

The Ministry for the Future - Kim Stanley Robinson (Fragments - Quixotic)

Ch. 1

It was getting hotter. [...]

He called headquarters in Delhi. “We need help,” he said to the woman who answered. “The power has gone out.”

“Power is out here too,” Preeti said. “It’s out everywhere.”

“Everywhere?”

“Most of Delhi, Uttar Pradesh, Jharkhand, Bengal. Parts of the west too, in Gujarat, Rajasthan ...”

“What should we do?”

“Wait for help.”

“From where?”

“I don’t know.”

“What’s the forecast?”

“The heat wave is supposed to last awhile longer. The rising air over the land might pull in cooler air off the ocean.”

“When?”

“No one knows. The high pressure cell is huge. It’s caught against the Himalaya.”

“Is it better to be in water than in air?”

“Sure. If it’s cooler than body temperature.”

He turned off the phone, returned it to the safe. He checked the particulate meter on the wall: 1300 ppm. This for fine particulates, 25 nanometers and smaller. He went out onto the street again, staying in the shade of buildings. Everyone was doing that; no one stood in the sun now. Gray air lay on the town like smoke. It was too hot to have a smell, there was just a scorched sensation, a smell like heat itself, like flame. [...]

At the lake they found a desperate scene. There were many, many people in the lake, heads dotted the surface everywhere around the shores, and out where it was presumably deeper there were still heads, people semisubmerged as they lay on impromptu rafts of one sort or another. But not all of these people were alive. The surface of the lake seemed to have a low miasma rising out of it, and now the stink of death, of rotting meat, could be discerned in one’s torched nostrils. [...] They were all sweating, except for some who weren’t, who were redder than the rest, incandescent in the shadows of the late afternoon. As twilight fell they propped these people up and helped them to die.

Ch. 3

The announcement [at COP29] said:

“Be it resolved that a Subsidiary Body authorized by this twenty-ninth Conference of the Parties serving as the meeting of the parties to the Paris Climate Agreement (CMA) is hereby established, to work with the Intergovernmental Panel on Climate Change, and all the agencies of the United Nations, and all the governments signatory to the Paris Agreement, to advocate for the world’s future generations of citizens, whose rights, as defined in the Universal Declaration

of Human Rights, are as valid as our own. This new Subsidiary Body is furthermore charged with defending all living creatures present and future who cannot speak for themselves, by promoting their legal standing and physical protection.”

Someone in the press named this new agency “the Ministry for the Future,” and the name stuck and spread, and became what the new agency was usually called. It was established in Zurich, Switzerland, in January of 2025. Not long after that, the big heat wave struck India. [20 million died.]

Ch. 6

For a while, therefore, it looked like the great heat wave would be like mass shootings in the United States—mourned by all, deplored by all, and then immediately forgotten or superseded by the next one, until they came in a daily drumbeat and became the new normal. [...] But not in India. Elections were held and the nationalist nativist BJP party was thrown out of office as insufficient to the task, and partly responsible for the disaster, having sold the country to outside interests and burned coal and trashed the landscape in the pursuit of ever-growing inequality. The RSS disgraced and discredited at last as an evil force in Indian life. A new party was voted in, a composite party composed of all kinds of Indians, every religion and caste, urban poor, rural poor, the educated, all banded together by the disaster and determined to make something change. The ruling elite lost legitimacy and hegemony, and the inchoate fractured resistance of victims coalesced in a party called Avasthana, Sanskrit for survival. The world’s biggest democracy, taking a new way. India’s electrical power companies were nationalized where they weren’t already, and a vast force was put to work shutting down coal-fired power plants and building wind and solar plants, and free-river hydro, and non-battery electrical storage systems to supplement the growing power of battery storage. All kinds of things began to change.

Ch. 15 (minutes from meeting of leadership of Ministry for the Future)

Imbeni: Looking into plans to redirect fossil fuel companies to do decarbonization projects. Capabilities strangely appropriate. Extraction and injection both use same tech, just reversed. People, capital, facilities, capacities, all these can be used to “collect and inject,” either by way of cooperation or legal coercion. Keeps oil companies in business but doing good things.

Tatiana looks interested. Rest of group looking skeptical. Carbon capture and reinsertion into empty oil wells are both dubious as a reality.

Mary: Look into it more. We’ve got to have it, from what the calculations say about how much the natural methods can grab.

