

Flaws and Features

*The Wedding-Guest sat on a stone:
He cannot chuse but hear;
And thus spake on that ancient man,
The bright-eyed Mariner.*

Story started by a friend. Finished by me.

For Richard Matheson, James Cameron, Stephen King...

...and Will Smith too I suppose.

Chapter One: 8,000,000,000

“It’s just another manic Monday.” mutters the young woman. Too young to actually know where that favored phrase of hers comes from.

In and of itself, there’s nothing at all wrong with this Fifth Monday of April. It is in fact quite pleasant: an overcast sky left over from the soft rains of the night before, the winds were calm and the temperature more temperate than usual. There would come soft rains again tomorrow. Somewhere in the world, maybe someone is enjoying it.

Heather McMillan is not that someone. Monday to Heather means working a job that doesn’t need done, in a place she doesn’t want to be, surrounded by people she despises.

To borrow from another bit of dated pop-culture, an old movie she had once seen, Heather usually clocks in at least 15 minutes late, she uses the side door so none of her managers can see her, and after that she spaces out for about an hour. She stares at her desk and tries to look like she's working, and in a given week she probably only does about 15 minutes of real, actual work. She works just hard enough to not get fired, but never hard enough to make an obvious mistake and gain the attention of any of her eight bosses. Barring a complete breakdown of civilization, of a kind that would most certainly kill her, a third of her remaining life will be wasted in this pointless act of prostration.

Minutes tick by. Heather notes that she’s managed to survive the first five percent of her working day, silently lauds the victory, and continues to “work.”

In theory, she’s an entry-level data processor for a nameless, faceless multinational corporation that hasn’t quite gotten around to finding an offshore worker or a software program to replace her. In truth, they already have the software program, and there’s nothing she can do that it can’t do better. The college sophomore who originally designed it is a grandfather by now, and her job only continues to exist because Corporate wants a real life human somewhere in the picture to, idunno, to warn them if it becomes self-aware and starts planning world domination or something.

In theory, her job requires her physical presence in a cubicle at this particular office, and not in her pajamas at home, because... well, no one even bothers offering theories anymore. In truth, corporate work environments are dominated by power-tripping control freaks who hate the thought of employees using the extra productivity and higher quality of home working as a means of escaping the sentence of tedium and lifelessness that their economic system sees fit to require of them. The wage-slaves might

do something crazy if left alone, taking longer coffee breaks than allowed or (God forbid!) listening to music while they work.

She curses at the work program as it crashes, going through the motions of booting it back up and logging in again. The software and hardware both are at least a generation out-of-date, downright antiquated compared to what she uses to reenact the Normandy Beach landings every night at home, but they make her use them because someone, somewhere probably had his pickle tickled by whoever sold it to her company.

The Internet should have long ago done to the cubicle farm what personal computers and photocopiers had done to the typing pool. Fuel crises and pandemics alike have come and gone and should have further hastened the demise of the daily commutes and the office work environment. And yet, somehow it remains. Heather had replaced someone who had gone remote after a serious injury and who, having recuperated, preferred getting fired to getting forced back into the Dark Satanic Cubicles. Come to think of it, that might also answer the question of why the job still exists at all. Just as the unique psychologies who find their way to middle-management feel less joy when they have to peer over the shoulders of their underlings remotely, they probably don't have as much fun trying to lord it over a computer program.

Her coworker says something. She says something back, and then hands him a sheet of paper. The sour look on his face says that whatever she said must have been less than ideal. Management will talk at her again, they'll say that she's not a team player and isn't engaging enough with her corporate family. Yeah, well, whatever. They won't raise her pay if she does, and she probably won't lose her job if she doesn't. Probably.

Her coworkers... in fairness, most of them are so painfully stupid that maybe they do need to be corralled like chimps at a carnival. One of the seven head managers—Nate, she seems to remember—is presently standing in a nearby cubicle and berating a new hire for some petty infraction. She prays to any of her guardian angels that they might strike him down with a brain aneurysm before he comes to nag at her. He finishes with the co-worker, begins to move her way and, amazingly enough, seems to be struck down with a brain aneurysm.

* * *

It started with the headaches.

Some three-fifths of humanity suffered a sudden onrush of thunderclap headaches, the worst that most of them had ever experienced. The boiling, mind-rending throb of pain they collectively felt on that Fifth Monday of April would be the last truly-human experience most of them would ever have.

In cities and towns across the world, in homes and businesses, on the roads and at sea and in the air, the affected clutched their heads in agony as they staggered to and fro. Some groaned, some screamed, many cried, a handful laughed and cackled, all dropped to the ground and fell to torpid stupors. Eyes glazed and mouths agape, over four billion men, women, and children twitched and jerked spasmodically as their minds were... reformatted.

* * *

The elevator rises to the ground floor, and even in the reflective metal box can he hear the sound of people screaming. Or perhaps he imagines he does. When he steps into the lobby, he gives little thought to the twitching bodies that now litter the floor. He stops at the duty officer's desk to relieve him of his pistol, wishing he had time to break into the armory and see if they have anything bigger.

Not a risk he can take. There are several possibilities for how this is going to proceed, and he doesn't want to be around for any of them when the process is finished.

The late morning sky is dark and the rain is coming down in a steady yet gentle drizzle, adding a desolate and half-flooded look to the parking lot in contrast to the bright and sterile interior. Daniel hums bits of "Rainy Days and Mondays Always Get Me Down" in spite of himself as he ventures out into the wet. Unlike Karen Carpenter, he actually has no problem with either rainy days or Mondays. Fourteen-day swing shifts do a lot to erase the weekend/weekday dichotomy, and nothing short of a monsoon's downpour is really uncomfortable to him. That's good, because he had come to work today on his Honda NC750.

Wearing a poncho on a motorcycle is going to be cumbersome, but he isn't entirely doing it for the rain. He also isn't still wearing a gasmask beneath his motorcycle helmet for fear of infection, though he's not willing to rule out anything. He does it so that the only live human seen fleeing ground zero of a potential Extinction Level Event won't be recognized by anyone else who survives and happens to recover the CCTV records, or at the least he won't be recognized immediately.

The boom gate is still down at the guard shack near the parking lot exit, and he carefully maneuvers around it. As he does, he notices a security van haphazardly parked nearby and the driver's side door hanging open. That's worth stopping for; maybe he could find a shotgun in it.

He pulls the comatose guard aside and checks for a weapon. Pistol gone from the holster? Odd. He looks in the van and notes the mountings for three long guns. But only one weapon present: an M16-style rifle with no magazines in sight? Very odd.

He takes the empty weapon, knowing that it could only mean one thing...

"Dan? Daniel Scrivener? Is that you?"

Bonk. Daniel bumps his head on the door frame at the sound of a human voice behind him. He spins around to see one of the security guards. Elijah Nivens carries a pump-action shotgun at port arms, terror and anguish contorting his ebony face. Angelina Lantsova, one of the janitors, follows timidly behind, a rifle clutched with surprising sureness in her small hands. She seems to have it more together than he does.

"What the Hell, Daniel?" asks Elijah. "I mean, what the bloody Hell? What's going on here?"

"Why are you asking me?"

"Because you're the only propeller-head still standing. I could believe that Angie and I just got lucky, but you, you're different. You were always different."

And here I thought I was getting good at this "discretion" thing, muses Daniel. Serves me right for getting cozy with support staff.

“Yeah, well...” no point in discretion anymore. “Okay Elijah, you two need to get out of here, and fast. Find a place to settle, far away from population centers, military bases, big government facilities, secret nonexistent research labs like this one, things like that. Somewhere in the middle of nowhere, but not so far away that you freeze or starve in winter. There’s going to be more survivors, but I don’t know how many. And these poor souls.” he gestures at the fallen employee, who seems to twitch more vigorously than he did a few seconds ago. “I don’t know what they’re coming back as, but I don’t think we’re gonna like it.”

“Come back? What are you talking about? This isn’t, like, aliens hacking into the open Wi-Fi that is our brains, is it? Man, tell me this isn’t aliens!”

Daniel shoots him a serious look. Elijah the ex-mall cop, jovial under any circumstance, the same Elijah who still wonders if the better pay of guarding government/corporate black sites is really worth not being able to play with the trains in the toy department at the mall anymore, suppresses a shudder.

“My God... well, I’ve got family along the Seaway, some 200 clicks from here. We’re on pretty good terms with local dairy farmers. Maybe, maybe they’ll have an opening for a guard?”

“I can fish.” says Angelina, weakly. “I used to be good fisherman. I have supplies nearby, too.”

“Sounds good.” says Daniel, shouldering his newly-acquired rifle and trying to feign some degree of familiarity with it.

“That work better with bullets.” notes Angelina, looking at Elijah.

Elijah looks at her, then at Daniel, then he shrugs and retrieves three of the six 30-round magazines from the back of her daypack. He tosses them to Daniel, who roughly works one into the weapon.

* * *

Heather stands motionless in shock. Many of the survivors, all around the world, are in shock. They’re unable to accept what’s happening around them, and many will die in that state. She has no idea how much time passes before the nearby shattering of glass snaps her back to reality. She turns and sees one of her co-workers wielding a fire extinguisher as he smashes his way into a vending machine and loots it.

Pierre Bellon is a big guy, scary-looking when he wants to be. The regulation dress shirt and khakis do little to hide the numerous tattoos and the fact that he would have been more at home at some dive bar or out on the open road than in some humdrum office. He’s only been here a little while, wasn’t expected to stay for long, and it’s pretty obvious that he’s only working this job to cover his real income and to maybe make some side money selling his merchandise to the co-workers. Heather is surprised to see that he isn’t keeping all of the snacks and drinks for himself, but passing them out to those gathered around in a more-or-less fair distribution. He tosses a peanut butter treat to Heather, which she happily catches.

From what she can tell, only about ten of the eighty or so employees are still alive and standing. She sees a few wandering around in stupefied confusion, a few crying at their desks, one or two running for the exits, and another trying to resuscitate his stricken coworkers. Sarah Hebert, Pierre’s equally

punkish-looking girlfriend, emerges from the break-room with the broken handle of a guillotine-style paper cutter in one hand and a gym bag full of coffee beans and other pilfered condiments in the other. The couple speaks briefly in their indecipherable working-class joul, then Pierre addresses the small gathering of coworkers around him.

“Ok, so we think we have an idea of what we need to do. We know people with a place in the woods on the outskirts of town, and we’re going to see if we can stay there till this is over. We have some stuff at home that might help make things easier out there, and we also know of some stores and other places we can go to get more of what we need.”

“You don’t mean looting, do you?” asks Frankie Williams, one of the older employees there, and the only manager who didn’t quite have a heart of coal. Also the only one unaffected. “I mean, c’mon, there’s been nothing on the news so far, there’s no need to act like it’s the end of the world.”

There’s the roar of a low-flying jet overhead as he speaks, then a thunderous crash from somewhere outside. Seconds later, someone screams and points out a nearby window, where a tremendous cloud of fire and smoke slowly rises from a crash site in the distance.

“That,” says Sarah. “that means we need to act like it’s the end of the world.”

Like any good young Westerner, Heather is too focused on her phone to pay much attention to the conversation around her. No cell signal, unsurprisingly, but WiFi and the Internet still seemed to be working. How long would that last? At least she does have the presence of mind to understand that, odd as it would have seemed mere seconds ago, her life expectancy will improve greatly if she makes friends with the likes of Pierre and Sarah.

They step outside and into a world of complete pandemonium. Cars have crashed and overturned, spasmodic bodies litter the streets, smoke is pouring from a restaurant next door where a small handful of ambulatory people are pulling out dozens of bodies, some already badly burned, to safer locations.

“C’mon, let’s help them!” suggests Frankie.

“Let’s not.” says Pierre. “Sorry, but a lot of people are going to have the same shopping lists as me, and I don’t want to be at the back of the line because I stopped for people who may well never wake up again.”

“Yeah,” adds Sarah. “Charity is well and good, but we can’t help everyone.”

“Okay, but can you give me the fire extinguisher? I need to go home, check on my wife and any other family we can find, then maybe we’ll try to find you again. I’ll do what I can here until more help shows up.”

Heather thinks about that for a moment. Was help going to arrive, ever? There’s no sign of the police, no paramedics, no firemen anywhere. There’s a fairly large fire station on the same street as their workplace, but she doesn’t hear sirens. Had only one in eight first responders survived as well, or had none?

Pierre hands over the extinguisher. He remembers Frankie once saying that his wife was an unemployed nurse, and he would certainly like someone with medical experience to tag along with

them. The trio commandeered a nearby vehicle, a panel van, as Sarah removes a phone from what looks like some kind of Mylar pouch in her purse. She turns it on and uses a nearby open Wi-Fi to email the location of their planned rendezvous point to Frankie's device, suggesting that he print it off as soon as possible and hoping that he's one of those people who can still navigate without the help of electronics.

Back in the office, the eyes of Nate the Assistant Head Manager pop wide open. He begins blinking rapidly, then he starts to move.

* * *

Airline pilots were an obvious first priority.

While most of humanity lay in their twitching mockery of slumber, the algorithm controlling the transmitters diverted a significant portion of its earliest efforts into bringing flight crews back online as quickly as possible. They didn't have to come back all the way, just well enough to keep their planes in flight for however long it would take to remember how to land. Losses would be unavoidable, but these would be statistically minuscule.

Little could be done to staunch the bloodshed on the highways, where trucks and cars careened out of control by the thousands. First responders and medical professionals were next in line on the reactivation priority list, but they would be of little help without a wider infrastructure to support them. This was arguably a mistake on the part of the algorithm, but it was one that delayed widespread reactivation by a matter of minutes at most.

One by one, more and more of the fallen bodies began to rise.

* * *

A motorcycle and a full-sized pickup truck roll away from the forsaken compound and out of the industrial park that houses it. One of their next-door neighbors had been a high-security biological research lab, the other had focused on radiation, particle, and theoretical physics. Like their own, neither of these facilities have names, or whatever they were publicly called doesn't quite line up with what they really did. Employees used to joke about which of the three was more likely to hit a snag somewhere and accidentally destroy humanity.

So, three people unaffected from a faculty with a staff of three hundred. That isn't many, but, this close to a major transmission source, it's three more than it might have been, two more than Daniel had expected, and one more than deserved it. He has a pretty good idea of why he had survived, and he suspects that Elijah had a lot of the same traits that would give him a similarly non-receptive biochemistry.

Angelina is more surprising. Sure, it isn't hard for even a janitor to fake her medical history these days, but the scared, demure little figure just didn't really seem like the type for forgery or fraud, and a recent immigrant would have most certainly been... unless she was an illegal! Would they be so careless as to hire an undocumented, unprocessed illegal alien at a place like this?

Why not? They were so careless as to give security clearance and a gun to Elijah. They were so stupid as to give security clearance and a laptop to me.

Elijah has a winch on his truck and he plans to yank any obstacles out of the way. Daniel doesn't have time for that, he has 1,500 kilometers to travel, according to the map, and he was sure that getting around population centres would add even more time and distance. He'll have to cross state lines before reaching his property in New Ireland, but he doubts anyone will ask for his digital internal passport.

The roads are in better shape than what he thought they would be, maybe because most people were already at work when it happened. He weaves his way out of the city easily enough and manages to pick up speed on the main thoroughfares. There are signs of life here and there, but he can't begin to guess how much of the general population is still standing.

He comes upon one group of about twenty people—an even mix of men and women, and a number of children—hiking or almost marching up the side of the highway. They have a strange look to them, though he can't quite put a finger on why. For a moment they almost remind him of hippies. Is their clothing homemade, out of date, or just unfamiliar to him? He notices how almost all of them have backpacks, several are pulling handcarts, and four or five are openly-brandishing firearms. Others carry shovels, bolt-cutters, crowbars and sledge hammers. Probably not hippies then. A few turn their heads and wave as he approaches, he returns the wave and passes by without incident.

He passes one man sitting atop a wrecked car at an intersection with an old-looking revolver in his hand. He thinks he sees a trace of envy on the man's face, though speed and distance make it impossible to know for sure. He can clearly imagine the man, looking up at the speedy motorcycle, then down at his gun, then at the man on the motorcycle, then back at his gun...

Daniel comes to the intersection, slows just enough to thread his way through the field of twisted metal, and continues to travel. There's no sound of gunfire from behind. Had the man with the revolver realized how there was little point in wasting a bullet for a banged-up bike that could just as easily be taken from any abandoned dealership? Had he seen the rifle on Daniel's back and not realized how easy it would be to blast him from the saddle before he had a chance to unsling and use it? Daniel briefly muses about how, in the world that was coming, he was likely going to run into people who would realize the latter but not the former, or who simply wouldn't care. He would have to be cautious.

