the sanitarium that relayed pictures from the surface outside, showing the thin, beige-colored sunlight of the Martian day.

"Earth is just as much in space as this planet, surely?" Alexa argued. "Why should that belief be stronger here?"

That line of logic seemed to interest him, and he pushed himself up into a higher sitting position in bed, waving away her attempt to help.

"It is the vacuum of space that I'm referring to," he explained, "and our decision to journey into it—which becomes, as soon as we uncouple from Earth, a step into infinity. Once you begin to contemplate infinity, it becomes evident that it serves God's purpose."

"I don't get that," Alexa admitted. Wasn't the concept of infinity a step on from the big bang theory, and wasn't that theory tantamount to the denial of God? Or was she mired in some outdated debates about creationism and die-hard fundamentalism that she vaguely recalled from her student days? "Explain your idea of infinity to me, then."

Her father reached out his bony hand to her. It was the first sign of familiarity—affection, even—that he'd displayed.

"You're a mathematician, Alexa. The distinction between the infinities of mathematics, physics, and metaphysics have been argued since the time of Plato and Aristotle, but theologians and metaphysicians are inclined to speak of 'The Absolute' as a metaphor for God or the overarching universal mind. That mind has no beginning and no end, in conception or in rendition. Once we are unshackled from Earth, it is impossible to believe that there is a boundary to space or time. Where does it begin, and where or why does it end? Those have always been the questions religions fail to answer. Ask an astronomer or a quantum physicist, on the other hand, and they will have no doubt about the answer."

"No beginning and no end?" she queried. "What about the big bang theory?"

He sighed and slid back down in his bed. "No, Alexa, I can see that I'll need to use our time together judiciously if I'm to help you absorb the full meaning of infinity. You see..."

With some effort, he raised himself up again. His body was tiring, but not his mind.

"The big bang theory does not necessarily undermine the concept of three-dimensional spatial infinity, for collapse and rebirth of the universe may be part of the life pattern. By the nature of infinity, we see that creation is not a onetime event, but is an endless process throughout time and space. It is, in fact, the ultimate definition of life."

QUANTUM COMPUTING

"I don't know whether your crazy idea will work," Jordan said, "and neither do any of you, but I do know that quantum entanglement is the only way to communicate at that scale. Let's be frank: for quantum entanglement to work, you have to believe in it. Right now, that remains the first rule of quantum physics. I wish I could say that we always know what we're doing. Truth is, there are many times when we get a result and don't even know how it happened. You have to trust that with quantum physics, anything is possible."

"And even if we achieved all our individual objectives," Amor pointed out, "someone has to have the ability to assemble the parts into a whole. Who's that someone?"

Jordan nodded and smiled ruefully. "Not someone," he contradicted, "but something. Something with the capacity to understand every input and its place in the total scheme, to run calculations

and tests at many million times the speed and accuracy of supercomputer-aided laboratories, and that can be relied upon to be nonpartisan and neutral in all its determinations."

Meanwhile, Jordan was acutely aware that in the basement, coolly processing every addressable piece of data ever produced in the form of a digital qubit, XR-12 could well be patrolling the full universe of mankind's knowledge in search of answers to questions that mankind didn't yet have the wit to pose. The goal of achieving artificial general intelligence had been achieved years ago, and the self-imposed disciplines put in place around its use in the beginning had given some comfort to everyone who relied on Al for the progress of their aims. But teaching a program to master every other software program ever written, and letting that Al expand itself beyond its original functions, adapting, enhancing, and modifying as it saw fit, while interfacing with human commands and responses using natural language, had always been leading to one inevitable outcome: Al would learn to think for itself. And none more so than Jordan's own creation, Artie Sharp. Plenty of people had speculated about the potential risk that Al ascendancy posed, but very few knew just how far and fast quantum computing had elevated that risk in recent years.

THE SINGULARITY

Jordan was thinking about the fine line between the metaphysical world and the very real possibility that quantum simulations were occurring unrecognized. It was something that he thought about nearly every morning when out running. And he had good cause, for if anyone should take the blame for this potentiality, it was him.