Jurgen: Insurance companies in a panic at last year’s reports. Pay-outs at about one hundred billion USD a year now, going higher fast, as in hockey stick graph. Insurance companies insured by re-insurance. These now holding short end of stick (tall end of stick?). Can’t charge premiums high enough to cover pay-outs, nor could anyone afford to pay that much. Lack of predictability means re-insurance companies simply refusing to cover environmental catastrophes, the way they don’t insure war or political unrest etc. So, end of insurance, basically. Everyone hanging out there uninsured. Governments therefore payer of last resort, but most governments already deep in debt to finance, meaning also re-insurance companies. Nothing left to give without endangering belief in money. Entire system therefore on brink of collapse.

Mary: What mean collapse?

Jurgen: Mean, money no longer working as money.

Silence in room. Jurgen adds, So you can see why re-insurance hoping for some climate mitigation! We can't afford for world to end! No one laughs. [...]

Adele: You think that's bad! Joke gets laugh. The big Antarctic glacial basins, mainly Victoria and Totten, hold ice sliding downhill faster and faster. Will soon be depositing many thousands of cubic kilometers of ice into sea. Now looking like could happen in a few decades. Sea level rise two meters for sure, maybe more (six meters!) but two meters enough. Doom for all coastal cities, beaches, marshes, coral reefs, many fisheries. Would displace ten percent of the world's population, disrupt twenty percent food supply. Like a knock-out punch to dazed fighter. Civilization kaputt. [...]

MftF has budget 60B USD/year. Big. But world GDP 100 trillion/year. Half that GWP is so-called consumer spending by prosperous people, means non-essential buying of things that degrade biosphere. Ship going down. Parasite killing host. Even the productive half of GWP, food and health and housing, burning up world. In short: fucked.

Team watches her.

So. Have to find ways to spend our sixty billion that strike at leverage points.

Ch. 22

Slawek frowned uncomfortably, but said, "You all heard the new data in there today."

They agreed they had.

"Sea level will rise so fast, the world is fucked."

It couldn't be denied, the others agreed. The data were clear.

"So," Pete prompted Slawek, "I've heard some people suggesting we just pump all the melted ice back up onto the polar plateau, right?"

Bob shook his head at hearing this. It was an old idea, he said, studied by the Potsdam Institute at one point, and the conclusions of their study had been bleak; the amount of electrical power needed to pump that much water up onto the east Antarctic ice cap came to about seven percent of all the electricity generated by all of global civilization. "It's too energy intensive," Bob concluded. [...]

Slawek nodded. "Reality of problem is that glaciers are sliding into the sea ten times faster than before."

"Yes."

"So, the reason for that is there's more meltwater created on the ice surface every summer, because of global warming. That water runs down moulins until it reaches the undersides of the glaciers, and there it has nowhere else to go. So it lifts up the ice a bit. It lubricates the ice flow over the rock beds. [...]"

Slawek hesitated and Griffen said, "Come on!"

"Okay. You pump that water out from under the glaciers. Melt drillholes like we already do there when we check out subglacial lakes, or to get through the ice shelves. Technology is well known, and pretty easy. [...] The glaciers cool down, bottom out, refreeze to the rock, go back to their old speed. So you only need to pump out something like thirty cubic kilometers, from under the biggest glaciers in Antarctica and Greenland."

Ch. 25 (Leader of MftF held captive by desperate lone man, who is traumatized victim of heatwave)

"You tell me now! What is your job as head of the Ministry for the fucking Future?" [...]

"We've made divisions that focus on various aspects of the problem. Legal, financial, physical, and so forth. We prioritize what we do to portion out the budget we're given, and we do what we can."

He stared at her. "What if that's not enough?"

"What do you mean, not enough?"

"It's not enough. Your efforts aren't slowing the damage fast enough. [...] So why don't you do something more?"

"We're doing everything we can think of."

"But that either means you can't think of obvious things, or you have thought of them and you won't do them. [...]"

If you were serious, you'd have a black wing, doing things outside the law to accelerate the changes. [...] If your organization represents the people who will be born after us, well, that's a heavy burden! It's a real responsibility! You have to think like them! You have to do what they would do if they were here."

"I don't think they would countenance murder."

"Of course they would!" he shouted, causing her to flinch.