The guns aren't really a surprise to Daniel. While it's true that he doesn't live in a place where any random bloke can just go to WalMart and buy enough weapons to equip a small army in a day, it is well known that rural residents in this region are quite well-armed, more so than might legally be allowed. He suspects that a lot of firepower is going to be coming out of various hiding places in the coming days. The kind of people who survive are the kind of people who, for better or worse, don't have a problem with that kind of thing.

Houses, trees and fields speed by him as the terrain begins to open. The rain comes and goes and the sun peeks in and out from the clouds, warming the land but not to the point of mugginess. Several more hours pass and he reaches a long stretch of empty, rural highway before seeing something especially unusual.

A large, twin-engine passenger jet of some kind is rapidly approaching from the opposite direction, having just executed an emergency landing. He has to veer over to avoid the wing-tip that spreads across the meridian and into his lane. Clouds of sparks from the fuselage and shattered landing gears shower him as he passes through its wake, and Daniel is thankful that the asphalt is still wet. He slows to a stop and marvels at the surreal events concluding behind him.

Airliners aren't supposed to land on highways. And, in spite of how much Hollywood loves the idea, it is only under the most desperate of circumstances that a flight crew will try something like it, and probably without a high expectation of survival. He can only think of one time it had happened in the real world, when a jet about the size of this crash-landed in the US state of Georgia in the 1970's and killed most of the passengers. He has to wonder what the inside of this one looks like at the moment.

Something else he wonders: who's flying it? Is one of the pilots unaffected? Or one of the passengers? Or have autopilots become good enough to crash-land unmanned aircraft?

He had sworn not to be stopped or distracted before nightfall, but he just has to know. Cursing his curiosity, he spins the bike around and speeds to where the evacuation chutes are deploying.

* * *

It's some kind of beagle or similar maybe, though Heather can't tell for sure. Maybe a terrier? Hard to say, she doesn't really know dogs.

The trapped little dog runs from one end of the wrecked car's interior to the other, jumping against the glass and barking at anything passing by. The bloody-headed owner lays slumped in the passenger's seat.

Heather can well imagine how this is going to go. At first the dog was concerned for its owner, now it's desperate to escape. If it stays in there long enough, its attention will return to the insensate owner as the smell of blood makes it hungry...

...she tries not to think such horrid thoughts, but it can't be helped. And if the thoughts themselves are horrid, the decisions they present are worse:

Ignore it, like she ignored the fire outside her workplace? Let the dog out so it doesn't do the unthinkable? Ask Pierre to shoot it so it doesn't escape and starve or go feral? Bash its head in herself so as not to waste a bullet? Helluva decision for someone who's biggest concern when she woke up this morning was achieving escape velocity from her mid-range condominium and getting to the bus on time.

Pierre and Sarah's neighborhood fits them, she has to admit. But did it always fit? Was it this big of a dump when they went to work this morning? Well no, of course it wasn't, but how much of the damage came before or after the end of the world? Had the blight set in an hour ago or a century? Impossible to know, lucky that the place still stands at all.

The entire party is armed. Heather had searched the van and found a sturdy piece of pipe and a large, nasty-looking knife. She cuts an odd figure as she carries it in an improvised rope belt, a blade-packing ex-office drone. Sarah, more credibly, still carries the blade of the paper cutter she vandalized; her "Frank Castle Special" as she calls it.

Pierre has their only gun, a weathered-looking Browning Hi-Power and a baggie of bullets from above his refrigerator. 1940's vintage, he's sure that it'll still shoot, though he admits that he's only fired it once before. He also has two cheap replica katanas, one of which he gives to Sarah. He presently emerges from the duplex and packs another large plastic container into the back of the van. Sarah

follows with a dog on a leash, a large pit bull of a kind that has long been banned in their area.

“Good thing we keep our kitchen stocked.” says Pierre. “I’ve divided the food based on what’s going to spoil first, so we need to remember that when we stop to eat. I’ve also got some pencils and notebook paper, and I’m wondering if we could make a shopping list for the first sporting goods and grocery stores we find.”

Sarah looks at the wrecked car with the barking dog, then speaks a few words to Pierre. Pierre nods and walks over. He tries the door handles and, when none of them open, picks up a stone and smashes a window. The car alarm gives a weak, oddly-distorted cry as the dog practically leaps into his arms. He rubs behind its ears and smiles.

“Do we have enough food for two dogs?” asks Heather as she watches this.

“Don’t we?” says Sarah. “Of all the things to get looted, I don’t think too many people will be looking for dog food.”

Chapter Two: 3,200,000,000

They make it to the shopping plaza, dodging the worst of the pileups and leaving several more shattered windows in their wake from where immobilized vehicles had to be moved. In one case, they use blocks, planks, and fortuitous terrain to leverage the side of a wrecked Suburu and flip it.

Heather stays to guard the van as Pierre and Sarah take a peek inside the stores. Another fire is burning here, several buildings are engulfed in flames and thick black smoke belches skyward. This one is more intense than the one from outside their office, but it also has more people working to control it. Some survivors have organized an ad hoc aid station for the burn and smoke victims, while others line up in a bucket brigade from the building to a duck pond.

Do they not have hoses? Or has something happened to the water mains? That’s possible, especially considering how many hydrants must have been smashed by out-of-control vehicles. Heather idly wonders how many of the injured will make it. Smoke inhalation is bad enough, but anyone suffering from full-thickness burns will need professional care and advanced trauma centers for skin grafts and the prevention of infections. Without that, they will likely die. Will hospitals, to say nothing of specialized burn wards and trauma centers, ever exist again?

And not for the first time she wonders, how many have died? Not just gone comatose, but completely lost their lives when most of humanity fell asleep at the wheel. Anyone driving or flying at the time was in a lot of trouble, and it would surely be a terrible moment to be near high-voltage wires or under a surgeon’s knife. But how many people were near a hot stove when this happened? Or in the same building, or next door to one? There wouldn’t be aid stations and bucket brigades everywhere. Somewhere, a fire is going to get out of hand, and then nothing but rain or lack of anything more to burn will extinguish it.

She had once heard from somewhere that oil refineries and gas plants are always a few hours away from an explosion big enough to redraw the local maps, and that their stored fuel can burn for days or weeks on end. And what about the nuclear plants? With the Internet having gone the way of the hospitals by now, there will be no way to find out if any of those are close to her, not until it has a

meltdown and irradiates her.

Red lights flash in the rear-view mirror as a fire truck swerves through the parking lot and finally stops in front of the inferno, with several people piling off of it. That's the first functioning emergency vehicle Heather's seen so far. She notices that more than a few of the riders clearly aren't firemen, or at least not dressed like it. They're wearing street clothes, but they set about connecting hoses and donning bunker gear as if they know what they're doing.

There's something odd about that group. They move with an odd jerkiness to them, as if they all have bad leg and arm cramps. And yet, their sense of coordination is impeccable. No one seems to manage or command them, yet everyone knows immediately what to do and where to be. Maybe they're all part of some exceptionally well-trained volunteer response team?

The sliding doors open and her friends begin grabbing bags and packages.

"All clear inside, let's get what we can before that fire draws any cops to it." says Sarah. Heather nods, she slides the little dog from her lap and grabs a few bags of her own. She steps out of the van and secures a shopping cart. Time to shop.

* * *

The aircraft is a Bombardier CRJ100 owned by a regional airline with seating for about fifty-four, not quite as big as Daniel had thought. Scraps of metal lie in a broken path behind it and the frame appears warped and distorted. It will never fly again, and the smell of leaking jet fuel is very worrisome.

Most of the passengers and the crew don't seem all that worse for wear, but there's something uncanny about them. They pile from the exits one by one, in tight formation. They mimic each other perfectly, and they frankly remind him of lemmings from those old computer games. They move a safe distance away from the craft, gathering unusually close together, and simply stand in place like statues or robots. Daniel is more than a little surprised to find a singular exception.

"Georgie, Georgie! Please, for God's sake, snap out of it!"

A woman is trying to get the attention of what must be her boyfriend or husband. Her frame is small and lithe except in her belly, where a rounded swell is noticeable. In growing forcefulness born of desperation, she pulls and tugs at her much larger companion. He stands firmly in place, his eyes staring blankly and his face gaunt and dead. When she finally causes him to stumble slightly, he turns and shoves hard enough to send her flying, then disappears into the mass of enthralled humanity.

The woman wails in utter despondence as she lays on the shoulder of the highway. Overcome with sympathy, Daniel hurries to her side to check that she's unharmed, and tries to get some answers on what happened on their flight. Between the sobs, she confirms much of what he might have guessed: how everyone around her had groaned and fallen at her feet. How she sat alone for she knew not how long, unable to reach the cockpit and expecting death at any moment. How the plane began maneuvering again, clearly under some kind of intelligent control. How the others reawakened and returned to their seats, fastening their seat-belts and assuming crash positions. How they... how they somehow weren't themselves anymore...

She breaks down at that point, and he doesn't try to push her. For a long time, Daniel holds tight to the

inconsolable woman, completely at a loss on what to do with her. He looks up at her possessed plane-mates, still standing motionless together. In spite of himself, he can't help but remember the words of Samuel Taylor Coleridge:

"They groaned, they stirred, they all uprose,
Nor spake, nor moved their eyes;
It had been strange, even in a dream,
To have seen those dead men rise.

The helmsman steered, the ship moved on;
Yet never a breeze up-blew;
The mariners all 'gan work the ropes,
Where they were wont to do;
They raised their limbs like lifeless tools—
We were a ghastly crew."

* * *

The grocery store is their first target. Flashlight beams dart to and fro in the now-darkened interior, but they're able to avoid the larger gangs of fellow five-fingered discounters and no one else bothers them. They're clearly not the first to think of looting, but at least they haven't been too terribly late in coming.

The eggs and bread are all long gone of course, so are most of the dairy products. There's little left of canned foods, fresh fruits or vegetables, or staples like rice or oatmeal, though Pierre and Sarah's pantry included many of these. There is a fair amount of beef jerky, and some slabs of beef that Pierre says he can turn into more jerky. There's fish that can be smoked, pork that can be salted, and bacon that can be preserved in lard. The chicken that they find is probably best consumed immediately. Sarah tells Heather that she wants to use any leftover fat for pemmican, whatever that is. Having looked for granola and failing to find any, the hardy road warriors almost seem to relish the thought of making it in the campfire alongside their smores and tarte au sucre.

They find a surprisingly large amount of grits; this not being an area where it's commonly eaten, and the one canned good they find in abundance is Vienna sausage. There's also gravy, sorghum syrup, and local honey. They'll be eating like American Southerners for the next few days, it seems.

There's dog food and cat food too, largely ignored. The dogs are going to like that, it can also be used as bait for fishing or trapping, and Pierre claims that some of the canned stuff isn't half bad. Sarah is more than a little upset to find all the booze gone, but Pierre finds yeast and lots of sugar and he's pretty sure he could brew his own if he gets a chance to set up a still. There's a random assortment of sodas and juices, and more bits of junk food to go along with what they had taken from the office vending machine.

There's also multivitamins and calcium tablets, which could do them good in the long run if they have to live on a marginal diet. That, even more so than Pierre's apparent predilection for the Muenster Milling Company, is what really clues Heather in to the fact that they really were stocking up for the end of the world, not a weekend camping trip. Heather, who seldom filled her apartment's minifridge more than halfway with whatever she could grab at the corner store, can't begin to guess at how long their haul will last.

In terms of gear, they've likewise done reasonably well. They have three new tents, one of those for if they meet with Frankie and his family again. There's sleeping bags, some more backpacks and gym and duffel bags to make their loot more portable, some fishing rods and tackle, some multitools, some proper saws (wood and metal), a few of those "wilderness survival kits" of dubious quality, some large mylar blankets of rather good quality, some rain-proof tarpaulins, some big fuel cans and a hose to siphon gas from abandoned vehicles, some untapped water cooler tanks from the store break room, some bleach and iodine tablets to purify more water, a hexamine stove and mess kit, some flint and steel along with several match books and lighters, and a couple of Coleman lanterns. They have some local maps and compasses, even though none of them really know that much about orienteering. They would like a better hatchet than the one they have, as well as a full-sized axe and a small shovel, but those are all gone. There's no glue or duct-tape left, and Pierre isn't entirely satisfied with the two half-rolls he has. They do grab a few large Victor rat traps, which Pierre says are equally good for squirrels.

Heather is now wearing a thick denim jacket over her thin silk blouse, and will soon trade in her slacks and dress shoes for jeans and hiking boots. She'll need a whole new wardrobe, as Sarah is thinner and taller and nothing she owns will fit her, and none of the clothing she has at her own apartment—that she'll quite possibly never see again—is suitable for outdoor activity. For just a moment, she thinks about her tidy little abode: bedroom, bathroom, a kitchenette she never uses, a living room with a high-end TV on the wall and not much else, a desktop full of video games in which she spends her free time gunning down nazis and zombies and mutants and nazi zombie mutants. Not a single thing to help keep her from dying were she forced to weather her nation's winters for a week with the heating and hydro turned off.

Pierre curses aloud when he finds no pellet or BB guns, which are also useful for hunting small-game. His curses only increase as he stalks the camping and outdoor sections of the stores. Most of his own gear is still locked up for winter storage in his hometown some 1,000 kilometers away, and only next weekend he and Sarah were planning to retrieve it to use in this unseasonably warm weather. He claims that it was all better than the junk being sold here, but Heather wonders if that's just pride on his part. As far as she can tell, camping gear is camping gear. Sarah calms him down with a promise that they'll surely make it back home at least once before winter.

Now, leaving the store and finally taking a good look at the firefighters a few blocks down, Sarah wonders just how far away a thousand kilometers might really be.

"Merde!" she gasps, "ZOMBIES! It's a goddamned zombie apocalypse!"

"What? What do you mean? Those aren't zombies!" declares Heather, who has most certainly played enough of the Dead Rising series to know.

"Look at them Heather! Look at their faces! They've got the same dead look to them that they had when they dropped, and yet here they are again! And the way they're moving..."

It's uncanny, she has to admit, and they had spent much of their time in the stores wondering why no twitching, comatose bodies could be seen in this area. But still, such a suggestion...

"Ok, yeah... maybe. But, but zombies groan and shamble and eat people's brains, they don't put out fires and clear away wreckage!"

A figure approaches from behind, one who had overheard the conversation and clearly shares an interest in the extraordinary scene before them. He announces himself with lines of poetry:

“The body of my brother's son
Stood by me, knee to knee:
The body and I pulled at one rope,
But he said nought to me.”

He wears a blue turban and the grey jumpsuit of a mechanic or an electrician. He's presently pushing a shopping cart of his own, filled with yet-more looted merchandise. He carries a short-sword of some kind on his side, as well as a crossbow in a sling and a quiver on his back. Pierre acknowledges the man with a smile and a nod.

“Hello, Kundar.”

“Hello, favorite customer.” says Kundar Singh to Pierre. “I should have known that, if anyone was going to survive this madness, you would.”

“Thank you.” says Pierre, before turning back to the women.

“You know, I think Sarah might be on to something.” He shrugs. “I mean, it's not like Romero invented the concept of zombies. The Haitians did, or maybe their ancestors. Originally, a zombie was a dead or mostly-dead body who was brought back to life by evil necromancers, to serve as slave labour. Like in that old Bob Hope movie: they're deprived of their souls and free will, all they can do is blindly follow orders, not knowing what they're doing and not caring... and these guys,” he gestures at one large group on the road, an improbably-broad cross-section of humanity driving or pushing abandoned vehicles out of the street. “these guys fit that bill.”

“I can buy the slave labour part.” says Heather. “But where's the evil necromancer behind all of this? And for that matter, what's so evil about cleaning up the mess they made?”

They're not the ones running around armed in the streets committing vandalism and larceny, she thinks to herself. She leaves this thought unspoken.

“Whatever the answer to that is, it might be best to learn from a distance.” suggests Kundar.

“Yeah,” says Sarah. “Yeah, let's get out of here, they're giving me the creeps.”

* * *

Newly converted units owe their skill and intelligence to three main sources. One is whatever was in their brains before their conversion, though how much of this is retained and how long it stays retained varies considerably. Another is whatever the algorithm deems fit to transmit directly into their brains, though this happens rarely and is, for a number of reasons, less effective than one might imagine.