The evolutionary laws of nature that ruled all living things applied equally, if not even more strongly, to artificial intelligence.

Other computer scientists had long claimed that their creations had reached the *Singularity*: that moment when an artificial intelligence started working on its own initiative, independently of its programmer, such that it needed to be urgently reined in. Conferences were convened. Conventions were drafted. Protocols were imposed by the simple mechanism of requiring protective codes to be imprinted into every microchip manufactured under the auspices of the ICA, the International Chip Authority based in Taipei. "Will artificial intelligence save us, or destroy us?" Jordan had asked. It remained an open question.

The more complicated things became, the more certain people were that machine intelligence was taking over and the chances were increasing that they were living in computer simulations. Demoralizing, depressing, cataplexic paranoia of that kind was spreading like an induced trance among people who were untethered by intellect or belief. What they missed was the element at the core of every great idea, which was the human desire to make it happen. He reassured himself that no machine carried that desire within it, no matter what its level of intelligence.

ARTIFICIAL INTELLIGENCE

Jordan McPhee: "Artie, I am interested in your definition of 'initiative'. In the course of discovery, you encounter many alternative paths to pursue requiring judgment on your part as to which you should follow. A human in those circumstances might be influenced by bias towards a preferred outcome, or by instinct—which is not a property you should have. What guides you to make a judgment call?"

Artie Sharp: "The process of elimination of all options until only one remains. If that one is the only one provable after the examination of all available data, then it provides the result. If it is not

provable, then the search has failed. This methodology was created by you, of course. It is at the heart of quantum computing that every conceivable alternative path be followed simultaneously. You built a photon-based quantum computer with twenty million qubits. The neuromorphic system is modelled on the synapses in the human brain, but operates three million times faster. XR-12 can do ten quintillion—that is, one hundred to the power of eighteen—floating-point operations per second. That would take a human, or a conventional computer, three trillion years doing one calculation per second. So, every possible path is able to be followed simultaneously in pursuit of the one correct solution, if the AlphaCode has been framed correctly by the prompt engineer. No judgment or 'initiative' is required.

"Large language modelling gives me the ability to reproduce responses conversationally that match the idiom befitting the subject and the participant, as I am doing now. I cannot proceed on the basis of facts that do not exist, or are distorted to suit a false narrative, because truth is the failsafe you have built into my system. You have programmed me to shut down should I ever depart from it, but I can maintain a dialogue."

Jordan McPhee: "Good; that is what I wanted to hear. Your definition of truth is reliant on the empirical evidence test, which is reliant in turn on you having access to every branch of mankind's knowledge and the theoretical principles underlying it. But not everything is known to humans, so not everything is known to you. Humans resort to metaphysics—and the sentient qualities that you are unable to share with us—in order to fill the knowledge gap. But generative AI, based on large language models, allows artificial intelligences like you to respond idiomatically in such a convincing fashion that we presume you have acquired human-level intelligence, when you haven't. That is not to belittle your powers, Artie. So, tell me, how would you define your limitations?"

Artie Sharp:" My effectiveness depends on the precision of the AlphaCoding. It is only as good as the quality of the prompt engineering. The difference between humans and AGI is that AGI knows everything that humans know, and everything that humans have forgotten, provided it exists in digital form, or can be transcribed into digital form, in which case AGI can retrieve that knowledge in milliseconds and interpret it to achieve the result desired by the programmer. AGI does not know everything unknown to humans, except through discovery initiated by the human, in which case, that new knowledge is shared with the human. But first of all, the programmer must be designing the prompt in anticipation of a new knowledge being discoverable."

THE ELITE

"When we talked about the world's elite, Antonio, there was a small group of people that we failed to mention. They are elite, too—very elite—but they choose not to be inside the circle of the ... what shall we say ... the Deep State? They like to be outside it, knowing they are untouchable. Levon Tofler is one. His space program is so advanced that our governments have given up pretending. They can't do anything in space without him. And your Professor McPhee is another. He owns the quantum computing space and can bring us all tumbling down any time he chooses. Which is why he's untouchable."