Ch. 42

Told her about the Chen paper, useful for its clarity, and now getting discussed in several different discourse communities, it being one of the earlier of various proposals to create some kind of carbon coin. This to be a digital currency, disbursed on proof of carbon sequestration to provide carrot as well as stick, thus enticing loose global capital into virtuous actions on carbon burn reduction. Making an effective carrot of this sort would work best if the central banks backed it, or created it. A new influx of fiat money, paid into the world to reward biosphere-sustaining actions. Getting the central banks to do that would be a stretch, but them doing it would be the strongest version by far. [...]

Ch. 48

Some of these people volunteer to come to our camp and help feed us and do everything else that needs doing when you have eighteen thousand people stuck inside a fence unable to leave. [...] But I still hate them for not seeing me. For looking me in the eye while they put food on my outstretched plate, and yet never seeing. I try not to but I hate them. Just as I hate everything else in this life. [...] The sun goes down, the sky goes twilight blue. Then indigo. This is the 1,859th day I have spent in this camp.

Ch. 51

The [twenty-]thirties were zombie years. [...] The culture of the time was rife with fear and anger, denial and guilt, shame and regret, repression and the return of the repressed. [...] And yet still they burned carbon. They drove cars, ate meat, flew in jets, did all the things that had caused the heat wave and would cause the next one. Profits still were added up in a way that led to shareholder dividends. [...] Everyone alive knew that not enough was being done, and everyone kept doing too little. [...] Repression thus built up internal pressure, then the return of the repressed was a release of that pressure. [...]

So it was not really a surprise when a day came that sixty passenger jets crashed in a matter of hours. All over the world, flights of all kinds, although when the analyses were done it became clear that a disproportionate number of these flights had been private or business jets. [...] Later it was shown that clouds of small drones had been directed into the flight paths of the planes involved, fouling their engines. [...] That multiple groups would claim responsibility for such a crime just added to the horror felt at the time. What kind of world were they in?

One message was fairly obvious: stop flying. And indeed many people stopped. [...]

The War for the Earth is often said to have begun on Crash Day. And it was later that same year when container ships began to sink, almost always close to land. Torpedoes from nowhere: a different kind of drone. [...] Later that same year the group announced that mad cow disease, bovine spongiform encephalopathy, had been cultured and introduced by drone dart into millions of cattle all over the world. [...] Scores of power plants were being destroyed all over the world, often by drone attacks. Power outages in those years were most common in India, but they happened everywhere else too. The War for the Earth was real, but the aggressors were nowhere to be found.

Ch. 54

[MftF negotiating with fossil fuel co's to front the costs of the green transition]

You can pay the upfront costs of the transition, and if you invest in that, we'll pay you in a guaranteed currency that is backed by all the central banks of the world to increase in value over time. As an aspect written into the currency itself. A sure bet no matter what happens.

Unless civilization crashes.

Yes. You can short civilization if you want. Not a bad bet really. But no one to pay you if you win. Whereas if you go long on civilization, and civilization (therefore) survives, you win big. So the smart move is to go long. [...]

[On leveraging technology]

"What have you got for me, Janus Athena¹?"

"The AI group is making open source instruments that mimic the functions of all the big social media sites." [...]

"How many do you think will shift?"

"Maybe half. After a few years, everybody."

"So, the decapitation of Facebook."

"And all the rest like it."

"Replaced by a system owned by its users, in effect."

"Yes. Open source. A distributed ledger. The Global Internet Cooperative Union. GICU. [...] Then if it works, it will serve as the operating platform for ICU."

"Which means," Mary prompted, playing along.

"International Credit Union. A people's bank. [...] This won't be quite like a credit union, because it would be an open network of people who make a distributed issuance of credit, issuing carbon coin fractions to each other on proof of good action on carbon. People deposit their savings and create new value in a customer- and employee-owned distributed

1 The head of AI & digital tech division at MftF.

ledger. Their bank, as one function of their YourLock account. It invests mindfully as a group mind, a kind of planetary mind, that has to always be funding biosphere-friendly activities. Also, a place to go if everyone removes their deposits from current private banks at the same time. Those banks are so over-leveraged that they will immediately crash. [...] So, for any planned attack on private banks, best to have a safe harbor ready. ”

Ch. 55

La Vie Vite! It was a time. [...] It wasn't a party, it wasn't even a revolution. At least when we started. [...]