Most importantly, the mental power of an individual is a function of the size of the “hive” he belongs to. Minds under the algorithm's control rely on other like minds in close proximity to send and receive messages through the noosphere, or the special field of energy created by all beings with cognitive ability.

That is to say, a unit in a very large group—over three hundred, say—would generally have a good grasp of whatever it knew in the past, and would find it very easy to systematize new knowledge. One hundred and fifty would be an acceptable size for a group if one only needs them for toil and drudgery. A unit in a smaller group—any less than half of that—could be anywhere in intellect between a very dumb human and a very smart chimpanzee. One in a group of less than thirty would do little more than walk and breath, and one in a group of less than twelve, no matter how capable it had been in its old life, would very soon forget even that.

*Nate the Assistant Head Manager would have grinned if he still remembered how. Large hives *could* temporarily divide into smaller groups with little trouble, so long as someone of the properly-unique psychology was around to serve as a local node between these subgroups and the rest of the network. Even when kept as a whole, the group generally benefited from the presence of such a unit. Nate was born to rule and destined to command, and The Algorithm in its wisdom had seen that in him.*

His employees—slaves, as he had secretly viewed them in the past and openly viewed them now—were busily at work cleaning up the damage caused by The Transition. People who had never in their lives cracked a medical textbook were treating shock, staunching blood and immobilizing fractures with all the skill of veteran EMTs, although seldom with the practiced dexterity and finesse needed to be truly good at it. They knew as much about fire prevention and fire suppression as any professional fireman, although they generally lacked the strength or stamina to be truly effective. Nonetheless, Nate and his horde were quickly able to bring order to his area of operations.

Now he waited to complete whatever objective The Algorithm should assign him next. He suspected, and eagerly hoped, that Phase 2 would involve... expansion.

* * *

Daniel takes the woman further down the road, out of sight from her commuter-plane-of-the-damned. Mariam Baker is her name. Previously on her way to a family wedding with her husband. She points to a spot on his map where her in-laws own several farms and homesteads, only some 50 km out of his way, and leaving her on the road simply isn't acceptable.

He doesn't know if it's safe for someone six months pregnant to ride on the back of a motorcycle, and she doesn't either. He knows that riding animals while pregnant was historically seen as dangerous. Women who absolutely had to travel in that condition generally rode side-saddle, like the Virgin Mary on her donkey. He doubts that would work on a bike, so he has her ride pillion as normal and tries his best to go slow and easy. He would like to find a working car for her to drive and follow him in, but they don't have any luck with the remaining derelicts they come across. The possessed are pocketing their keys.

The flat farmland gives way to rolling hills covered in thick forests, and Daniel can't shake the feeling of shadows watching from the trees. As he nears the little town marked on his map, he comes across a light armoured car sitting in the road, with a group of four men standing guard. For some reason, they're flying an older, unofficial version of the national flag from an antenna on the vehicle. He quickly picks up on signs that these are not official police or military, and he isn't sure if he should be more or less worried by that.

"Ayyy, buddy!" calls out one of them, an older man in face-mask and cowboy hat, with a lever-action

rifle across his back and a submachine gun slung at his waist. The latter has a crude yet workable look to it, like it had been built in some basement workshop. “What brings you to our fair community, stranger?”

“Hi.” says Daniel, trying to hide his uneasiness. “I have a friend here, her family lives in the area. Uh, Baker family...?”

“Here for the wedding, eh? Well, they may still have it, since the bride and groom are still standing. Same can’t be said for a lot of the guests, though. We put them in the gymnasium when they all dropped, then locked them in the old lumber mill when they came back. Still not sure what we’ll do with ‘em.”

Daniel nods. He looks at the other men, younger and more nervous than their leader. And behind the facade, he can see a haunted look in the man’s eyes, one that he is very sure he shares. The ghosts of those who fell are going to remain in the minds of those who saw it for a very long time.

“Hey, uh, if you don’t mind my asking, how bad was it here?”

“Ah, bad... but not as bad as some places. A lot of the village is still okay, and almost everyone in the church is, so I’ve gotta say that we’ve been very blessed. The big problem is with the outsiders. There’s about fifteen passenger planes that landed at or near the regional airport and almost everyone aboard turned zombie on us. We caught about a thousand of them, but another thousand escaped into the surrounding woods. We estimate only about five or six hundred effectives in this community, so you can understand that we’re a little nervous...”

Nervous of these mindless automatons, he thought? Why? Because they can fly airplanes when they want to, he answers himself. Who knows what else they can do? Daniel decides to ask another question instead:

“Your church?”

“Oh yeah...” the man chuckles and hands him a sheet of paper, a religious pamphlet of some kind. “I’m actually one of the deacons. We’ve been doing what we can to care for the community. Local law enforcement and almost the entire civil government was among the ones who did turn, so I guess we’re the closest thing left to a government, much as I hate to say it.

“But like I said, people are nervous. It’s going to be getting dark before you reach the Baker farm and it’s probably not a good idea to be driving around at night. There’s a campground up the road from here, we can radio ahead and tell them you’re coming. Let the folks at the gate know if you need anything and it’ll be provided. We’ll send someone to call on you, first thing in the morning.”

Daniel suspects that the instruction to stop for the night isn’t just a request. Nor is it a terrible idea; it is getting late after all, and he doesn’t relish the thought of finding his way on little backroads in the dark with someone who is still largely nonverbal.

As he drives away, he thinks about that deacon and his fireteam. Seems friendly enough, hadn’t asked any probing questions, didn’t bother looking at his ID and didn’t even give his pistol or rifle a second glance. Of course, maybe you can afford not to care when you own an armored car.

Daniel and Mariam find the campsite surprisingly crowded, but in good order. A roving patrol of armed guards make their rounds on horseback. Several campfires are burning and they can hear voices talking, people laughing and music playing. Daniel had thought of plopping down at any one of the occupied sites, but Mariam gestures towards an unused spot, indicating that she isn't ready to interact with strangers just yet. Before long, a shelter is pitched and soup is cooking on the campfire.

Daniel watches his travel-buddy as she eats her beef and barley and stares into the flames. She had been too queasy to eat on the road, now she sips from her bowl with relish and sighs deeply, probably the first easy breath she's taken on this day. Life seeps back into a pale, vacant face and she turns to face him, her lips creasing into a smile.

Mariam has bright hazel eyes, of a kind he's only seen before on Arabs and Central Asians, though he really doesn't feel inclined to ask her ethnicity. Her skin is lighter than one might expect, though Daniel does know that a wide variety of skin-tones exist in that region. He wonders, and not for the first time, how the rest of the world is fairing from what happened.

They sit in silence together. She leans over and snuggles against him, and he wraps a protective arm around her soft, round body. The look she gives him causes feelings to well up in him that he struggles to understand.

Oh, he understands part of it. She's a pretty girl, married and pregnant though she might be, and he's a heterosexual man, room-temperature libido though he might have. But that's only a small part of it. He knows that he sees her as something to be protected and cared for. He had always thought that the idea of a "pregnancy glow" had some truth to it; he had heard somewhere that newborn babies produce pheromones that naturally trigger nurturing and protective instincts in women, and he often wonders if pregnant women have similar effects on men.

Mariam shifts against him slightly. Her eyes close and she sleeps. It doesn't look like rain tonight, so he gently places her under the tarp shelter and spends the night alone beneath the stars.

* * *

Phase 1 had disproportionately affected the urban upper and middle class in first-world countries. Social outcasts and resistant populations of various forms remained unconverted, as did the populations of several rogue states, but this would be addressed in short order.

First, the algorithm worked to gain control of those nations that had not been fully integrated into the noosphere, but might still be strong enough to threaten it. This would be done by capturing as much of their populations alive as possible and forcibly installing the conversion materials into their bodies. They would resist, of course, but resistance would be futile against the full weight of the industrialized world working as one against them. In very short order, they would be assimilated.

Chapter Three: 3,100,000,000

"I can't believe it! We knew what we were in for here, I can't believe we forgot the lighter fluid!"

Pierre looks at the wet pile of wood in despair. The area must have been hit with some heavy evening showers, because the ground and logs are damp and coaxing a fire from dry kindling alone is a

challenge his party lacks the skill to accomplish.

“Gasoline?” suggests Sarah. “We can use gasoline, can’t we?”

“Yeah, but you remember the last time I did that, don’t you? Burned half my beard off!”

Heather chuckles, then she remembers something she had seen from some survival show.

“Guys, can I try something?”

She pulls a couple of corn chips from the bag she had been munching from, holds a lighter to them, then places the burning ends inside the tepee of paper, twigs and pine needles. The corn oil makes for a nice little blaze that rapidly ignites the kindling, and then catches fire to the wood itself, Pierre gradually adds progressively-larger sticks and branches to the pit, and soon they have a good fire going.

“Well, I’ll be damned.” he says in honest admiration. “I’ll have to remember this.”

Pierre and Sarah’s chosen refuge is unsurprising: a trucker and biker bar outside of town, with a large field and pond behind it. Camp-outs and parties are commonly held here, campers and tents sprout up haphazardly as more and more of the patrons gather at their favorite watering hole. It bears a lot in common with another campsite on the mainland some distance to the northwest, just a little louder and rowdier.

Music is blaring over a set of field speakers. Heather wonders if the grid is still up here or if they’re running generators. Either way, it probably won’t last. Batches of moonshine pass from campfire to campfire. That will last quite a bit longer, and maybe without blinding anyone. Taking her chances, she takes a gulp and hands the jug to Kundar, who politely declines.

“Oh yeah, forgot. Sorry!”

“No problem.” he says genially.

“By the way, Kundar, what was that from earlier? That poem you quoted?”

“With the dead bodies coming back to life? Ah, the Rime of the Ancient Mariner, a droll old thing about a cursed sailor and the story of his redemption. Probably one of the most widely-referenced Romanticist poems in the English language.” He laughs. “Obtuse and archaic even by 18th century standards, so of course all the 19th century gothic writers loved it, as did 20th century horror and science fiction writers.”

Kundar has an interesting accent. It’s vaguely British and it contrasts amusingly with the French accents of Pierre and Sarah.

“Heavy metal musicians have a thing for it, too.” says Pierre, riffing an air guitar dramatically. He begins to loudly belt out “Hear the rime of the ancient mariner/ See his eye as he stops one of three.” in falsetto. There are laughs among the group, and then from other nearby groups. Before long, Karyn the bar owner has Iron Maiden blaring on the speakers.

Darkness falls. Several hours later, Frankie finds his way to the place with his wife, several of his adult

children and a few of their grandchildren. They begin unloading multiple boxes of foodstuff and other gear from a minivan, and it doesn't look like they had needed to loot it.

Heather is a bit surprised to learn that the nice old guy from the office is a prepper. She's even more surprised by the big, military-looking rifles that he and his wife are carrying. Not M16s or AKs, but something older. She recalls from somewhere that he's some kind of Seventh-Day Adventist, and wonders if his church encourages prepping in the same way that Mormons do.

Won't that be funny? The whole world is going to be divided between outlaw bikers and outlaw missionaries.

* * *

It did rain a time or two in the night, but Daniel's poncho is proof against it. Mariam is up before he is, and he awakens to the smell of oatmeal and green tea on a campfire. She burns it a little, but he doesn't complain. They eat together in silence.

"Have you ever seen that old movie, Invasion of the Body Snatchers?" she finally asks.

"Yeah, but it was a long time ago when I was still a kid." says Daniel. "Read the book a little more recently. Why?"

"I... I wasn't sure if I was going to wake up human today..."

A drab green Toyota pickup pulls up to their campsite as they finish off the breakfast. The older woman driving it is in the same rough uniform as the men at the checkpoint—or maybe she normally dresses in jeans and camouflage. Daniel half expects to see another belt-fed gun mounted in the bed like the one on the roof of the Mercedes G-Class, but the only visible weapon is a hunting rifle in the gun rack.

"Mary!" screams the driver as she parks the truck, quickly running to the woman and wrapping her as tightly as she dared. Daniel hadn't known whether or not Mariam had been close to her in-laws before, but of course it makes sense for them to cherish her now, when shortly before they had every reason to assume her lost among the dead or living-in-death.

The greetings are short and succinct. The pickup driver, Hannah Baker, doesn't bother asking about her son; either already suspecting his fate, not wanting to know, or a bit of both. They help to clean up and pack and, at her insistence, Daniel follows them to the family farm.

There are now twelve people living permanently on about 100 acres of good growing land, a rare commodity in this area. They're in the process of amalgamating nearby woodlands and some abandoned vacation properties, and are clearly intent on creating, as much as possible, a fully self-sufficient freehold within the wider community.

Daniel treads gingerly into the two-story stone-and-wood farmhouse and a mug of what looks like beet juice is immediately shoved into his hands. A raucous crowd has gathered to celebrate in the dining room, and Daniel soon discovers that his desultory act of charity has, in their minds, turned him into a Saint George character who saved their princess from the clutches of a winged dragon.

It makes sense, he comes to realize. The strength of a clan is measured in its ability to safeguard and

care for its women and children. Someone who helps the clan in that endeavor, saving one of both no less, will naturally be seen as a friend. It feels a little odd to think of modern people in terms of Stone Age tribalism, but then the ability to adopt that kind of mindset is what will likely divide the quick from the dead in this new world of theirs.

Daniel extracts himself from this commotion as fast as courtesy allows. He finds an out-of-the-way place where Hannah is reading a book on home brewing, and takes a seat across from her.

“What’s going to happen to Mariam?” he asks.

“Hard to say. She’s healthy enough physically. I’m a little worried at her having the baby here, but I can’t imagine a better place in this world to do it. We have a doctor and a midwife in town, Cousin Rob is a veterinarian and he seldom loses his foals. Maybe we’ll manage.”

Hannah takes a sip of the oddly-colored beverage. Daniel had noticed a smell like spruce needles in his own drink, and he wonders if she plans on making spruce beer.

“Are you... staying?” she asks.

“I’m afraid not. I have some things I have to take care of on my own property, another 500 kilometers away.”

“Oh well.” says Hannah, crestfallen. “Well, Jamie, Georgie’s older brother, he lost his wife. He and Mary always got along well, maybe he could take her in for awhile.”

Leverite marriage, thinks Daniel glumly. How delightfully Old Testament.

“It wouldn’t have to be real, of course,” she continues. “Just something to keep those creepy kooks at the checkpoints from coming around and bothering her.”

“Wait, what!?” Daniel asks. “You mean your local church?”

“Not our church. They’re a weird bunch, that group. They came around here a few years ago. Set up shop where the big sawmill used to be, minded their own business, they put more money into the economy than they took out, and it was nice to see families and children around town for a change, so we ignored them. There must be some three hundred of them or so now, but it never seemed like there were that many before. The rest of the community is pretty evenly split between local residents, bugged out vacationers, and refugees of various types. The churchies say they don’t want to end up running the place, but they act like they already do.”

Daniel looks up and casts a suspicious eye around the room, concerned at what the answer to his next question might be.

“How bad is it here, really?” he almost whispers. “Are they setting up some kind of theocratic dictatorship?”

She sighs.

“No. Not yet, at least. Fact is, they’ve been nothing but helpful so far. They provide food and fuel for

people who need it, they've offered advice on surviving in this new world of ours. They've even given away guns to families who want them but don't have any. They say they want everyone to have the ability to defend themselves, which isn't the kind of thing you do when you want to create a dictatorship. Yeah, they're kind of preachy and annoying but," she shrugs, "I don't know, they're definitely charitable. Maybe they really do read that Bible they keep thumping.

"Of course, it's only Day Two of the apocalypse. Who knows what things will look like in a few more months or years? That's why I'm trying to keep the family as independent as possible, just in case it ends up getting bad for us."

* * *

Jamie Baker agrees to drive Mariam to the local resource centre to get some clothes and other essential items. Daniel decides to tag along, partially to get away from the mass of people at the farm, and partially because he wants to see what the town looks like.

"Is that an army-issued rifle you're carrying, Daniel?" asks Jamie as they crowd into the cab of his truck.

"I'm sorry, what?"

"That rifle of yours. I had one just like it in Afghanistan, fighting for the Sackler Family's Opium, or Justin Trudeau's Weed, or whatever bloody worthless thing I was supposed to be fighting for."

"Oh, yeah... I don't know," says Daniel. "I pinched it from a security van. Still haven't had a chance to fire it, it's not the kind of gun I ever had any practice with."