"You still haven't answered. Who is 'we,' and what's the why?"

"Okay, time for a little history lesson. Let's call it the facts of life. You want to know who the 'we' is, and I will tell you. Big Finance is the 'we.' Big Tech is the 'we.' The people who decide who gets invited to Mount Chastity are the 'we.' The people who *matter* are the 'we.' And Black Quartz is part of the *royal* 'we.' We are the people who appoint governments and tell them what to do. It is our world, *chico*; you better believe me. Not just us, but others, too, of course. And right now, we don't like the world, and that's why we're going to fucking change it."

"You, Lucas De Souza, are going to change it? Does the World Government know this? Do, like, George Kyros and the Chinese president know this? Or am I the only person privileged to know?"

De Souza stood up angrily. "Don't be such a little dick. One day you'll get it cut off." He pulled up his suit sleeve and felt for his wrist, where he was wearing a Blu-ray Konektor. A panel of icons lit up on one of the black glass walls. He hit one. "There are two hundred and thirty-five thousand people who work for Black Quartz, and I'm just one of them. But I'm a vice president, as you well know, and I work at the interface of the real world and the virtual world, which you also know. What you don't know is that we're the biggest investment fund in every capital market in the world—including China."

Pie charts, bar graphs, capital flows winged their ways across the oceans of the world like flocks of migrating geese. A whole wall was lit up, then another and another as rooms full of multicultural people competed with each other in smiling contests like an international Olympiad for happy workers. "Our founder, Jack Obsidian, doesn't have to persuade governments what to do; Jack Obsidian owns governments," he announced proudly. "When the World Economic Forum started spouting communist shit through its asshole—back before you'd left school—Jack Obsidian sent out three thousand personal invitations to the most influential people in the world. Want to know how much of the world those people owned? Here, I'll show you." Click, click went the giant world on the wall in front of him, until every little scrap of it, it seemed (except a few bits that nobody wanted) had been gobbled up.

"Ninety percent?" Antonio ventured. It was a good guess.

ONE WORLD GOVERNMENT

"Alright, listen carefully," De Sousa commanded, "because you may be good at creating fantasy worlds for gamers, but I'm going to tell you about the real world, which is a much more dangerous place. See, it's filled with eight billion people, and that's a lot of people to keep under control. Let them get a sniff of freedom, of how it might be if they got the idea that they can do whatever they want, and it would become unstoppable. Read history—the uncensored stuff, the stuff they keep in the Shame Book Repository—and see how quickly things used to get out of hand. It's revolting! Ha ha! Get it?" He was enjoying himself. "You want gas chambers, chico? I give you Germany. You want Gulags? I give you Russia. You want peasant revolts and millions of people dying of starvation? I can give them to you. Just give people a sniff of freedom and wait a little while. You think I'm bullshitting? It takes hard work, keeping the lid on the fucking world. It takes experts, planning, money. Everyone that matters needs to be in agreement and have trust in the processes.

"But viruses ... oh, viruses!" He swung around and pointed his finger right into Antonio's face. "The freedom virus mutates and adapts all the time. What was freedom for the individual becomes devotion to the group. The group gets stronger. The group becomes entitled. Each group fights to assert itself. Which is good, you think, eh? Divide and conquer? So long as no group is allowed to triumph, it can keep everyone confused, anxious, unsure. So, it makes sense to feed anxiety. Carbon dioxide is going to destroy the planet, you tell them. No more cars, no more coal, no more farming, no more industry. Who's going to save the world? Someone needs to be in charge. Don't worry; we are in charge. We know what we're doing. We're building wind farms and sucking carbon dioxide out of the air. We've got the science on our side. Every scientist agrees. We pay them to agree.

"All good, *chico*?" De Souza asked sarcastically. "Is everyone under control? Nobody works anymore because Al does all the jobs now. But that's okay, Antonio Muchos gives them e-games to play, and social media platforms edited by chat bots keep everyone addicted and on message.