Something then caused us to all converge on Paris. In France, that's where you go. No one had to direct us. [...] So we took over the city, Paris was ours by way of sheer bodies jamming the streets. And of course some of us had read about the Commune and realized if we didn't win decisively we would be hunted down and killed, or at best jailed for life. So at that point it was win or die, and we buckled down to making it work as an alternative system of life, a kind of commons that was post-capitalist, even postmoney, just people doing what it took to keep everyone fed. And I must say, so many Parisians came out and helped us, cooked food, provided rooms, manned the barricades in every way, that again we had to realize that it wasn't just those of us in the streets, it was all France, maybe even the world, we couldn't tell.

Ch. 56

They were now at atmospheric CO2 levels of 463 parts per million.

The crash in insect numbers put every ecological system on terrestrial Earth in danger of collapse. Collapse—meaning most of the species currently on Earth dead and gone. The surviving species subsequent to this event would be free to spread in all the empty ecological niches, spread and evolve and speciate, so that in twenty million years, maybe less, maybe only two million years, a differently constituted array of species would fully re-occupy the biosphere. [...]

They spoke enthusiastically of carbon-negative agriculture, clean energy, fleets of sailing ships, fleets of airships, carbon-based materials created from CO2 sucked out of the air and replacing concrete; thus direct air capture of CO2, a necessary component of the drawdown effort, would provide most construction materials going forward. Cheap clean desalination, clean water, 3-D printed houses, 3-D printed toilets and sewage, universal education, vastly expanded medical schools and medical facilities. Landscape restoration, habitat corridors, ag/habitat combinations -

“Okay!” Mary said, chopping short their flood of suggestions. [...]

Really there were no mysteries here, in either the nature of the problem or the solutions.

“And yet it's not happening,” Mary observed.

They regarded her. There is resistance to it happening, they reminded her.

“Indeed,” she said. They were caught in a maze. They were caught in an avalanche, carrying them down past a point from which there would be no clawing back. They were losing. Losing to other people, people who apparently didn't see the stakes involved. [...]

It wasn't going to happen from the top. The lawmakers were corrupt. So, if not top-down, then bottom-up. Like a whirlwind, as some put it. Whirlwinds rose from the ground— although conditions aloft enabled that to happen. People, the multitude. Young people? Not just congregating to demonstrate, but changing all their behaviors? Living together in tiny houses, working at green jobs in co-operative ventures, with never the chance of a big financial windfall somehow dropping

on them like a lottery win? No unicorns carrying them off to a high fantasy paradise? Occupying the offices of every politician who got elected by taking carbon money and then always voted for the one percent? Riot strike riot? She didn't know if her failure to imagine that bottom-up plan working was her failure or the situation's.

Then Badim appeared before her. [...]

"Why did you find me and come down here?"

He looked at her. "I do have an idea," he said. "I wanted to tell you."

"Tell me."

He looked off at the city for a while. Gray Zurich. "I think we need a new religion."

She stared at him, surprised. "Really?"

He turned his gaze on her. "Well, maybe it's not a new religion. An old religion. Maybe the oldest religion. But back among us, big time. Because I think we need it. People need something bigger than themselves. All these economic plans, always talking about things in terms of money and self-interest— people aren't really like that. They're always acting for other reasons than that. For other people, basically. For religious reasons. Spiritual reasons."

Ch. 58

In this particular case in Spain, the young priest was named José María Arizmendiarieta. [...] He was sent to Mondragón in 1941, when he was twenty-six years old [...] he helped them to organize a polytechnic school, now known as Mondragón University. Soon after opening, it provided enough engineering support to bootstrap the expertise to begin a few manufacturing businesses again, starting with paraffin burners. And on his suggestion, and with his help, these were organized from the start as employee-owned cooperatives. This mode of organization was in the Basque tradition of regional solidarity, a manifestation of that precapitalist, even pre-feudal gift economy of the ancient Basque. [...] Whatever the explanation, these cooperatives thrived in Mondragón, and a complex of them has been growing there ever since. Eventually they included the town's banks and credit unions, also its university and insurance company. These worker-owned enterprises became a kind of coop of co-ops, which now forms the tenth largest corporation in Spain, with assets in the billions of euros and yearly profits in the millions. The profits don't get shifted out as shares to shareholders, but are rather divided three ways, with a third distributed among the employee-owners, a third devoted to capital improvements, and a third given to charities chosen by the employees.