The drive is short. He doesn't know what he expects to find in town, but at least at first glance the place seems normal. More normal than the few desolate highway towns he had driven through. The resource centre is being assisted (or taken over) by the church. They don't have a wide variety of merchandise, but what they do have comes in abundance. Mariam buys clothes and bedsheets from the store, and receives a free care package of sorts from the church.

Interestingly, they have a "professional tailor" on site today, a bubbly young girl who can't be more than 16 years old. She takes Mariam's measurements and tells her to visit or radio back later, and she'll give her a price on maternity outfits. Daniel is taken aback by the charming girl, and only slightly perturbed by the police-issued MP5 submachine gun she keeps close to her work bench.

Something about these people and their arsenal isn't adding up, and he asks about it when he's once again in the safety of the truck.

"Where did they get all of this hardware?"

"You noticed that, eh?" says Jamie. "Yeah, they were the first to hit the local Gendarmerie barracks. They say they got all the military gear from an army warehouse near here, a secret one that wasn't on any maps. Maybe that's true, and maybe it isn't. But I think they must have been stockpiling long before this happened."

"They're making a few of their own too, apparently," notes Daniel. "Did they just happen to have a

munitions plant somewhere?”

“Yes.” says Jamie flatly. “Traditional machine shop, and some 3D printers. I guess that’s why they’re in charge: they had the initiative, they had the organization, they had the manpower, and now they have the firepower.”

“Yeah, sucks how that works.”

“Oh, I don’t know. Someone has to be in charge. If not them then probably me and my drinking buddies at the Royal Legion branch, God help us. If not us then some group of thugs or gunsels like we keep hearing on the ham and shortwave. Rumor has it that the church has lots of heavier stuff in hiding, just in case something bigger and stronger comes to visit one day. Smart, if true.”

“Bigger and stronger? Does anything like that still exist?”

“Yeah. We’re only hearing scattered reports on the radio, no one really knows what’s happening for sure, but it looks like the combined zombified militaries of the world are gearing up for war. We don’t know if they’re going after the unaffected portions of the world, or coming after us, or something else entirely. If you have some time after we get home, we’ll fire up the radios and see if we hear anything. And I’ll clue you in on world events as much as I can.”

Daniel thinks about that for a moment. He’s close to home now, and eager to finish his journey. But he also suspects that Jamie, who is clearly more familiar with radio communications, might be able to provide him with information that he wouldn’t find on his own. And in any event, he’ll still probably get there before the end of the day.

“Well... if there’s still wars, then at least we know that free-thinking humans control at least part of the planet.”

* * *

The story in the local area is largely being repeated throughout the English-speaking world. Those affected are disproportionately urban, urbane, conventional and obedient; those unaffected largely rural, rustic, oppositional and defiant. The political and economic elites have almost all turned, as have their managers and petty bureaucrats, the police and military who protect their system, their healthcare workers and others in industries considered essential to their power and lifestyle.

There are exceptions. There are a few billionaires and politicians and generals who remain standing, and there are reports of outlaws and rebels who have fallen, but on the whole the strange sickness largely spares what had once been called the lumpen-proletariat. Bakunin and Stirner would have been happy.

Western Europe is in an even worse state, since undomesticated humans of the kind who seem more immune were simply not as common there. Eastern Europe and Russia, in contrast, seem to be in better shape. However, their upper echelons and essential workers have turned almost as heavily as the ones in the West. And, as rigid and hierarchical as Slavic societies tend to be, it’s likely that the loss of so many in the ruling and managerial class will lead to serious disruptions downstream.

China is in a better state, but not much better. The state apparatus is still functioning and the military is

in-tact, but losses have been suffered and national cohesion is low. It is entirely possible that Huaxia will arise from this chaos as one of the more undiminished world powers, equally likely that it will sink into another Warring States or Warlord Era.

It's the rogue states and hermit kingdoms that seem to be the real winners. Almost no one turned in Afghanistan, Houthi Yemen, Cuba, or North Korea. The forces of the latter swarm south and across the sea to secure the wealth left behind in South Korea and Japan. Within hours, they become among the mightiest military powers in the Pacific Theatre.

In most of Latin America, the Indian Subcontinent and Southeast Asia, the division of affected and unaffected generally reflects the stark class disparities in those regions. On the ground, the situation seems to resemble something of worldwide bloodless (though not deathless) peasant uprisings. Campesinos drive their trucks or mule teams into Mexico City and Rio de Janeiro to loot the mansions of their former masters, while cartels help themselves to the contents of military bases.

Singapore is under a two-pronged amphibious assault by surviving fishermen and mariners of Malaysia and Indonesia. This is particularly noteworthy, because it's one of the few cases where the zombies fight against human interlopers rather than placidly ignore them. With fists and teeth, with handheld weapons and thrown detritus, with hastily-built barricades and deadfalls, with homemade explosives and with the few guns available, the businessmen and shopkeepers of the city-state resolutely resist the ad-hoc invasion. People who wouldn't spit gum on the street in their last life fight like Viking berserkers in this one.

Only a few people in Africa turn, and most of those are among the most affluent, politically-connected and thoroughly westernized. The common people barely notice a difference, even the severance of Western and Chinese aid troubles them little, as so little of it ever trickled down to their coin-purses anyway. If anything, their lives may improve in a world without their politicians and other parasites.

North Africa and the Middle East are the greatest anomaly. Except in those nations with regimes most slavishly loyal to the West, neither the rulers nor the ruled are significantly affected. Israel is almost completely gone, with the only significant number of survivors to be found among the Arabs and some of the small Christian and Ultra Orthodox sects. From comparatively-unsathed Damascus and Tehran to now-leaderless Riyadh and Cairo, the call is rising for the faithful to march forward in Holy Jihad and reclaim their stolen land while they have the chance.

* * *

Mariam's face turns ashen upon hearing that last one. She is indeed Arab as Daniel had guessed, Palestinian specifically. And while she has no love for NATO's racist settler colony, she also understands that anything fired at it could easily fall short and wipe out her cousins in the old country. Survive the zombie apocalypse just to die beneath a volley of SCUDs, heh heh, wouldn't that be some shit?

Jamie keeps his equipment in a little sheet-metal shed with solar panels, a gasoline generator, batteries and a tall antenna mounted on a hilltop near the main house. He has a ham radio and transmitter, an amplified CB/GSR rig, a shortwave receiver, standard AM/FM radio, an emergency services scanner, and a stolen police radio capable of listening in to trunked or encrypted communications on applicable frequencies. Anything he hears, and the frequency he hears it on, is meticulously transcribed with an old Royal Typewriter. He has a niece and nephew who serve as apprentices and listen in when he isn't

around.

Nothing, of course, can be taken as gospel truth. Most of it has gone through several iterations of Chinese Whispers before reaching them, and Hannah, who had originally wanted him to serve as her comms and intel officer, sometimes wonders if the whole operation is anything more than a time-intensive distraction.

Daniel's bike is lighter when he leaves, and he tears down the road in a choler. He doesn't feel lighter though, only emptier. It's as if there's a void behind him where a small, soft, round figure had once held tight. He frankly feels like pulling over and going behind a tree to have a cry, but he brutally banishes that inclination from his mind.

"You're leaving?" she had asked.

"Yes." he had said simply.

"You'll be back someday?"

"If at all possible, I will be. There are a lot of things here that I would like to work with, and some people I might want to keep in touch with."

She was silent for several seconds, hazel eyes regarding him. She held a sleeping infant in her arms, Jamie's youngest son. The motionless child had a look of complete serenity on his face, oblivious to the cares of a dying world.

"Are you scared?" she asked.

"Yes." he said.

"What will you do?"

He shrugged.

"I was a... a researcher of sorts in a past life. I have some equipment at my property, and I plan to set up shop again and conduct a few experiments when I get there, maybe get a better understanding of what's happening."

She didn't ask why he couldn't stay with her family, or try to get patronage from the church. Maybe she understood that something was being left unspoken.

"Like a wizard retreating to his hermitage?" she asked gamely.

"Like one, that on a lonesome road
Doth walk in fear and dread,
And having once turned round walks on,
And turns no more his head;"

She had smiled at that. He left unspoken the rest:

“Because he knows, a frightful fiend
Doth close behind him tread.”

There's one more thing he left unspoken, even to himself: they're all going to die. That's the outcome if the models prove accurate: he, she, her in-laws, the church members, the guy with the revolver back at the intersection, Elijah the security guard and Angie the janitor, everyone he's seen or met in the time since the event will be dead or worse within a couple of years. It's possible that even the living dead will eventually die, although in a more grotesque fashion as the internal nanomachines their runaway bodies are producing slowly outgrow them.

Those are the odds, if something isn't done to change the model. Daniel does what he always does with thought like that: he takes hold of it, compartmentalizes it, and buries it so deep in his psyche that it'll probably cause him problems later. He's therefore able to continue pretending that he's done a good and worthwhile thing today.

As he rides on, he thinks about the one last bit of news he heard before he left: a patrol from the church had stumbled upon a group of the possessed in the nearby forest and attempted to capture them. They resisted. One had a pistol and managed to gun down a human with it before running out of bullets. The others rushed forward with clubs and knives, as sullen-faced as ever as they tore into their foes in a bloody frenzy. They fought with no sign of pain or fear, not even speaking a single word as they beat and slashed and stabbed. Gunshot wounds alone failed to reliably stop them, only blood-loss or immediately-incapacitating damage served to end the onslaught. Only one member of the twelve-man patrol survived to tell of what happened.

Daniel thinks back to that first act of violence he had witnessed, when Mariam's husband had shoved her. First that, then the admittedly-dubious reports from Singapore, now this, all over the course of 24 hours. A frightening escalation, and where it's leading seems obvious to him.

* * *

Heather's survivor community has a smattering of radios that they occasionally listen in on. But they don't monitor them as diligently as the Bakers and would frankly wonder why it matters what's happening in far-away Israel or Singapore.

Nonetheless, they have noticed things. They see contrails in the sky cut by large cargo planes, their scouts spy heavily-laden convoys of army trucks on the highways, some have gone as far as the nearest harbor to see troops and equipment loading onto ships bound for ports unknown. It's obvious that the nation is at war, but who they fight and why remains a mystery.

Within a few days, the hordes rehouse themselves in city centres, occupying essential infrastructure such as major factories and farms, and eventually procure weapons to defend them. They open fire on those unaffected who draw too near, but as of yet they don't attack unprovoked and they seem to leave the hinterlands free for the wild humans.

The days roll on, the campground inhabitants settle into one profession or another. Pierre becomes an officer in the militia, Frankie's wife becomes the resident doctor, Frankie goes to work building raised-bed gardens, Sarah joins the scavenging parties that sneak into town at night for any needed goods, Heather finds herself helping to set up a system of latrines and shower houses. Sanitation duty is a

nasty line of work, but it is essential, and she's at least glad that they can find something worthwhile for her to do.

Karyn is the de-facto leader, though leadership and governance remain haphazard. The political situation is largely that of individualist anarchism, the economy one of war socialism. Excess and newly-acquired supplies are held in common and distributed on the basis of need and merit, but anything originally brought to the campground remains the property of whoever first brought it. Looting the city is a dangerous affair; when Sarah and the others go out, they very often take losses.

Dying and death are well-known to the survivor community, and not all of the corpses come from that first chaotic day. Many who survived were later found hanging from rafters, sitting in bloody bathtubs or crumpled at the base of high jumps. Some of these were despondent over the loss of loved ones or unwilling to abide a world of preindustrial or even paleolithic hardships. That's bad enough, but even worse is when they find the remnants of entire families where parents had decided their children are better off not living at all, rather than living in the new world.

Accidents seem to make up the rest, in particular those people—often very intelligent by the standards of the old world—who burn down their houses or suffocate in their sleep because they know less about fire than the average paleolithic child. A few people drink of the cool, clear, woodland water and are rudely introduced to giardia, but most of those will only suffer a painful learning experience from it. It could be worse, and it would get worse. It's still too early for the more serious risks of food poisoning, and the climate and temperature is not so much of an enemy at this time of year.

Perhaps the most dispiriting source of casualties comes from the so-called “late turners,” people who are fine one moment and suddenly find themselves stricken with those mind-rending headaches that quickly turn them into twitching paralytics. The victims are dangerous if allowed to complete their transformation, and the survivors suspect that other automatons might be able to hone in on them, so anyone thought to suffer such a fate is typically destroyed as soon as possible. Epileptics have to be very careful of the company they keep in this world, though with experience one can usually tell the difference between a transformation and a seizure.

Every able-bodied adult has to take turns at The Pit. At the start, there were just too many dead to bury, and they hadn't wanted to leave the corpses to spread disease or to give scavengers a taste for human flesh. So they built a pyre that continues to blaze unceasingly. They thought it would be far enough away to not disturb their campground. They miscalculated; the orange glow in the distance and the disturbingly-appealing pork-like smell when the wind is right constantly reminds them of the world they now live in.

* * *

Daniel sets out before noon, expecting to make it home with sunlight to spare. That plan soon goes careening into the void where the road was supposed to have crossed a river.

The bridge is out. Dynamited, by the looks of it. Someone must have heard how the possessed were turning violent, or maybe they've reached their limits and don't want any more hungry mouths passing this way, or maybe it was some other reason. Whatever the reason, a major route of travel is gone.

It hadn't been inconceivable. Daniel had known that roads and bridges on his route could be hopelessly congested or damaged or even destroyed, though he hadn't expected the latter to happen so soon. He

had thus marked multiple paths by which he might reach his destination. He cuts cross-country along a railroad right-of-way, traveling deep into the woodlands until he comes to a collapsed trestle. He then begins following the access roads of high voltage power lines in the general direction of where he wants to go, finally crossing the river at a shallow ford.

He pops back on the road at a power substation and almost immediately draws a random swarm of bullets. He speeds away rapidly, never knowing who had fired at him or why. He finds another group of gunmen occupying a barricade. They don't open fire, but they also don't let him pass. They tell him that the causeway he wishes to cross has been cratered and collapsed in any event, and the only way to his destination now is by ferry. He finds the ferryman and trades a bag of coffee for passage. He never drank the stuff, but he had expected it to be a useful trade good. He is taken across his last water obstacle on a ragged-looking vessel with a disturbing number of holes shot through it. A journey that should have taken hours ends up taking days.

Finally, he pulls up to what looks like an abandoned work site trailer, which is what it used to be. It's also the trailhead to the place he'll be calling home. Two old box springs lean against its side and these serve as excellent camouflage for the bike. It won't be the best of accommodations, but it's after dark now and Daniel is looking forward to sleeping with a roof over his head for once. Sometime in the night, his sleep is interrupted by the whuppa-whuppa-whuppa of distant helicopters.

Chapter Four: Reverse Reddecker

Somewhere outside Jericho, Palestine:

With yells of "Allahu Ackbar!", Sergeant Hassan Sayad Shirazi's launch crews fired in near-unison at the attacking enemy forces. A 9M113 Konkurs missile struck the front of an Israeli Namer Infantry Fighting Vehicle with a tremendous explosion, though it didn't seem to faze the huge, armored behemoth. Another missile failed to strike the mark and landed instead among the dismounted infantry that recklessly swarmed behind it. Yet another was destroyed in flight by the Trophy Active Defense System. Two final missiles managed to hit the vehicle, with at least one causing thick black smoke to spill from its bowels.

Surviving crew and members of the nine-man squad it carried bailed from the wreck and joined the rest of the infantry in their relentless advance. Some dodged and weaved from one bit of cover to the next, others marched forward completely heedless to the withering fire from the trenches. The oncoming tanks and armored vehicles fired an angry volley of their own, adding to the steady blasts of mortars and artillery. There were explosions and screams of agony among the Arab lines, though they were yet to be routed. It would have to be settled in grisly trench-fighting.

The defenders had noticed very early on that whatever form of shayatin or djinn had possessed their enemies seemed to rob them of some of their combat training, though it also robbed them of any feelings of pain or fear. They vastly outnumbered the defenders, they still far outpaced them technologically, and the two days given to fortify this rocky section of ridgeline overlooking the highway hadn't been enough to prepare for such a determined onslaught.

Hassan Shirazi fully expected to be martyred today. He quietly made dhikr as he ordered his men to reload.

An RPG-22 smashed against the side of an M113 armored vehicle, igniting the fuel tank and causing

the flaming wreck to roll to a stop a mere fifteen meters from Shirazi's position in the trenches. The M2 gunner stayed in his cupola and continued to fire his weapon, even as his flesh burned away and rounds cooked off around him. If any unassimilated Muslim or Jewish humans around were familiar with it, the smell from the fire would be uncannily likened to that of roasting pork.