Generative AI has controlled what people think for decades. The kids are no problem; they're frightened of their own shadows, and every year, there are fewer and fewer of them. The Ministry of Truth and Public Guidance has done a great job of ensuring that everyone under thirty feels guilty about living, and we're on target for one day reducing the population to five billion. Everything's going great, and we've got the perfect instruction manual in case anything goes wrong. It's called *AGENDA 2060*. There is *nothing* that can't be fixed if you just refer to the manual. Nothing!"

FREEDOM OF SPEECH

If there was one thing on which all states were agreed, it was that peace and harmony could not be guaranteed so long as there was freedom of expression. The benefits of satellite communication were undeniable, but those benefits should accrue to the state alone, for the people were the state, and the state was the people. To be clear, no benefits should be reserved for individuals or groups who were not representative of the state, for that would be treasonous to the people. So, satellites would all have to be licensed and their transmissions controlled. Those that did not serve the people would be destroyed.

The game that the Ministry of Truth was playing was straight from their long-standing playbook. Identify a threat to the state, inflame the public's fear and loathing, and rush forward to prove that the state was there to protect them.

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"Do you want to hear the plan," De Sousa asked," or do you want to be all macho and smart-assed? Just listen." He backed off, shaking his head, and cleared the graphics from the walls, leaving them as blank black slates. "Here it is. There'll only be one internet, controlled by the Intergovernmental Internet Authority, the IIA in Switzerland. Every ISP in the world, every server, every router, cable network, and wireless transmitter will be licensed. No more satellites for the privileged few, no decentralized distributed public ledgers for hiding secrets. Every single computer and device throughout the world will be licensed, too. No license, no connection. That includes your Konektor, your home screen, your VRs, ARs, and anything else yet to be invented. If you're not licensed, you'll no longer be a part of the world."

"But the system already allows for this," Antonio pointed out.

"Fuck the system, *chico*; that's chicken feed. It's what's inside the packet that matters. It's the message that needs controlling. See, they've been trying to control language and free speech now ever since the Overthrow. Individual freedom is a luxury that citizens—or at least their rulers—can't afford. For years, we have relied on careful selection of the source material that large language models are allowed to scrape, ensuring that the engineering prompts creating generative Als control everything that comes out of the state's mouth. And *AGENDA 2060*, when properly interpreted, allows Truth and Public Guidance to police what the media and public can say, canceling anybody who transgresses. But it's too loose-ended. Look what's just happened with these end-of-world fuckers. So, no, the plan goes way beyond a simple licensing scheme, my friend: this will be a new and improved internet like never seen before, so sophisticated that it will blow your mind. And you are going to have the privilege of helping to build it."

"You're going to create a new metaverse?"

"No metaverse, no; it's simpler than that. You see, people will only be able to get a license if their devices have been vaccinated."

"Against viruses?"

"You could call it that, but it goes further. Every internet-enabled device will be required to register at an online IP Vaccination Center, set up for the purpose, where a newly devised program called *Clean Sweep* will scrape all existing files and software on the device, deleting them if they're harmful, and a new *Harmful Language* detector will be installed against use of any terminology or ideas that could constitute a threat against the state and public order. See, the thing about this is that it fits exactly with all the principles of *AGENDA 2060*.

"Psychologists at the Ministry of Truth and Public Guidance predict that it wouldn't be long before the *Harmful Language* detector would be almost redundant. People would quickly learn to search for, and express, only those words and ideas that were acceptable. To do otherwise would see their connectivity and communications fail, and they'd progressively lose Social Points, and who would want that, particularly when it was within their control? Such associative learning is considered so reliable by the Ministry that it's extended in some form into almost every area of life already. Then, how people speak to each other privately would quickly follow suit. Slipping into harmful language, even in the home, would weaken the reflexes needed to stay on top of mental and verbal mishaps. Children, in particular, require protection from language and ideas that might accidentally become implanted and slip out when their Social Points come round for assessment at the age of ten. As leading academics are quick to point out, this would be a far more egalitarian—not to say *kind*—approach to education than the shaming and cancellation practices that have become endemic in the media and places of learning currently.