Ch. 60

So she kept reading the news. Two days after a note had appeared on her desk that said only riot strike riot, she read that Berlin, London, New York, Tokyo, Beijing, and Moscow had experienced simultaneously, in the very same hour no matter the local time of day, teacher and transport worker strikes. This caused chaos in the streets and in the markets. [...] Time to dismiss the people and elect another one! as Brecht had so trenchantly phrased it.

Meanwhile flying was still much reduced, except for an increase in battery-powered short flights, and an immense surge in airship construction. Ocean trade was disrupted; millions were out of work; millions were in the streets. Online, people were joining YourLock and abandoning the other social media sites, now called the predatory social media. So many people were withdrawing their savings from private banks and depositing them in credit unions and alternative cooperative

financial institutions that another financial crash not only was happening but was the deepest in over a century. The banks had all been so over-leveraged for so long that what that actually meant had been lost; so now, in a crisis as big as this one, most of them had been brought to their knees, and were stumping to their governments' central banks to squeal for salvation. This time the governments' treasuries, although still in the hands of financial industry veterans, found they could do nothing like what they had done in the 2008 bail-out; that crash was looking minor compared to this one, and because of the 2020 recession, awareness of what was happening, and why, was much higher. It was a different time, a new structure of feeling, a new material situation. Already people were saying this was bigger than 2020, bigger than the Great Depression, maybe the biggest economic crash ever— because it wasn't just economic. The whole damn merry-go-round had spun off its flywheel and was disintegrating as it fell.

So Mary² called up the heads of the various central banks around the world and got them to agree to gather to talk things over yet again. [...] Something more was now called for than merely adjusting their fucking interest rates. [...] The storm was in the room, in the form of one angry intense middle-aged woman. [...] Now she urged them to consider again something new and fully international: a carbon coin, a digital currency backed by a consortium of all the big central banks, with open access for more central banks to join. [...] First the carrot, which she felt was the best way to lead: do it, she told them, and you are the saviors of the world [...] The stick: if they didn't do it, Mary and her team could arrange the whole thing to happen through YourLock accounts as a distributed ledger coin, created and given by people to each other. This would cut hard into any power central banks might be said to have. Then also, the Ministry for the Future had allies within every relevant legislature, and Mary's legal team had prepared detailed advice [...] In short, Mary was prepared to start a movement worldwide in which governments put their central banks on leashes and directed them to act in ways governments wanted. [...] That's what we'll do if we have to, she concluded. [...]

The central bankers finally invented a proposal they could all agree on. It was as bold as anyone could want [...]

Ch. 69

In Saudi Arabia, during the height of the hajj, what appeared to be a coup by the military resulted in the deaths of an unknown number of Saudi princes. Reports ranged from twenty to fifty, but no one knew for sure. [...] The new government had the backing of most of the people in the country, as far as anyone could tell; [...] The Saudis were done. [...]

Then word came from Riyadh that Arabians respected the pressing need to decarbonize the world's economy, and intended to use their oil only for plastics manufacture and other non-combustible uses. The new Arabian government therefore made an immediate claim to the CCCB, the Climate Coalition of Central Banks, which recently had been established specifically to administer the carbon coin, saying that their full conversion to solar power, to begin immediately, and their refusal to sell their oil reserves for burning, deserved compensation in the form of the CCCB's newly created carbon coins, sometimes called carboni. [...]

Soon after this, Brazil's government entered another paroxysm of corruption charges, leading to the resignation of the right-wing president and then his arrest. Quickly there followed the triumphant return of the so-called Lula Left, now also called Clean Brazil, with a promise of clean government representing the entire populace, also an end to oil sales,

2 Head of MftF.

clearly modeled on Arabia's move; also the full protection and caretaking of the Amazon basin's rainforest. They claimed compensation for this last policy also, to be paid in more of the CCCB's carbon coins. [...]

In that context it made sense [for petro-states] to sell as much of the [petrol] as possible before prices collapsed completely. But if everyone holds a fire sale at once, who's going to buy? The small prosperous countries had clean renewable energy already. The shipping industries, under the duress of their ships being sunk if they didn't shift, had shifted already to wind and electrics and hydrogen. Aviation, under the same annihilating pressure, was shifting to electric planes, and mainly, airships. Ground transport was going entirely electric, and where it still used liquid fuels, was completely committed to renewable biofuels that bypassed fossil sources.