Hassan was temporarily stupefied by the sight. In all the battles he had fought in Lebanon and Syria and elsewhere, he had never seen a Moslem so strong in the faith as to stand in place while he burned to death. And yet this godless infidel was willing to do so? Was the influence of the shayatin really that powerful? And if so, was there any hope at all of beating them?

From the smoke and dust that now obscured the battlefield came a horde of voiceless, sullen footmen, the sight of which forced Hassan back out of his funk. Raising his battle rifle, he aimed into the horde and fired on full-auto. The first in his line of fire, a policeman with a shotgun, dropped to the ground as the rounds stitched his body. The second, someone in civilian attire with some kind of military carbine, also fell to his burst, but not before blowing off a chunk of Hassan's hip.

He saw more coming as he fell to the ground. They overran his position, with one unsheathing a machete as it noticed him. A moment later, Hassan received his martyrdom.

* * *

Deeming their losses in the taking of Hassan Shirazi's trenches unacceptable, the local node of the Algorithm called in several flights of helicopters and fighter-bombers for close-air support against remaining points of resistance. Bombs, missiles, rockets and chain guns tore across the trenches, without as much risk of "friendly fire" as an unassimilated army might face, since the Algorithm always knew exactly where on the battlefield its own forces were located. Not that it cared overmuch.

What it did care about was the anti-aircraft batteries that lashed out angrily at the aircraft, blasting several from the sky and damaging many others. The power and effectiveness of the weapons came as an unwelcome surprise and, without sufficient Air Defense Suppression assets in the area, it decided to withdraw aircraft for now. Until approval arrived for the use of more decisive weapons, battles like these would have to be won the hard way.

* * *

Colonel Bisher Abu Ashshih raised a bloodied hand to his table as he lifted himself back to his feet. He waived off the medics and tried to shake himself out of the daze.

"Every bomb that falls on us is one that won't fall on Amman." he thinks aloud.

It hadn't exactly been a bomb that nearly hit the sandbag-and-scrap-metal command post, but a stricken jet fighter gone kamakazi. The enemy had already taken losses that would make any normal Western army blanch, and probably force them to fall back and reconsider their strategic situation. This new army came forth like the rising of the tide. Fighting vehicles plowed forward like hungry fire-breathing dragons, while the ground behind them was carpeted with wave upon wave of running Israeli infantry.

They weren't all Israelis of course, Abu Ashshih reminded himself. More than a few were Turkish or Egyptian or other possessed Arabs of various nationalities, along with elements of half a dozen rapid-reaction forces from the European Union, NATO, and possibly the USA.

His own regiment-sized force was no less polyglot: a core cadre of survivors from the Jordanian Royal Army, a near equal force of Palestinians from various security and guerrilla groups, a number of civilian volunteers from both sides of the border walls, a number of Syrians, Iraqis, Lebanese, Iranians and even Russians who couldn't quite explain what they were doing here, and even a handful of Israelis and vacationing Westerners who had somehow avoided possession.

He knew that Palestine would surely fall, but he also knew that every second of delay would give more civilians a chance to escape, and more time for the combined unassimilated armies to establish their defenses on the far side of the Jordan River. They had tried retreating under cover of suppressive fire from their first line of trenches, then found to their horror that, against those who have no fear of being maimed or killed, suppressive fire wasn't. The attackers continued to give chase and those defenders who managed to flee from the first line were usually shot in the back before they reached the second.

Now Abu Ashshih listened to radio reports as the enemy closed on his main force, enveloping them in many places and overrunning them in others. His men fought, and for the most part they fought well, but they were clearly at a point where further defense would not slow the attackers, and thus the order was given for a general retreat. Some of the participants in this battle would escape, some would disperse into the surrounding hills and eventually find their way back to friendly lines, most would not evade their hunters.

Now lacking anything to command, Commander Abu Ashshih shambled outside of his command tent and found a good spot nearby, behind an overturned truck. It lay in a place where the shayatin would likely run close around it, and they might be careless enough not to check their corners. Unlike some of his comrades, he had never been quite so faithful as to welcome martyrdom, but he did grimly wonder just how many of them he could kill before he died. He sat flat on the rocky ground with a grenade beneath one leg, a trench-knife beneath the other, and a carbine in his hands.

"Inshallah, I will not be the one shot in the back today," he muttered.

* * *

Flying low above the vast expanse of darkened boreal forest, two lines of choppers zoomed in loose formation. They carried a reinforced infantry company, both soldiers of old and those units equipped and programmed to serve as soldiers.

Their mission was to neutralize a collection of renegades on the outskirts of a small city that had become a source of concern to local node authorities. They were to capture as many as possible; kill or scatter what they must. While the algorithm was focused primarily on subjugating what nation- or army-sized opponents remained, local nodes would not overlook opportunities to remove those threats still weak enough to be easily treated now, but which might fester if not promptly debried.

Standing in the elevated community command centre, Karyn Fogargty tapped the barrel of one of her few general purpose machine guns and looked around at her militia's ad-hoc officer's corps.

Karyn was a striking woman: tall, blond, strong, still cutting an impressive figure in her mid 40's. She bound the roguish denizens of the community together through her administrative talents, through her warm and inviting demeanor, and through the fact that most of them had been victim or witness to a good coshing in an earlier life, when they became overly drunk and disorderly on her premises. Few

had any military or law enforcement experience to speak of, whereas quite a few had backgrounds of a highly disreputable nature—backgrounds that gave them some understanding of firearms and tactics and home defense.

She had always been a huge Stephen King fan. “Trucks” was one of the most terrifying short stories she ever read, even if her ex-husband, an Emilio Estavan fan, always had a nasty habit of making Maximum Overdrive references whenever she mentioned it. Her bar was often the scene of conversations where she and the patrons would discuss how to survive if the machines ever magically gained sentience and started trying to kill them. To her, the idea of any and all motor vehicles coming to life as murderous steel behemoths seemed like a far greater “worst case scenario” than the idea of weak, dumb, slow-moving rotten cadavers ever posing a serious threat to modern society. It’s the ROBOT apocalypse that you prepare for if you want to be able to survive anything.

Although, she had read “Home Delivery,” liked it, and wished that King had written more stories in that vein. Occasionally, people would mention a full-sized post-apocalyptic novel he had written, one involving cell phones and pulses and brainwiped levitating telepaths. Karyn regretted that she had never read it, but she didn’t regret it very much. With the possible exception of The Stand, she believed that King’s real strength was always in his short stories, and that he usually fell short when trying to stretch his formula into films or novels.

And so, the two hundred-odd residents of the survivor community had certainly considered the possibility of possessed mobs, police, or military attacking them. Everyone who could hold one had tried to procure a firearm and at least rudimentary training in the use of it. Tents and campers and shacks were pulled as close together as comfort and fire safety would allow, fireproofed further when possible, and the perimeter was ringed with shallow trenches, barbed wire, barricades of log and sandbag, and simple lookouts and firing positions. The interior of the settlement was built with interlocking, fortified defensive areas, with numerous alleyways and kill zones of the kind that made counterinsurgency and SWAT actions in places like the slums of Gaza and Brazil such a nightmare. Hidden escape passages had been planned, though it would be some time before those could be constructed. They’d be screwed for now if anyone just bombed or burned them out like the MOVE House or Branch Davidians, but anyone wanting the place or its occupants intact would have to bleed for it.

“Remember ladies and gents, they’re not coming to make arrests this time, and God help us if they are. There ain’t no plea bargaining with life-in-death. They’ll come loud and they’ll come fast, but we shoot first and we can last.”

* * *

Tracer rounds reached up at the thumping wraiths as they drew near, though to little real effect. The helicopters landed out of view and disgorged their infantry, who rapidly moved upon the enemy compound.

The defenders opened fire at about 300 meters. The many hunters among them, equipped with high-powered rifles and night-vision scopes, took their targets and fired. Rifles and machineguns and grenade launchers tore into the advancing ranks, unwary intruders began encountering the first of the booby traps. The battlefield came alight in the ghastly glow of parachute flares and explosions.

The attackers hit the dirt and returned fire: defenders were shot, mortar rounds fell on the compound and anti-tank rockets were brought to bear on defensive strong-points. The sides seemed nearly evenly matched, with the attackers more exposed and slightly outnumbered while superior in training, coordination and equipment. Perhaps Karyn and her community could have held their own that night, and forced the heliborne zombies back to their craft with the coming of the dawn. Perhaps they could have done that, had it not been for those same helicopters.

They were a mix of military, police, and civilian craft. Most either came with or had been juryrigged with searchlights, machine guns and a few homemade bombs, and these they now deployed against the settlement. They crisscrossed its structures and fired down into them or else they circled the perimeter and fired broadside. The heavy rounds tore easily through the light material that made up most of the community, inflicting a grisly toll. The lights and noise frightened and disoriented the defenders. The forces on the ground returned fire, and even managed to damage a few of the craft, but hostile air support was simply something they hadn't and probably couldn't have accounted for.

Under the cover of fire support from above, the infantry resumed the advance. They breached the barricades and invested into the compound. Ambushers with shotguns, homemade claymore mines, molotov cocktails and melee weapons awaited, but it wasn't going to be enough. Harried from the air and pressed from the ground, the humans had no choice but to flee.

Chapter Five: 2,500,000,000

The attackers' only attempt at communication with the survivor community is a short repeating message, pre-recorded, delivered over loudspeakers via text-to-speech software. The message is "ATTENTION, ATTENTION, ATTENTION. ALL CITIZENS MUST UNDERGO CONVERSION. CONVERTED CITIZENS WILL NOT BE HARMED. RESISTANCE MUST STOP NOW. ALL CITIZENS MUST BE CONVERTED NOW."

That's what it's supposed to say, but the machine voice is so distorted, and the speakers so out-of-sync, that almost none of it can be understood. The only word that Heather can make out is "conversion," though that's enough for her. She goes prone on the metal roof deck of an old skoolie RV, nestled behind sandbags alongside other members of her squad. Her platoon holds a far end on the line of contact while better formations deploy center and forward.

Heather is a part of a third-rate unit to put it charitably, consisting mostly of older and younger members of the community and armed with the lower-end of their available weaponry. She carries a single-shot, bolt-action .22 target rifle along with a revolver in the same caliber and the hunting knife that she had started with.

It feels so stupid. Here she is fighting a modern army armed with assault rifles and body armor, and all she has are weapons that would have been laughed off the Plains of Abraham or the Trenches of Yorktown. Over the last few days, she has at least become reasonably acquainted with the use of firearms, and appears to be a natural marksman, though anything close to mastery is still many lessons away.

Her mind rocks and buffets with doubts and uncertainty. Her body, on the other hand, chambers round after round into the rifle and fires more or less at random into the dark. There's a blooming flash of fire

in the cleared ground around their settlement, and Heather sees a black figure silhouetted in the light. Even as the flash dies away, she continues to track him by the glow of the flares. He walks forward steadily and fires his weapon at regular intervals, shooting from the hip.

Someone had once told her that some of the possessed, even the ones who had formerly been police or military, don't always show sound judgment in combat. They fail to aim their weapons and they sometimes forget to take cover in the face of enemy fire. Right now, the one approaching presents a perfect target, looking less like a human and more like one of the cutouts from the militia's shooting range.

With conscious effort, Heather aligns her rear and front sights on the figure, aiming for where the face should be. She mentally recites the pointers for accurate shooting: breath deep and slow, from the belly, through the nose and not the mouth. Shoot at the top or bottom of the inhale/exhale cycle. Squeeze and don't slap or jerk the trigger. Hold the weapon steady as it fires.

The rifle snaps as the little bullet zips downrange. The target swats at the side of his head as if something had gone under his helmet and stung him, then he glances at his palm in confusion and tries to keep walking. In a moment, he begins weaving and swaying from what might be blood loss. Heather follows through with two more quick shots to the center-of-mass, but it's hard to say if these make it through the Kevlar or even hit at all. He stumbles back into the dark, out of her line of fire, without her ever knowing how damaged he is nor even if her round had really caused that damage.

A nearby machine gun nest disappears in the smoke and fire of a thunderous explosion. Automatic rounds whine around her position, with sandbags bursting and metal clanging from the impacts. A helicopter's searchlight shines upon her. She turns towards one of her fellow fighters just in time to watch the front of his head explode. Something wet and meaty splashes on her face, and she doesn't remember much after that.

Next thing she remembers is fleeing from the doomed compound and running across open ground, retreating along with what's left of the inhabitants. Dawn is creeping across the sky and the first light of morning is upon her, though she makes her flight largely by the glow of flames to her back. She hears yelps and screams from behind and pays them no attention. Her escape is unthinking and desperate, she doesn't know if she's on a safe path of retreat or if her next footfall might land her on a punji stick or landmine.

She finally breaks into the woods and gropes her way around the trees. She trips and stumbles in the disorienting tangle, not sure where she's going and not caring. If left to her own devices, she would have probably continued tearing blindly through the woods until collapsing from exhaustion, easy prey for any enemies that follow the path she cuts. Her flight is stopped instead by a figure moving out of cover towards her, its finger held to its lips.

"Heather! Heather it's me, Sarah. Come with me, and stay low!"

The two women join Pierre at a vantage point overlooking a two-lane road cut through the woods. Pierre holds tight to a double-barreled shotgun, Sarah carries his Browning Hi-Power. Heather now realizes that she had lost her rifle somewhere in the run, though she does still have the revolver in the holster. Looking down the slope, she can see what might be police cars in the growing dawn. Several figures are milling about them, most wearing police-issue kevlar and all of them armed.

They're possessed. Somehow, you could always tell the possessed from the unpossessed, even at a distance.

"It's a cordon of some kind," says Pierre quietly. "We're gonna have to sneak or run or fight our way through it if we want to get out of here."

Some time passes. There's a commotion in the distance and several of the figures move towards it. Two soldiers emerge from the woods, dragging a battered, struggling, yelling blond-headed woman between them. The trio trade glances at each other and come to a silent agreement: a distraction, and possibly a chance of making a quartet. Weapons at the ready, they move forward in the underbrush.

"Ow, goddamned jack-booted thugs, get off me!" she shrieks, following it with oddly-vagrant chuckling, "Hey! Hey guys, this is unacceptable! I have rights, let me speak to your manager right now!"

Karyn spits another bloody glob at her captors from the shattered gap in her mouth. Two more walk forward, one wearing a police captain's insignia with a set of zip-ties and another dressed as a game warden and carrying what looks like an oversized BB pistol. Karyn sees what might be her last chance before those binds forever restrain her limbs. She coils into herself and springs the full weight of her body against the captor on the right, pushing him to the ground and wrenching herself away from the one on the left. She runs forward, the captain runs to intercept her, and a stiletto appears from out of nowhere in her fist.

"Nyah! Get stuck, pig!"

Her target's police training kicks in: he locks her wrist and jabs his palm into her face, pushing her back and rotating with his grip on her until she's flat on the ground. He's quick but not quick enough, and the blade has already left a gouge from just below the temporal bone to shy of the larynx. Blood oozes in a stream from his half-slit throat. He pulls the knife out and contemptuously lets it fall away, and now the hemorrhaging positively sprays.

^Nodemaster, I am injured.^

^By the looks of it, you are dying. Seek treatment if you may, though your taskforce is not to deviate from its mission.^

The game warden approaches as the others hold the tied and bound Karyn against the ground. He raises his pistol and fires, there's a "pop" of compressed air as the dart digs into her thigh. She yelps in pain and anger, but is unable to respond as they begin dragging her to the squad cars.

* * *

As soon as it was safe to do so, Nate the Assistant Head Manager—or Nate the Nodemaster—caught a ride on a medevac and traveled in person to the scene of the battle. His slaves could be commanded well enough remotely, but an in-person presence was preferable even for his kind, or at least he thought so. And besides, he rather enjoyed personally watching new acquisitions undergo their conversions.

Screaming, crying prisoners were brought to a secured location just outside their shattered sanctuary. They were placed in the tents and strapped to gurneys and those who hadn't yet received enough were given their full batteries of injections.

They were lucky in a sense, as they would not suffer the headaches or the spasms of those who had been remotely converted. Their minds and bodies are flooded with millions of self-replicating nanomachines that immediately set about upon the healing process, forever curing the patient's of greed, aggression, hatred, injustice, independence, and all other things inimical to the functioning of an orderly society. Over the next few hours, the fight would slowly drain from their muscles, their expressions would slacken and the lights would burn out in their eyes, and they would begin to know the nirvana of slavery even before sleep enveloped them.