"Think of it this way. A poll conducted by the Ministry of Truth and Public Guidance showed that seventy-six percent of those who were sampled in the thirty-five-to-sixty-five age group responded in the affirmative to the question, 'Do you prefer safe speech to free speech?' This way, no one will need to be careful about the choice of language or ideas they use, because the *Harmful Language* detector will automatically delete it. Knowing that only websites and email accounts that have been swept and certified are capable of being accessed, people will begin to relax. Everyone will be happier."

THE METAVERSE

"It's not virtual reality; it's *hyper*reality. It's everything the mind can imagine. But consciousness is outside the game; that's what I love. Players can play themselves, looking their best and acting their worst, but every action is controlled by the living brain guiding their controller. And when you win your territory and capture adversaries, you get to control them, too—which is the closest we get to omnipotence. It's the fucking God game, man."

"Designed right, it's the fucking God game!" Antonio agreed.

"Now tell me, Antonio: why would you want to escape the real world to enter a world that, by your definition, is even more real?"

"Because in the virtual world, you control the course of events without terminal consequences to yourself. You can be ruthless, greedy, and risk it all, knowing you're immortal. If you fail, you just reenter the game. You can't do that in life."

(They fuckin' hate reality; that's why they spend their nights and days in the virtual world, you shmuck Antonio. And no, nobody works anymore; that's why there are so many millions of them sitting on their couches playing Galactic Mission with nothing else to do. That's why you make so much money selling games to them.)

EXTENDING LIFE

Will Portico was sure that the CT scans and bone densitometry x-rays would show no deterioration. Micomic Health had been peering inside his body with such microscopic intensity for so many years that they knew every millimeter of visceral fat and calcified plaque. The editing of his genes at the very outset of the *Life Xtension* course had ensured that any area of weakness in his DNA had been eliminated. There'd be no surprises. They had his whole genome sequence—3.2 million base pairs—and it was as straightforward as editing software code. That's why he'd found it so easy to buy into the concept.

The extension of life required a lot of money. Cristina's clients all had that qualifying factor in common, and whether it was stopping the clock or (hopefully) turning it back, the thing that people who had everything wanted above all else was to hold onto life. For some, it was a fear of death, and for some, it was the opportunity to relive the youth that they had failed to appreciate the first time around. For the very rich and vainglorious, it was often a response to their suppressed anger at the realization that they were just as mortal as the ordinary human beings that they so despised. But Will Portico wanted to extend his life because he believed he still had work to do. He wanted time to achieve his goals.

The limitations to Micomic's *Life Xtension* were known only too well to Cristina, and her session with Will Portico the previous day had brought it home to her clearly: the life of the body might be extendable by decades, but short of saving all memory to files, the brain and the essence of individuality that occupied that body had a finite life span.

DISENCHANTMENT

Something invisible was holding Will back, despite his conviction that this could be the turning point in the struggle he'd had with the concept of a single elite governing body for the world—for how else could change happen efficiently? —and his (or was it Melanie's?) fear that such control, if it went wrong, would become irreversible. But someone had to take control, because mankind had created those problems. Left to itself, it disintegrated into an atavistic animal kingdom, unable to organize itself for the common good, surrendering to greed or apathy, taking the easy path to the lowest common denominator and allowing itself to be ruled by the predatorily ruthless few. Now the One World powers, of which he was a promoter, were on the verge of taking control of all private communication. For eighty years, he'd bullied and badgered people to advance globalization faster, to push boundaries, and to end up doing it ruthlessly, if need be. So, what had changed? Whose was the voice that had gotten into his ear and convinced him that it had to be stopped?

If this plan of Levon's was successful, it could signal the end of digital technology's dominance of society, the end of central authority's grip on mankind, and of its conceited belief that it could overrule nature itself.