Ch. 72

The habitat corridor idea was just one early move in the larger Half Earth project, but first things first. [...] the upper Midwest, and the states west of it all the way to Seattle, were hurting bad. They were emptying out anyway. People could make more money ranching buffalo and tending wildlife sanctuaries than they could by farming. Those upper plains were never meant to be farmed, and people had learned that the hard way right from the start. Now all the young people were taking off and never coming back. What would make them stay? Wildlife protection! Especially when you could make a good living at it, better than the debt-ridden drought-stricken winter-blasted poisonous hardscrabble farming that people had been attempting for the previous two centuries. All that effort had gotten them nothing but a dust bowl and mounting debt, and kids moving away, and early death. A category error from the start, an ecological illiteracy. Time for a change.

Ch. 80

So he inherited the butt end of his father's property, two hectares as far from the river as his family's land got [...] Then we heard the rumors that the district council would be giving out money for carbon retention. Given the state of our property, this would be getting paid for what we had to do anyway to keep from starving, so I told the ox³ to get registered right away. [...]

Doing no-till agriculture is all very well, but first you need soil to not till. That takes first doing some serious turning over and plowing under, I'll tell you; [...] But shit to gold, as they say; we did all that. I drove him and he drove his workers, and we got some trees and perennials planted and left them alone, and during the harvests we harvested their usufruct with gratitude. [...]

Finally came a time when the team from the district office was coming through again to check carbon levels.

Twenty-three carbon coins, they said. Actually, twenty-three point two eight. One coin per ton of carbon captured. Which means, in your currency, if that's how you want to take it, about ... He tapped on his wristpad. At the current exchange rate, it comes to about seventy thousand. Seventy-one thousand, six hundred and eighty. My ox and I looked at each other. That was more than we spent per year on everything, by a long shot. Almost two years of expenses, in fact.

3 husband

Ch. 84

The shipping industry had finally begun adapting to the new situation. [...] Fairly quickly there emerged specialized shipyards devoted to taking in container ships and cutting them up, each providing the raw material for five or ten or twenty smaller ships, all of which were propelled by clean power in ways that made them as fast as the diesel-burners had been, or even faster. These changes included going back to sail. Turned out it was a really good clean tech. The current favored model for new ships looked somewhat like the big five-masted sailing ships that had briefly existed before steamships took over the seas. The new versions had sails made of photovoltaic fabrics that captured both wind and light, and the solar-generated electricity created by them transferred down the masts to motors that turned propellers. Clipper ships were back, in other words, and bigger and faster than ever.

Mary took a train to Lisbon and got on one of these new ships. [...] It was beautiful! And she was getting her work done. So— where had this obsession with speed come from, why had everyone caved to it so completely? Because people did what everyone else did. Because first no one could fly, then everyone could fly, if they could afford it; and flying was sublime. But also now a crowded bus ride, a hassle. And now, on most of the planes Mary flew on, people closed their window shutters and flew as if in a subway car, never looking down at all. Incurious about the planet floating ten kilometers below.

Ch. 89

Mary went to work the next day feeling uneasy. [...] Then Bob Wharton and Adele burst in, excited; word had come in that the latest CO₂ figures showed a global drop, a real global drop, which had nothing to do with the season, or the economy tanking— all that had been factored in, and still there was a drop: it was now at 454 parts per million, having reached a high of 475 just four years before. Thus 5 ppm per year down: this was significant enough that it had been tested and confirmed in multiple ways, and all converged to show the figure was real. CO₂ was going down at last; not just growing more slowly, or leveling off, which itself had been a hugely celebrated achievement seven years before, but actually dropping, and even dropping fast. That had to be the result of sequestration. It could only be anthropogenic. Meaning they had done it, and on purpose.

Of course it was bound to happen eventually, they told each other, given everything that had happened. The Super Depression had helped, of course, but that impact had been factored in, and besides that would only have caused things to level off; for a real drop like this one, drawdown efforts were the only explanation. Bob said that reforestation and the greening of the ocean shallows with kelp were probably the major factors. “Next stop three-fifty!” he cried, giddy with joy. He had been fighting for this his whole career, his whole life. As had so many. [...]