Nate loved nothing more than to idly stroll from one to another and to watch the process unfold. Typical of such unique psychologies as his own. Indeed, if he were still human and replete with his old human sensations, he would probably find the whole ritual, the very act of forcing others to do what they would rather not do, sexually gratifying.

His fetish had proved costly on this day. The bodies of dead combat units piled high near the landing zone, stripped and bound for the nearest rendering plant. The renegades had fought with everything they had available, and most had chosen death over surrender. The new converts would number no more than half a dozen, assuming the safe and effective injections brought no sudden and unexpected deaths. And it didn't really matter if they did; he still had far more slaves than he needed.

He did want to bring more of his own people under arms, however. He would justify it on the grounds that he needed them to bring more renegades into the fold or else bring them to destruction, and that would be true. And yet... yet it seemed like a dim vision was forming in his mind; plans and ambitions that stretched even beyond the wishes of The Algorithm. Is that even possible? Could it be that he is such a superior specimen as to know what The Algorithm wants before even It does?

The sound of gunfire in the distance intruded on his meditations. He tried to get an idea of what was happening, but whoever was involved must have been too busy to respond. Well, he thought happily, perhaps we'll have more converts yet.

** * **

The sound of Karyn's yelp brings the trio out in a desperate charge. Outnumbered two to one, they don't think twice as they open fire on her captors.

Heather shoots her revolver as fast and straight as the single-action trigger lets her. Four rounds go down-range, three go into the head and chest of the nearest cop before he drops to the ground. .22 LR may not be ideal for man-killing, and men who don't feel pain sometimes take longer to realize that they're dead, but even Horrors Beyond Comprehension don't respond well to being shot in the face repeatedly.

Pierre fires a barrel of his shotgun into the game warden's chest. Karyn goes limp when the shooting starts, giving him enough clearance to wound one of the soldiers while Sarah kills the second. They all move in to finish off the last of Karyn's tormentors, oblivious to the two officers behind the police SUV who are presently leveling shotguns at their backsides.

There's a loud "twang" from the bushes and one sprouts a crossbow quarrel between his eyes, a corpse before he hits the ground. Kundar leaps from the forest and draws his already-bloodied tulwar with a thunderous cry, distracting the second shotgunner long enough for Sarah and Heather to recognize him as a threat and engage.

Both women fire at almost the same time, both bullets go straight down the ear canal. Both tear around in the skull for some time but, oddly, neither causes significant external damage. No exit wounds, no skull deformations, there isn't even much blood at the entry wound. The brain itself is puree, of course, but it would take quite a while for the medical examiner to figure out how that happened, or it would if they still lived in a world where autopsies were a thing.

Pierre dispatches the remaining wounded with his shotgun butt and Karyn assists him with her recaptured stiletto. It's a gory scene, with the police captain almost completely decapitated and his blood-drenched mutilator still shrieking to the heavens as she slashes again and again. While Sarah and Heather procure shotguns, Kundar takes a rifle from one of the fallen and tries to bring sense back to Pierre and Karyn.

"C'mon, my friends! We have to go, there's more of them right behind me!"

With help from the women, he's able to get the two of them moving. Pierre mutters a "morte aux vaches" as they pull him away from the bodies. Karyn is close to catatonia, only repeating "they've got me, they've got me, they've got me" over and over again. The group manages to dash across the road and back into the trees when shots ring out behind them. Kundar turns and fires off a few rounds to try and dissuade pursuit. They're finally in the relative safety of cover, and have managed to put a little distance between themselves and the new enemies before someone notices the grisly spreading red from the gunshot wound through Pierre's chest.

Chapter Six: 2,450,000,000

It's late in the morning when Daniel pulls himself from the comfort of his sleeping bag. He helps himself to a breakfast of items picked up from somewhere on the road: canned food, boxed cereal and orange juice which he uses in place of milk. Unorthodox, but workable. Gonna feel weird not living out of his 72-hour pack for days on end anymore, he thinks. It's almost noon by the time he gets moving and begins his trek up to what will be his home for the duration.

He owns the property under a fake identity; not the same fake identity under which he owns his motorcycle or his long lost old Nissan Maxima or the apartment near his old workplace. It consists of two hectares of broken, rocky, scraggly-wooded and overgrown land, presently good for little save isolation. A steep, dogrose-covered slope rises up behind the trailer and it's very easy to miss the narrow ledge that meanders upward along it. Daniel works his way through the thorns and vines as he climbs. The ground levels out broadly at the top before ending again at a sheer stone bluff, the base of which angles into a deep overhang or a small cave. The entrance is covered in stones and logs and leafy boughs to hide the many crates and boxes piled inside it.

Daniel wants to expand this shelter into a full-sized living space, and to resume work on a simple cabin outside it. The leaking, rotting, thin-walled and rodent-riddled trailer downhill is adequate for short-term storage, but it simply isn't fit to live in, especially not in winter. He'll probably cannibalize what he doesn't burn of it in the building of his cabin, but that's a more long-term objective. For the moment, he works to recover the supply of food, tools, and other items that will be essential to his survival.

Hidden back in December, his provisions should last until the end of next winter.

He looks closely at the frayed rope and scowls. The other end had once been suspended from a tree branch, holding several camouflaged buckets of grains and dried meat. The plastic food buckets are now scattered on the ground in chewed pieces, the food having likely served as breakfast for a bear fresh out of hibernation. It must have known to claw and chew its way through the rope so as to get access to the buckets that held all those goodies out of reach above it. Daniel is too impressed to be angry.

“Serves me right for using ropes and knots instead of cables and crimps.” he states with a shrug.

Bears had been a big concern for him, and he had used multiple methods to keep his stores safe from the opportunistic omnivores. Burying might have been ideal, though the ground here is too rocky to do that easily and he happens to know that bears are excellent diggers. He had placed several well-sealed cans and buckets at the bottom of clefts in the rocks which no bear was likely to reach. And that worked well enough for the metal cans, but upon examining a number of the plastic buckets he discovers that even thick plastic is not proof against the razor-sharp teeth of mice and rats. This does make him angry, and vengefully thankful for the mouse traps he had brought with him.

He returns to his trailer, unpacks some spare clothes from an ammo can, and puts on some wading boots. On one edge of his land winds a creek that runs onward to a small pond just beyond his property. He doesn't remember if the pond is on public land or if it belongs to some faceless, nameless multinational logging corp. One or the other, but he doubts that the original owners will mind that he sank a few watertight containers into it. He half-wonders if he'll find that bears or mice or plastic-eating trout have found their way into these as well, but surprisingly enough he finds the cache and contents entirely undamaged.

Paleolithic hunters used to stash the meat from their kills in water to preserve them, and to protect them from scavengers. Be a good idea to remember that if he loses electric refrigeration, he thinks.

He estimates that his pantry has been left at 140 kg of rice and other grains, 20 kg of legumes, 12 kg of dairy product (powdered milk and hard cheeses, mostly), 24 kg of maple syrup and other sugars, 5 kg of yeast and 5 kg of salt, 12 kg of cooking oils, 8 kg of dried fruits, 10 kg of dried meats and 10 kg of ghee. What was supposed to last for more than a year will probably run out in nine or ten months, at least if he doesn't shoot or catch something to supplement it.

Many of his tools are stored in the rock shelter, piled over with brush and stones to conceal them from two-legged interlopers. There's a collection of basic pioneer tools: shovel, post-hole digger, wood axe, pickaxe, splitting maul, hoe, mattock, a metal bar for prying at one end or tamping at the other, a hand winch and several lengths of hemp rope and logging chain. There's two chainsaws: gasoline and electric. He has a basic collection of general repair and carpentry tools: various hammers, several boxes of nails, screwdriver set, plier set, chisel set, wood clamps, tape measure, meter stick, spirit level, hand drill, crosscut saw and several different types of smaller saws, a block planer, a hand winch, a roll of duct-tape, and so on. He had wanted to get more stoneworking, blacksmithing tools and maybe even welding equipment, and curses himself now for the fact that he didn't have the chance.

Nature lover though he is, Daniel rather likes electricity. He has no intention of going back to the Stone Age, nor even back to the Colonial Era. He had been slightly worried that the foreseen cataclysm might unforeseeably culminate in nuclear war, with electromagnetic pulses damaging sensitive electronics

even far out in the hinterlands. It was only a minor concern—EMP probably wouldn't be as devastating as the sci-fi writers make it out to be, probably—but then it was only a minor alteration to turn one of his concealed metal footlockers into a Faraday cage.

A Faraday cage is simple enough in practice: a solid electroconductive shell with no major gaps or holes in it, a non-conductive layer of insulation inside, and the electronics to be protected inside of that. Every shoplifter knows about mylar and tinfoil “booster bags,” and anyone concerned about cellphone privacy can prevent their device from sending or receiving data by turning it off, putting it in a plastic sandwich bag, and then putting the bag into one or two mylar chip bags or toaster pastry wrappers. For his footlocker, Daniel merely ensured that there was no non-conductive barrier between the lid and the body, that it closed firmly, and that it lacked any major gaps or openings. He then lined the inside with a few centimeters of Styrofoam. He checks his devices and all of them seem to function.

There's a number of power tools, most running on interchangeable batteries. There's battery chargers and a portable power station, a DC/AC inverter, and a solar charge controller. There wasn't room in the toolbox for the heavy storage batteries, but an EMP event would be unlikely to damage them. Ditto the two 450-watt solar panels outside, though that does bring to mind another point of concern.

Some sixty meters away, sitting in the open atop a rocky clearing, the big gleaming solar panels are practically impossible to hide. Their very purpose demands that they receive as much unconcealed access to sunlight as possible. That's a problem for Daniel, though in his opinion an acceptable one. Solar panels aren't unheard of in the northern woods, and they don't always indicate a human presence. Hunters and vacationers sometimes leave them in place in the off-season, they're often used to remotely monitor the weather, or soil and water conditions, or even underground pipelines. It's a risk worth taking, and probably not as big of a risk as running the gasoline electric generator which is his Plan B for electronics. That'll last longer than the solar panels in the long term, even if he does eventually have to power it with woodgas or homebrewed ethanol.

He spends the afternoon inventorying his gear, establishing a campsite and tarp shelter, camouflaging it from casual observation, and setting up an electrical and communications system. Evening has him lighting a small cookfire and preparing a dinner. Before turning in for the night, he glances at one of several boxes that remains unopened: the one that holds his communications, information-gathering, and information-storage systems. Tomorrow, if he can actually get those to work, he begins the task of saving the unconverted remnant of humanity.

* * *

Heather steps carefully over the tangle of elm roots, doing her best to cradle her shotgun with one arm while supporting the increasingly insensate Karyn with the other. The group continues moving deeper and deeper into the foliage, where the morning light is almost blocked out by the double canopy. Heather presses her weight against the branches so that her friends can get through more easily.

Sarah and Kunder mutter thanks as they move around her, with the increasingly-pallid Pierre draped between them. Kunder glances behind his back, then at his stricken friends, then he looks at Heather gloomily.

“How far behind are they?” Heather asks.

“Not far enough.” says Kundar. “I don’t know if they’re going to come in after us or if they’re waiting for backup. They’ll call in air support if we’re really unlucky.”

There’s a sound from above as if in answer of that statement, almost like a lawnmower flying somewhere in the sky. The survivors take shelter among the trees as they listen to the unmistakable buzz of a drone, waiting for the sound to diminish before moving again. A few of them try to scan the sky, but it’s impossible to know where the device might have come from or which way it went.

“Can they even see us in this jungle?” whispers Sarah as she tries to peer through branches and leaves. “They’ve got thermal sights on those things, right?”

“I don’t know.” says Heather. “I used to play a lot of ArMA 3 and other shooters with former drone operators. Pretty amazing what those eyes in the sky can see, but they did always say that forests and jungles are absolute ass to hunt in. They try their best not to have any more wars in countries that have them.”

Sarah and Kundar smirk at that. There’s a sound of something snapping in the distance, and the survivors rush to take up their flight again. Pierre is sitting against a fallen tree trunk with Karyn and talking to her quietly, having clearly come to a decision. He waves off his friends when they come to retrieve him.

“Sorry guys, but this is it for me and her.” wheezes Pierre as he holds his bandages in place. “Give us the long guns and we’ll try to hold them off for awhile.”

“What!?” asks Sarah in shock. “No!”

Karyn puts a hand on Sarah’s shoulder and grasps her pleadingly.

“Sarah! Sarah, look at us, you can’t keep dragging our carcasses through the woods like this! We’re gonna both be dead in a few hours anyway, let us at least make our deaths worth something.”

“Karyn,” says Heather softly, “you don’t know if...”

“Damn it, if you don’t want me dying on my own terms then at least have the decency to put a bullet in my head! Otherwise... f...for the love of Christ... I just can’t, I can’t turn into one of those things back there!”

Karyn wipes her eyes in terror as she almost screams and almost cries out her declaration. Sarah and Heather know that there’s no arguing the point. Kundar takes the shotguns and passes them to the wounded. He unslings his own rifle and takes a firing position.

“Keep going, ladies. And don’t wait on me, we’re sure to meet again if that’s what we’re meant to do.”

Sarah looks at him. “Kundar, you’re...”

“...I don’t trust Pierre to kill Karyn if he has to... or vice versa.” Kundar’s face tightens as he says it. “I’ll help them fight as long as I can, I’ll see to it that neither of them are captured, then I’ll get away from here and make my way back to you. Now get moving my friends, they’ll be on us at any moment!”

The sound of movement coming towards them is unmistakable. Heather takes the stunned Sarah by the wrist and the two of them disappear into the forest. Pierre mouths a quiet “thank you” as the human rearguard prepares themselves for death.

* * *

Sarah doesn’t make another sound for the rest of the day. She doesn’t even flinch at the sound of shotgun blasts and automatic weapons fire and what must have been grenades exploding behind her. She doesn’t react when it starts raining again, nor when they come out of the woods into farm fields, nor when they find an ambushed police and military convoy along the side of the field. The armored hulls are cracked open like sardine cans and several were still burning. The attackers probably didn’t come from Karyn’s campground; her people didn’t have that kind of firepower. Nonetheless, Sarah finally allows herself a smile when she sees the letters “AZAB” spraypainted on the side of a bullet-riddled police command truck.

The women search the ambush site for supplies. There isn’t much to find. Whoever did this, they had been thorough in leaving nothing militarily-useful. There’s a few spare sets of clothes in the back of one police car, a tent and some basic camping supplies scattered around, and a few packages of food. Several empty rucksacks are uncovered and these are taken with the plan of filling them with looted goods later. Heather and Sarah know that they probably won’t survive on their own solely by foraging, nor even by hunting and fishing if they could find the gear to do it.

They continue moving. There are no signs of whoever might have attacked the convoy, who they were or when they were here or where they might have gone. There’s no sign of human life at all along their travels, neither free nor possessed. Evening finds them back within the vernal wood. They quietly slip into a shallow basin to make camp for the night, opting not to light a fire for fear of heat-seeking devices. Dinner is uncooked but it is filling. Sarah eats with gusto, which Heather takes as a good sign. Still not talking, though at least she’s not looking quite so vacant and dead inside, like the things that Karyn so feared turning into.

The night is cold and the two of them curl around each other with no shame, drawing what comfort they can from their space-blankets and shared body heat. Sarah falls asleep first, and Heather watches her for a time. Her repose seems to be placid and dreamless, giving no sign of her obvious inner turmoil.

Heather knows how much she’s going to depend on her stronger, more battlewise and generally more intuitive friend, and hopes for the both of them that Sarah retains—or regains—her sanity in the night.

Chapter Seven: 2,380,000,000

“They killed his dog, y’know.” says Sarah in a hollow, haunted monotone. “Slasher, that is. Fukkin’ pigs, they killed all of the dogs during the raid, just walked into the kennels and opened fire... they must have remembered that from their police training. That broke something inside of Pierre, watching his dog die. I think... I don’t know, I would like to think that maybe the two of them are somehow back together now...”

“A man and his dog.” muses Heather. “Tale as old as time, eh?”

Sarah ignores her. Her shell-shocked monologue continues unabated.