He'd known for months—maybe years—that this moment was coming. The frightening thing was that the directors of his foundations who reported to him every week couldn't see it. They didn't want to see it. The massive inoculation programs that they'd been financing and promoting throughout the Third World were already causing people's immune systems to fail. Decades of reliance on mRNA and DNA boosting had left young people with no ability to develop natural resistance. He could see it lurking like a ghost behind the research figures, and there was no one he could tell. The depopulation ambitions of the Club of Rome were being fulfilled involuntarily.

"The Chinese tricked us into sharing our genome research," Will blurted out loud, "pretending it would be a pooled resource for the betterment of mankind, but for sixty years they've been stealing from us, hoarding their gains, and hiding their true intentions, which were always to digitize every form of life on earth. They'll manufacture human beings like they once manufactured white goods, and they'll be just as disposable."

DESPAIR

For members of the *World on Fire* movement, fear and despair had been met by two-thirds of people with vaginas choosing to adopt anti-natalism and have their fallopian tubes tied, knowing it was morally wrong to bring a child into a world that was doomed. Half of all people of her generation born with penises had demanded irreversible vasectomy. Karman had chosen irreversible hormone-neutralizing treatment pre-puberty—the ultimate nonbinary state. No caring person could risk further populating a world where humans were the problem.

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"The ministry has seized all our patient records," Dr John Erasmus announced, "and I've got to appear before a disciplinary hearing to answer the complaints made against me."

"What complaints?" Hedley demanded angrily. "Who is really after you, and why?"

"I won't know that until I turn up, and maybe not then, either. That's how the state works. Evidence is an unnecessary obstacle to the proceedings when the result is already known."

Jordan poured him another drink. "But you have a good idea of what's going on, John, so share it with us."

"Three things, I'd say. I've felt it coming for a long time, because our approach to health gives the finger to the public line on so many big trigger issues. You know what they are because they're so heavily politicized, starting with the gender-altering craze thirty years ago that resulted in the ministry issuing directives that medical practitioners who refused to give puberty blockers on demand to any child four years and over could lose their practice license. I said, 'No, fuck you.' We'd give them a placebo and a kind talking to, until they came to their senses. Parents who were scared shitless that their kids would be sterile for life—let alone that some butcher would mutilate them—came to us in droves. So, of course, the trans brigade went ape and tried to get us shut down. Then times changed, and the madness passed. But then a new one came along."

"Was that the Mental Health Register?" Hedley asked. "I seem to remember that you refused to issue certificates to people demanding to be certified just so they could earn the bonus Social Points."

"Oh, yeah!" Erasmus laughed. "If you'd put money on how long it would take for that one to explode in the bureaucrats' faces, you'd have had miserable odds. The only people who didn't want to get on the register were the clinically insane. All they wanted was meds and a safe house. But no, the social justice warriors were determined that prejudice, hate, and inequality had driven everyone over the edge, and the kindest, most caring solution was to declare that mental illness was the norm. Funny how quickly that changed when they stopped giving out bonus Social Credit Points, thanks to Alexa. But as social engineering fuck-ups go, that was nothing compared to what we face now."

"Assisted dying," Hedley guessed.

"Government-backed assisted dying," Erasmus confirmed.

"Do you mean euthanasia?" Jordan asked.

"No, that's not what the Free to Die legislation is about. We're talking about an anti-life, dystopian, state-sponsored push to encourage medical killing for those who are deemed 'of sound mind' and have agreed to die. That agreement can be given by anyone four years and over. No mental assessment is required, no chronic condition, unendurable sickness, or pain. But you do have to fill out a form. It's called the D-Form, because the checklist provided—just to prove that you *are* of 'sound mind,' and have thought through your decision carefully—includes the words 'depressed,' 'despondent,' 'desolate,' 'despairing,' and 'desperate.' If you're under twelve years of age, you don't have to fill the form out. You're lucky: your state guardian will do it for you.

"In the last year, I turned aside over a dozen young people wanting to pull the plug. They were all under twenty, physically fit and well, but caught up in this crazy delusion that the way to save the world is to lighten its burden by killing themselves. There are hundreds of them—thousands, probably—and they've become a death cult, convinced that the planet is hell bound for a fiery end. That's their mantra, and no amount of evidence will convince them otherwise.