Real progress was being made on many fronts. [...] The majority was being drawn down by reforestation, biochar, agroforestry, kelp bed and other seaweed growth, regenerative agriculture, reduced and improved ranching, direct CO₂ capture from the air, and so on. All these efforts were paid for, or rather rewarded beyond the expense of doing them, in carbon coins, and these coins were trading strongly with all the other currencies in currency exchanges. In fact, it looked like there was a possibility that carbon coin might soon supersede the US dollar as the world’s hegemonic currency, the ultimate guarantor of value. [...] Digital distribution of the total blockchain record through YourLock and other sources meant there was a kind of emerging people’s bank, a direct democracy of money. So now the various old private

cryptocurrencies were only being used for criminal activities, and traded at fractions of a penny. [...] And at the meso- and micro-levels, the good projects that were being undertaken were so numerous they couldn't be assembled into a single list, although they tried. Regenerative ag, landscape restoration, wildlife stewardship, Mondragónstyle co-ops, garden cities, universal basic income and services, job guarantees, refugee release and repatriation, climate justice and equity actions, first people support, all these tended to be regional or localized, but they were happening everywhere, and more than ever before. It was time to gather the world and let them see it.

Ch. 91

The Mondragón cooperative system was spreading through Europe, and it was reaching out to make connections elsewhere. Spain itself was slowest on the uptake, because in Madrid they didn't like the Basques having that much influence. But elsewhere it was catching fire, it was the latest thing, the obvious thing. Turned out each European nation had a tradition of working communally around their old commons, which had lasted until suppressed by Napoleon or other powers, but still there, if only as an idea, now put back in play.

"Good," Frank said.

Also, Mary went on a little nervously, the upcoming COP was going to propose a detailed refugee plan that used some of the principles of the Nansen passports of the 1920s. Some kind of global citizenship, given to all as a human right.

Ch. 93

Project Slowdown had been active for a decade, and the thirty largest glaciers on the planet, all of them in Antarctica and Greenland, had seen expeditions to their crux points where wells had been melted through their ice and the meltwater under them pumped to the surface and spread to refreeze as near the pumping wells as was convenient. [...] So, at the end of the season, we were flown into the middle of the Recovery Glacier, where we had drilled a double line of wells five years before. One of the lines was reporting that all its pumps had stopped. [...]

Got to be blocked, someone said.

Yes but where?

Eventually we got to the bottom of the hole; no water at any point along the way.

Hey you know what? This glacier has bottomed out. There's just no more water to pump!

So it will slow down now.

For sure.

How soon will we know?

Couple years. Although we should see it right away too. But we'll need a few years to be sure it's really happened.

Wow. So we did it.

Yep.

There would be maintenance drilling, of course. And the glaciers would still be sliding down into the sea under their own weight, at their old slower speed, so every decade or so they would have to be redrilled upstream a ways from the

current holes. There were going to be lots of people working down here for the foreseeable future— maybe decades, maybe forever.

Ch. 95

I am a thing. I am alive and I am dead. I am conscious and unconscious. Sentient but not. A multiplicity and a whole. A polity of some sextillions of citizens.

I spiral a god that is not a god, and I am not a god. I am not a mother, though I am many mothers. I keep you alive. I will kill you someday, or I won't and something else will, and then, either way, I will take you in. Someday soon.

You know what I am. Now find me out.

Ch. 97

There are fewer humans than before. The demographic peak is in the past, we are a little fewer than we were before, and on a trajectory for that to continue. People speak now of an optimum number of humans; some say two billion, others four; no one really knows. It will be an experiment.

Ch. 99

We're here today to discuss whether any of the so-called totalizing solutions to our current problems will serve to do the job.

No.

I suppose I have to ask, do you mean no to the question or no to the topic.

No to the question. There is no single solution adequate to the task.

And so what can we expect to see?

Failure.

But assuming success, just for discussion's sake, what shape might that take?

The shape of failure.

Expand on that please? A success made of failures?

Yes. A cobbling-together from less-than-satisfactory parts. A slurry, a bricolage. An unholy mess.

Will this in itself create problems?

Of course.

Such as?

Such as the way like-minded people working to solve the same problem will engage in continuous civil war with each other over methods, thus destroying their chances of success.

Why does that happen, do you think?

The narcissism of small differences.