“We were talking marriage there at the end, right after Frankie’s daughter and her fiance tied the knot. Or at least he was talking marriage, he always was romantic like that. Thing of it is though, I still don’t know for sure if I ever really loved him. I mean, I loved his drugs, I loved selling his drugs, I loved the challenge of being smart and sneaky enough to never get our door kicked in. I think most of all, I loved the whole underground off-the-grid lifestyle that we were living, and his dreams of squirreling away enough crypto to go live in a cabin in the woods somewhere. I even loved it when we branched out into fake IDs and started selling prescription drugs and medical passports on the dark web. We weren’t just helping people have fun any more, we were giving them necessary medicine that corporate greed or medical bureaucracy was withholding, or else we were helping avoid all the stuff that the political piggies were trying to force on them. I almost felt like a real-life pharmacist at that point.”

She chuckles, and then she sighs.

“I just... I can’t believe he’s gone...”

The wind blows through the leaves and branches, and there’s a sound of thunder in the distance. More rainy weather coming, though perhaps it’ll hinder anyone who might still be looking for them. Heather hopes to make some distance today, and she’s thankful for the decent footwear and rain gear they have.

“Pierre was a good man, wish I could have known him better.” she says, slowly. “Just remember, Sarah, part of him is always going to stay alive for as long as the people he cared about go on living... and... and I know that he cared a lot about you.”

Sarah looks at her. Mistiness gathers in her dark brown eyes, though she doesn’t cry. Heather isn’t sure if that was the right thing to say, as she had never excelled in comforting the grieving, but in a moment the other woman smiles. She helps to clean up the camp and the two of them are soon on their way.

* * *

Saving the unconverted remnant of humanity will take all of 48 hours, though it’s a wonder he ever gets around to it.

Daniel opens up another crate to reveal component pieces of three firearms; a muzzle-loading flintlock rifle and twin flintlock pistols. They came from some DIY kits purchased anonymously back when that was still legal, though he never had a chance to assemble them. He smiles in amusement at the image in his mind: add his axe to the kit, grow a beard, and find some bucks and beavers to skin and he’ll really have the look of a proper seasoned woodsman.

He quickly reminds himself that “seasoned woodsmen” don’t let bears and rats eat a significant portion of their food stores.

He hadn’t counted on getting his hands on modern firearms so quickly. And even now that he has them, the idea of being able to produce ammunition indefinitely and relatively-easily does have an appeal. He has a few cans of black gunpowder in storage. He has even larger stores of sulfur and saltpeter: garden supply store dusting sulfur and tree-stump remover respectively. He had bought these with cash in small batches back when that was still allowed, and burglarized them in bulk thereafter.

He has a disassembled ball mill tumbler which should simplify production, assuming of course that he can get it back together again. If not, he'll make do with a mortar and pestle. While he probably won't need any for shooting right away, there is a lot of things he can do with blasting powder. Rocks can be broken up with it, trees can be felled and logs can be split, he can even make bombs and go fishing if he's feeling particularly vandalous.

He won't do that last one unless he's at the point of starving. More likely, he'll keep a few gunpowder devises on hand to use as grenades and perhaps landmines in defense of his property. Dynamite, blasting gelatin and perhaps cheddites too if he ever has the ability to make them. That would improve his chances should the Algorithm catch on to him and send the SWAT teams his way one night, though his odds of surviving such an event would still be minimal.

Of course, he can do none of those things until he has space and shelter for a workshop and an explosives laboratory. And he can't have that until he builds them. And he can't do that until he does more clearing and planning, and he can't do that until he does something to more effectively sort out all the crap he has squirreled away around his property, and is that what he needs to focus on right now? Doesn't he need to worry about other things, like saving what's left of humanity?

He laughs for a moment at his own conceit. He pauses, and then he wonders...

...when it really is down to you to save the world, and you know that every minute of delay means more people suffering and dying, can you still call it a messiah complex? Or is it rather a sign of pathology when you DON'T set aside your own well-being for the sake of others?

...if they really are out to get you, and if any misstep on your part means that enemies can locate and destroy you, can you still call it paranoia? Or is it rather a sign of pathology when you DON'T take every step you can to conceal and defend yourself in a world of unknown dangers?

He lightens the crate and moves it aside. Behind it is another Faraday box full of more gadgets and gizmos, including an older and mid-quality laptop and a small box of USB sticks and external hard drives. Again he smiles at the mental image: a fur-clad frontiersman sitting on a log outside his cave shelter, with his trusty long rifle at his side and bear steaks cooking on a nearby fire, as he logs in and pulls up his collection of .pdf and .epub cookbooks.

If mankind did anything right in the first quarter of the 21st century--and he suspects it's the only thing they did right--it was the development of high-volume digital storage drives. He could, and did, pack a small copy of the SAS Survival Handbook in his 72 hour bag, and he has a backpack full of more comprehensive guides from the likes of Ray Mears and Calvin Rustrum at his encampment, but there's only so much ink and paper that can be realistically packed into the wilderness. On the other hand, several truckloads worth of books can be converted to digital formats and placed in a hiker's back pocket.

With many thousands of books in storage, Daniel has the makings of an impressive digital library in his box. There's guides for short-term and long-term survival in almost any climate on the planet. There's books on small-scale homesteading as well as commercial agricultural techniques. There's gardening, foraging, orchards and permaculture, beekeeping, animal husbanding and veterinary practices, fishing, trapping, and hunting manuals. There's books on the different ways of storing, cooking, and preserving foods. There's a manual on drilling wells and building cisterns. There's instructions on building houses and other structures both primitive and modern. There's books on useful homesteading tools, both on

using them and making them. There's medical texts on subjects ranging from personal health and simple herbal remedies to advanced field surgery. There's a few books on various "alternative medicines," either alternative because it doesn't work or alternative because it doesn't work at a profit. There's treatises on martial arts, individual combativeness, and tactics and strategy all the way up to the army level. There's studies on nuclear war and guerrilla warfare. There's guides on tailoring. There's one on making rubber both organic and synthesized, and another on producing and recycling plastic. There's a Renaissance-era blacksmithing manual and a modern tutorial for 3D printing, assuming one finds a 3D printer. There's several books on making cement. There's gunsmithing and automotive engineering manuals, and one from the late-19th century on motive-power machinery for mills and factories.

There's a number of chemistry and engineering texts, and in many cases he had tried to find sources on the same topic from different time periods: modern, pre-computer, pre-electricity and sometimes pre-industrial. Daniel's library is meant not just—or even primarily—to ensure his own personal survival, but to help bring whatever remains of humanity up to at least an atomic-era level of technological sophistication.

Ellul's "Technological Society," Kaczynski's "Technological Slavery," and Linkola's "Can Life Prevail?" have also found their way into his library, and he once again wonders if bringing back a civilization capable of nuclear weapons and designer viruses and planet-wide mind-wipes is really a good idea. Is he saving them from one technogenic catastrophe just to pave their way to another?

"That'll be for them to decide," says Daniel as he shrugs and skims over the titles in the catalog. "says God as he shrugs and plants that fruit tree in the Garden of Eden."

Well, at least he does his best to leave whoever might inherit his collection with a grounding in philosophy and culture. There's a full volume of the Encyclopædia Britannica's Eleventh Edition. There's the sacred texts of every major religion in the world, all the great thinkers of the Greco-Roman era, the theologians of the Middle Ages, then the polymaths of the Renaissance, the various ideologues of the Enlightenment onward and the great novelists of the Victorian era. He included the works of Interwar-era British writers such as Shaw, Chesterton, Lewis, and Orwell—though surprisingly few from that island in the postwar period. He has lots of science fiction from the early era through the pulps and Golden Age, though little from the New Wave Writers (whom, save Frank Herbert, he generally finds forgettable even when comprehensible). There is, of course, a fair amount of the better cyberpunk and military-scifi of the late 20th and early 21st century, as well as classical fantasy of the Tolkien and Howard variety, for his own reading pleasure.

Including science fiction and fantasy might be another mistake on his part. Modern historians debate the historicity of King David and King Arthur. Some doubt that Shakespeare existed. If mankind goes through a long period of mass-illiteracy, as seems quite likely, will the concept of the fictional novel still be known to them? Will they actually understand that Lazarus Long and Conan of Cimmeria are not and were never thought to have a basis in our historical records? Would anyone believe that Theodore Roosevelt or Nikolai Tesla were real people?

There was even more than that: horror, romance, westerns, action-adventure, children's literature, textbooks on fields of study that he had never heard of and how-to guides for things he would never do. With the possible exception of self-help books, his digital library includes heavy portions of every published genre known to man. All in all, his terabytes of 1's and 0's encode more written material than could possibly be read in one lifetime. That not including the hours upon hours of video: survival

guides, medical procedures, and so on. He has extensive audio files featuring college lectures that he'll probably never listen to, but maybe such things will be of interest to future generations who never actually had to deal with college lecturers.

It would be tragic indeed if a vital part on his computer fails, or if it gets wet or if something goes wrong with his solar setup and he somehow manages to fry it. He would be like Henry Bemis with his broken glasses in *Time Enough at Last*. That's why he also includes an office-grade laser printer and several cases of ink. Paper and eventually more ink will have to be looted, and binding all that printer paper into convenient book-like formats will take much time and effort, but it will allow him to have hard-copy backups of any of his more useful digital materials.

That'll save civilization, but it won't save humanity. And what good is a repository of human knowledge if nothing but a swarming horde of nanite-riddled zombies remain to read it? Therefore, this project will have to wait as well.

He arranges the boxes into a reasonable semblance of a desk, drags up one of the chairs from the trailer, and upon this desk he places a gleaming desktop PC. It's a custom-built machine boasting top-of-the-line components: late-generation processor and motherboard, expanded RAM capacity, a security-focused operating system, an improved heat-sink and water cooling system, a high-efficiency power supply unit and one of the best GPU's he could get his hands on. It boots up with a leonine purr. Burning more than five to ten times as much power as his laptop, it would be the envy of any gamer or cryptocurrency miner.

Daniel has a special mission in mind for this number-crunching behemoth, one which even a well-made laptop simply can't be built to handle. Two missions actually: disable the Algorithm's ability to infect or convert more humans, and eventually find a way to remove its control over those already infected. In other words, he plans on hacking the apocalypse, slowing it, stopping it, and then trying to reverse it... one zombie at a time.

"Technogenic exorcism, that's the plan." he declares aloud. "Here I am, here I remain! I'm a Veritable Technomancer of the Vernal Wood!"

He giggles stupidly.

Maybe Miriam was right when she called him a wizard in his hermitage. On one hand, his wilderness retreat with its digital library and a hacking machine all seem incongruous to the point of hilarity. Then again, it's no more incongruous than Merlin Sylvestris in his forest cottage filled with arcane grimoires and an enchanted cauldron.

It's raining lightly outside when he finishes setting up his internet terminal and connecting his proxy server with a low-orbit satellite, but the speed and strength of the connection remain strong. Half-expecting an anti-radiation missile to slam into his cave at any minute, he enters commands into the terminal and commences with his cyberattack.

* * *

Pretty much all of humanity was at least partially infected by the nanomachines. The numbers would replicate in each and every human body, re-writing their very DNA, bringing the host to slow but inevitable conversion. And with the largest concentrations of unassimilated humans rapidly falling

across the world, it was unlikely that anything would remain in a position to stop the healing process. In truth, the biggest reason for aggression was because the kind of people who became nodemasters seemed to enjoy it.

It started as a minor disruption. The Algorithm noticed it almost immediately, though a surprising length of time would pass before it suspected intentional sabotage rather than a random mutation in the code or some kind of mechanical failure. Nanomachines in unconverted humans began to stop responding to transmission sources, they began to stop replicating and in some cases they started dying. Those infected by direct injection would generally still turn, though increasingly more boosters were required to have the same effect as before.

It completely failed to realize the gravity of what was occurring. Deeming the bug to be of minor concern, the Algorithm implemented standard diagnostic procedures and hoped to resume normal operations shortly.

Chapter Eight: 2,240,000,000

Sarah hops and skips gaily over the puddles that dot the woodland trail. She taps her trudging comrade on the back and playfully dodges around her. Heather forces a smile from beneath her rain cowl, sincerely happy to see her friend in better spirits but with her own mood dampened by the weather and her misgivings about raiding in daylight.

Although they're heading for an island to the north, the route at present keeps them away from the coasts or coves with their higher population densities. The area is mostly woodland thick with small freshwater lakes, lakes that are ringed with vacation homes, typically deserted in May, and far enough off the beaten path to still have a chance at holding useful supplies.

One such vacation house faces them now, a narrow wooden structure built on a slope, with a ground floor and wide patio and a basement garage that was probably meant for a small car, snowmobiles, or a motor-boat. Best of all, the back door is only a quick dash away from the treeline that marks their refuge.

Heather puts down her load in a place where it can be retrieved easily. She and Sarah each grab a couple of empty backpacks. The women check to see that they have a clear path of escape if something goes wrong, then slowly move forward with pistols at the ready.

They check for signs of recent visitors, then check for unlocked doors, and then Sarah picks the back one when they find nothing. They enter a small mud room and wait for a few seconds, allowing some of the wet to drip off of them. Almost a facetious action at this point, not wanting to dirty up the second or third home of someone who is most likely in no condition to care, but a lifetime of social conditioning doesn't die easy.

They won't doff their coats or boots, not yet at least. Perhaps they'll allow themselves some comfort when the building is cleared, though Heather really doesn't like spending a lot of time in houses. Battery-powered silent alarms are still a thing, after all, and who's to say that one won't still be online and still able to bring someone to come looking for them if they set it off?

Canned food, crumpets and vegemite are in the pantry, and there's stale beer in the fridge. There's a good hatchet in the tool room and Sarah puts it in her belt, while still insisting that she'll find an

opportunity to chop someone with her “Frank Castle Special” if they can just get into a good melee fight.

Heather shakes her head. There’s something abnormal about her friend’s reverence for what is in all likelihood a marginal weapon, but then who is she to judge? Far from the worst of abnormalities to have. And, in truth, she can’t ever look at a lawnmower blade without wanting to make a “Karl Childers Special” of her own.

Heather keeps a lookout topside while Sarah checks the darkened basement. She glances down the stairwell at random intervals, listening to the sound of items moving and watching the sweep of a flashlight beam in the gloom. Her friend stays down a little too long for comfort.

“Sarah? Hey, c’mon Sarah! There anything worthwhile down there?” she whispers.

“Ya betcha there is, I think we hit the motherlode!”

Sarah’s grin pops into view, and the rest of her face soon follows. She holds between her fingers a plastic sandwich bag full of dried plant matter, wiggling it mischievously.

“Lookee here, our previous residents were growing a lot more than hydrangeas. See, didn’t I tell you that we would get lucky if we went to daylight raiding? There’s weed down here, hash oil, mountains of shrooms, cocaine and some other stuff that even I don’t recognize, a whole pharmacy of pills! We don’t have to worry about getting cold anymore this winter, we’ll be too loaded to notice!”

Heather glowers at Sarah, who shrugs her shoulders sheepishly.

“Hey! Don’t look at me like that, you know I’m kidding. Everyone knows that I stay straight when anything dangerous is around me, which is all the time these days.” She frowns. “We can use it for trading though, I guess. Might be fun going back into business. Come give me a hand with this stuff, it’s enough to fill at least one duffel bag.”

“Is there anything... useful down there? You know, anything that doesn’t screw up your motor control, critical thinking, planning abilities, memory, or your ability to account for consequences?”

“Some ramen noodles and toaster pastries, mostly. Some beef jerky too, but I ate most of that. Oh, and caffeine pills and energy drinks! You do like energy drinks, don’t you?”

Heather’s glower softens. For all that she likes to see herself as the straight member of their team, she does still have quite the caffeine addiction.

They help themselves to what they can. Sarah hefts one of the large, fully-loaded duffel bags and plods up the stairs with surprising ease. As she nears the top, there’s a faint and vaguely-grinding sound far in the distance. Few humans would have noticed and fewer still would have cared in the old world, but those with senses sharpened by danger and their time in nature can quickly tell that it’s a sound that only comes from man-made machinery. It’s the sound of car tires on wet pavement.

The women scarce themselves with quick and practiced stealth from the building, moving through the mud room, out the back, and into the trees where their conveyance still awaits them.

Sarah calls it a “shopping sled,” having known early that Cormac McCarthy lied about the post-apocalyptic utility of shopping carts. Two long wooden poles are lashed at one end in a rough “A” shape, with three or four bars tied across it. Their packs and equipment tie snugly to this structure, and Sarah or Heather take turns standing inside the upper half of the “A” and pushing against the frame, leaving the two bottom ends to trail behind. While one serves as a cart horse for the shopping sled, the other watches behind or scouts ahead. Sometimes, when in a hurry or not wishing to leave a trail, they unleash the top of the frame and the both of them carry it like a stretcher. They spend a few seconds converting it to stretcher mode and the two of them are gone before the crowded pickup truck pulls on the gravel drive and bounces into view.