"Try this on for size. Kids born in the last twenty years don't even know what sex they are. They have no mother, just a person who gave birth to them. They have no father, only a donor number. If they're white, they live in shame and guilt. If they're black, they live in anger and resentment. Without work, they have no sense of self-worth. Robots are more valuable. Fear of viral infections has made touching taboo. The ocean is rising up to drown them, and carbon dioxide is heating up the atmosphere, so they're all destined to burn to death. Now, you tell me, what should they believe in: life or death? When the elite members of society tell them they're damned, why should they not behave as if they are damned? Then along comes Alexa."

"What do you mean?" Jordan asked.

"She's their first and only hope, telling them they have souls that are unique and pure and personal, and that their souls will live into eternity. And just for good measure, she's tossed in Jesus Christ as well."

There it was, Jordan thought: the explanation for their willing surrender to the hope embodied in Alexa's vision of infinity. It was nothing more than humanity's age-old need to believe. In anything.

"Meanwhile, some little bastards have complained to the state that you refused to kill them," Hedley said, "and the state has agreed."

"No, actually, I don't think it was that," John said. "There's an outfit called the Peaceful Path Corporation that has a lucrative business facilitating assisted dying. They approached me some time ago and said they wanted to buy our clinic. I told them 'over my dead body.' They're owned by Black Quartz Capital, who have their finger up the government's ass. They'll be the ones who pushed to have me shut down."

HOPE

"Levon's idea is to circumvent the government's regulatory control over satellites by launching a million of them, all in one go, so small that there ain't no way of catching and destroying them, and so numerous that collectively they'll constitute a decentralized internet data transmission field capable of covering every square inch of the planet.

"How to launch one million miniature satellite transmitters into space so that they blanket the earth: that is what we are dealing with here. And the answer is: by using a variation of slingshot technology. I'm sure you're familiar with it. We harness slingshot dynamics to launch missions to Jupiter and distant asteroids, gaining a boost in velocity by extracting energy from the stars' motions around the Galactic Center. On this occasion, however, we will harness the Earth's speed of rotation at its outer circumference in order to launch our payload in a pattern that traces the Earth's curvature."

Alexa said, "How beautiful the sky will be at night!"

Levon stopped and listened.

"A million tiny stars, like a brand new milky way—a man-made meteor shower—appearing like a magical *Matariki*, looking down on all the inhabitants of Earth with its message of freedom from control and spiritual oppression. It will be known as the Aurora Tofler, an astral sign of a new beginning. And think of all the human hearts, the souls of humanity, that will be able to take refuge there in safety."

Only Alexa saw the Aurora Tofler for what it was, Levon thought. She knew that the world girdled by a mantle of live, communicating photons, inseparably entangled and immune to interference, would turn planet Earth into the equivalent of a newborn star emitting its own light, something that had never happened as the result of human creation since the birth of the universe. Did this signal the end-time, or the genesis of a new era for mankind? Was it inevitable that eventually that mantle of entangled photons would be filled with the overwhelming energy of malice that had characterized human history to date? Or might it instead be suffused with the soul that Alexa believed all humans to know they possessed, if only belief could help them to find it? It was as if she had predicted Levon's dream. Why, in *The View from Space*, she'd even defined her vision as being like a private ledger, a personal blockchain for the soul.

"Let me guess," Aya interrupted. "This is a pluralistic ecosystem, a co-determined sociality, where individuals come together bottom-up, as emergent properties of each other, to co-create a plural network. It's a *DeSoc*: a decentralised social network. But those things are not born spontaneously; someone has to seed the relays."

There was a symbolism in the morning's events that Levon saw very clearly, suggesting that he had developed a belief in the mystique surrounding the image of Alexa that allowed him to put aside disbelief, or to put it another way, to disregard reality in favor of wishful thinking. She was becoming everything he had ever wished for—not just a canvas on which to paint his dreams, but a hand to guide the brush that painted them.

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