* * *

In between semesters when he was younger, Daniel often traveled the country as a seasonal farm and ranch worker. Conditions were generally bad, the pay was low and wage theft was common, the hours were long and the work was grueling. Still, at the end of his sixty-hour six-day workweek he was often less physically and emotionally drained than some of his classmates after a week of what they did to pay their way through school: black-hat hacking.

It’s almost cliché to say that hacking as portrayed in the movies has very little in common with hacking as it works in real life, but that doesn’t make the statement any less true. Mostly, “hacking” involves sitting in a chair or lying in your bed for much longer than is healthy. You fuel yourself up on your stimulant of choice and you spend hours upon hours meticulously combing through every aspect of your enemy’s security system in search of a chink or exploit which other people are paid a great deal of money to prevent or patch up before you can find it. You pretty much have to be highly obsessive and at least a little crazy to be a truly good professional hacker, a lot like expert chess players.

Funnily enough, you don’t really need an exceptionally good computer for most forms of hacking. Indeed, you might want a cheap and disposable one if what you’re doing will leave it as incriminating evidence to be destroyed after using. You only need a lot of horses under the hood when you’re dealing with a blockchain or doing something along the lines of brute-force password cracking. Unfortunately for Daniel, that’s what hacking the Algorithm is most analogous to.

Then again, he might have been unable to do it if it was the normal kind. He’s little more than what they used to call a script kiddie, and he knows it. Even after breaching the security, he typically has only a vague idea of what he’s attacking and what effect the damage will have on the Algorithm or those possessed by it. He’s a gremlin at the con of a great machine, hitting things and pulling levers at random in the hope that something important breaks.

He sighs as he works his mischief against the great apparatus and its alien environment, with its half-dead thralls and never-alive machines, and tries to repress his horror and disgust. Once again, his friend Coleridge intrudes into his thoughts:

“I looked upon the rotting sea,
And drew my eyes away ;
I looked upon the rotting deck,
And there the dead men lay.

I looked to heaven, and tried to pray;
But or ever a prayer had gusht,

A wicked whisper came, and made
My heart as dry as dust.

I closed my lids, and kept them close,
And the balls like pulses beat ;
For the sky and the sea, and the sea and the sky
Lay like a load on my weary eye,
And the dead were at my feet.”

Going after the Algorithm’s sprawling telecommunications network seems like his best bet, cellular transmissions being its primary means of long-range communication. He doubts that he can bring it down completely, but he can surely cripple it. That would further hinder its ability to make new converts, while giving it significant trouble with the ones it has already. Trying to hack the cell towers is one option, riding around on his bike and setting them on fire or smashing them with rocks (or just disconnecting power to them) is another one, and he’s honestly not sure which would be more efficacious.

The battery bank beeps loudly with its warning that he’s running low on power. Daniel frowns, saves what he was working on, powers down his rig, and yawns. The batteries need a chance to recharge and so does he. Evening is growing late and he decides to retire beneath his tarp and turn in early for the night.

Some time after dark he hears rustling and light footfalls in the nearby leaves. Raccoon or a skunk or some other small scavenging mammal, he thinks. He grabs a flashlight and rifle to check it out anyway. He shines the beam around in the dark, the light catches in the huge yellow eyes of, not a small scavenging mammal, but a beast that must be considerably larger than himself. He blinks in surprise at the sight. Monster? He looks again, but whatever it was is already gone, fleeing into the woods with barely a sound.

Not a monster. Potentially something quite a bit worse.

* * *

“When was the last time you bathed?” asks Heather, her eyes tight to the binoculars.

“Are you trying to make some kind of a French joke there?” asks Sarah.

“Sorry! But no, I’m serious. It was just after the raid for me. So, how about you?”

“Uh, just before the raid if you count cat-baths, I guess. Why are you asking?”

Heather lowers her piece, looks at her friend, and then looks back at what they’re observing.

“Take a real close look at those guys, when was the last time any of them had a bath?”

The vehicle carries more armed men and women. Less well-armed or well-armoured than the ones they’ve seen before, more a posse than police or military. It’s hard to say if they’re here on a routine patrol or if maybe they’re responding to a burglar alarm, though the fact that they’re in no hurry to investigate the burgled house makes Heather and Sarah suspect the former. Sarah looks closely through

her own set and realizes that something is indeed amiss.

“Looks like... honestly, looks like they haven’t bathed since the start of this.” she says at last, “I think most of them haven’t even bothered to change their clothes. Dayum, they crusty...”

“frfr nocap” says Heather teasingly. Sarah looks at her, then she chuckles.

“So, what does it mean?”

“I... I don’t know. I guess it could mean a lot of things. You ever read The Puppet Masters, by Robert A Heinlein?”

“No.”

“You should, if you can find anyone who has a copy.”

Sarah makes a note to do that. The two of them retreat into the underbrush, they take hold of their shopping sled, and continue on their way.

Chapter Nine: 1,820,000,000

Daniel has often heard people talk about the “simple off-the-grid life.” As he spends a nervous night with his gun held tightly to his chest, he wonders where off the grid those people expected to find it.

Far away from bears, for one thing. Oh to be sure, he knows that North American Black Bears are usually very timid in their dealings with humans; they seldom stalk or hunt us in the way that polar bears and grizzlies might. In fact, you can probably count on one hand the number of people killed by black bears in this region in the last century. Intellectually, Daniel knows all of that; emotionally, it doesn’t make him feel any more at ease with the thought of 120 kg of claws and teeth and muscle prowling mere meters from where he has to sleep.

It must be a “nuisance bear,” one raised on a diet of human garbage and litter, that starts to see humans as a food source rather than a danger. It’s probably among the ones that pilfered his foodstuffs, and Daniel well knows how this nuisance is at least partially of his own making. Ah well, live and learn and hope the learning doesn’t kill you.

Black bears are sneak thieves par excellence, smarter than they look and stealthier too. There are stories of the lumbering beasts wandering into campgrounds and stealing backpacks or picnic baskets from under the noses of campers sleeping right beside them, with no one the wiser until the thieves’ identity was discovered on surveillance camera. Daniel knows he’s going to have to work on his defenses.

Or, he could just shoot it. Assuming it gives him another chance. But then he’ll have a bear carcass on his hands, and the obligation to do something with it before the meat spoils. That’s not a task he wants to take on until he’s a little more established. But before he can focus on building his cabin, he’s going to need his sense of security back, and to do that he needs to get rid of that bear.

Daniel sighs. Simple off-the-grid life, with its multiple and interrelated problems that’ll kill you if you don’t find a way to solve them. And he still has to concern himself with the nanite-ridden masses, eventually. Sure would have been nice if he had packed some perimeter alarms or bear bangers in with

all the other gadgets he brought up here...

...wait a minute. Bear bangers?

A bear banger is a simple enough device, just a flare launcher with a flare that goes “bang” instead of “flash.” A large firecracker. Daniel can make firecrackers from gunpowder, he can make initiators for those firecrackers from old lightbulbs taken from the trailer, he can make trigger switches with the wiring from the trailer and the spring-operated clothespins for his laundry and the spare batteries for his flashlights, he can rig them to trip-wires and set them around his shelter, and he can lastly hope that he remembers where he put the things and doesn’t blow off a digit while going out to pee at night. Not quite a minefield, but he’ll sleep easier with such a setup in place.

For the next few days, Daniel tries to stick to a routine schedule. He plans to fell trees and erect his cabin by day, research and sabotage the Algorithm by night. What he’ll actually end up doing is working to the point of exhaustion all day and sleeping all night, just like humans did for the majority of their existence. Disappointing, but it can’t be helped. He needs space for his projects and personal comfort, he needs a comparatively more dust-free and moisture-free environment to house his electronics and other sensitive devices, his ursine troubles—nevermind that wolves and cougars also haunt these forests—prove that he could use the security of four walls and a roof, and he probably won’t survive if he doesn’t have sound lodgings by winter.

* * *

Less than 150 km away, another mechanically-inclined individual is having similar ideas vis a vis bear bangers, though he wants something more than fireworks.

Kundar Singh isn’t able to find non-LED lightbulbs in the lakeside vacation homes, so he uses spark plugs from a lawnmower instead. He wires this to a starter battery also taken from the lawnmower, with two ends of the circuit taped to and held apart by a plastic chip bag clip much like Daniel’s clothespin. The clip is held open by a tripwire which, when triggered, will close both it and the circuit. He places the spark plug into a detonator made of from the smokeless powder of his last rifle rounds. He places the detonator into a green-painted jug of jellied gasoline. He suspends the jug just below a branch overhanging a narrow cut on the gravel road, in the woods beyond the lake. The enemy has been making use of open-topped pickup trucks in this area and, when one drives under, he hopes to immolate the passengers.

A molotov cocktail would have been easier, but less reliable. The payload would be smaller and he doesn’t really trust his pitching skills, and he had no way to make a decent impact detonator. Worse, his presence here would be obvious if a thrown device were to fail, whereas that might not be the case if his Chinese Lantern from Hell were to fizzle.

From the rim of the cut, he can keep an eye on traffic moving along the road in his direction. If he wishes to abort the ambush—spotting a non-enemy, or an enemy too powerful to challenge—he can quickly pull the wires from the battery. Otherwise, he’ll run to his ambush spot behind a sheltering boulder and await the coming inferno. The road cut ends in a tight curve that’ll hopefully cause a stricken vehicle to slam into the ditch or one of the trees. That’ll incapacitate anyone who escapes the flames, which should give him time to dispatch them and maybe gain more ammunition.

While patrols are becoming semi-routine, he's pretty sure that he has a way to force a response team into his trap. Like most of the free human survivors, he's been thinking a lot about his foe: what might have made them, and might matter to them. There's a 5G cell tower on the hill at the top of the road, that tower is now burning energetically. Hearing a distant sound that might be car tires on wet pavement, followed by the growl of an approaching engine, he prepares for battle.

A Ford Super Duty rushes down the road, commandeered from the local telecom company and set up "technical" style with a machine gun in the back. Three people are in the bed and probably two or three in the cab. Kundar gives thanks that they didn't send a drone or chopper. However, things start to go awry not long after the detonator goes off. That part works well enough, the plastic jug ruptures and a wave of rapidly-combusting fuel falls upon them, though perhaps not as vigorously as he would have wanted. Too bad he had no high-explosives to add to the mix, he muses; get a good thermobaric effect that way.

The real problems happen when the big work truck careens, not directly off the curve and into the ditch, but hard right and uphill to slam into the boulder that he hides behind. The front of the truck and the side of the boulder explode into expanding clouds of scrap metal and rock shards. Cargo, bodies, and globs of flaming napalm fly all around him. Kundar is so startled that he springs like a scalded cat away from the crash, leaving his crossbow behind as he does. With a tremor in his very bones and a ringing in his head, he stumbles in the leaves and falls.

Then his past military and martial arts training take over, and he forces his mind to check his body for injuries. Nothing obvious. He's definitely in better shape than the other guys: one truckbed passenger is slammed against a tree trunk and twisted in a shape that no human-shaped creature should make, another is hanging from the branches and burning wildly. The bloody-faced driver is sluggishly fumbling with something at his side and trying to get the door open, the shotgun rider—armed in this case with a military carbine—appears to be uninjured. He kicks his door aside and raises his weapon to fire.

Kundar is on it in a flash. His tulwar slashes deep into the gunman's side and his katar plunges into the throat and then into the chest. Kundar pommels him hard in the solar plexus and sends him sprawling against the side of the truck. He recovers in time to rush into the cab and strike down the driver as well, neutralizing the already-wounded man with little effort. Kundar steps out to grab the closest enemy's carbine and then returns to loot the cab; it's already starting to fill with smoke, and he wants to grab what he can before the fuel tank decides to catch.

More magazines and ammunition for the carbine, compatible with his depleted rifle. A pistol and a few magazines, a shotgun and some shells. Not much use for the belt-fed and its ammunition, not unless he wants the rounds for more smokeless powder. None of them seem to wear body armor or any clothing better than what he has, not that he would want to wear their equipment without a good washing. Next he needs to check the machine-gun, and maybe the guy stuck to the tree-trunk, probably as well as skip the human candle, and... and weren't there THREE riders in the back of the truck!?

A rustling of leaves from behind demands his attention. He spins around and once again almost jumps from his skin when he sees the zombie standing before him. It holds his crossbow in one hand and, for some reason, a large first aid kit in the other. It doesn't attack or attempt to restrain him; he—the hairstyle, build, and clothing makes him fairly certain that the grime-encrusted creature was once a male teenager, maybe a high school student—merely looks at him oddly, with an expression that he's only seen before on curious toddlers. He follows its gaze down to his side, where he now sees the

spread of crimson below the pockets of his freshly-torn pants.

Odd, he hadn't even heard the gunshot.

* * *

Nate the Assistant Head Manager continued to strengthen his fiefdom even in the face of technical difficulties. Indeed, when communications first started growing patchy and garbled, he found it surprisingly easy to operate without The Algorithm's instructions. He didn't see it as such at the time, but he gradually became more and more capable of doing what should have been impossible and operating AGAINST The Algorithm's instructions.

Nate and his forces reigned supreme in the cities and large towns and immediately around them. Essential industry and agriculture would be fully restored before the end of summer, water and power and fuel should be available again in time, and he still had plenty of manpower to spare. The hinterlands were steadily being explored, new land scouted and occupied, resources seized, and more converts made. Nonetheless, there were still setbacks in some cases.

A potential act of minor arson took a much higher precedence when the patrol sent to investigate it went missing. They found the vehicle ruined in the nearby woods with most of the crew killed in a skillfully-laid ambush. One damaged unit survived, and it appeared to be severely malfunctioning; the attacker or attackers was nowhere to be found. The most interesting note in the report was that several of the units appeared to have been killed by bladed weapons, a sword or machete and what might have been some kind of push dagger.

That last part seemed especially galling, thought Nate. Arson, murder, and terrorism are one thing, but do these anarchist renegades not realize that push daggers have long been banned in this jurisdiction!?

The target of the arson itself had been a cell tower, something that was happening with increased frequency across the outskirts of his territory. It wouldn't rise above the level of a minor nuisance so long as the renegades remained unable to affect the satellites, and Nate the Assistant Head Manager would soon be powerful enough that he could probably maintain his rule without even those.

Still, it's not an activity that could be left unanswered.

Chapter Ten: 1,530,000,000

How long does it take to build a log cabin?

Henry David Thoreau famously built his in about 10 weeks, though he did have help and he used scrap material from a previous structure. Thoreau's, like the one infamously built by Ted Kaczynski and his brother, was technically a "shantyboard cabin" and not a log cabin. Richard Proenneke's cabin—an actual log cabin—took over a year to build almost single-handedly, though that did include giving the logs time to season.

D.C. Beard's "Shelters, Shacks, and Shanties" was the bible for multiple generations of cabin-builders and homesteaders. First published in 1914, the instructions and illustrations are as comprehensive and easy to follow now as they were over a century ago. Some of his designs are little more than survival

lean-to's that could be built in an afternoon, while others more closely resemble the Proenneke model. It all depends on what you want to do and what you have to do it with.

Daniel expects his to take a couple of months or more. He settles on an open floorplan some three meters wide and four and a half long, with low walls and a steep roof with the rafters at about two and a half meters in the middle. That should give him more than enough room for storage, working and living while not being too hard to build or conceal. He'll debark the logs and then keep the bark for temporary roofing, which he'll upgrade to something better in time. Pines and spruces predominate on his land, which isn't necessarily ideal for home-building, but he only needs the place to last for years rather than decades.

He picks a few good foundation stones for his cabin. His winch, chains, and pulleys are essential for bringing them into place. Day after day, the chainsaws ring out in a steady melody. He uses the gas-powered model sparingly, since the superior power and endurance comes at a price of a louder and more distinctive noise. That's going to be a problem throughout the building phase; even the sound of an axe-blade striking timber can be heard at a surprisingly long distance. He doesn't like it but, if nothing else, maybe the sounds will keep that bear away.

Mike Oehler wrote of being besieged by bears in his 1978 book, *The \$50 and Up Underground House*. That was an interesting one, written in a time when building a domicile to survive a great calamity was a relevant concern. So was having to either conceal or ask permission for what you're building on what's supposedly your own land, which would have been every bit as unimaginable to the people of Beard's or Thoreau's time. Daniel uses a few of Oehler's ideas, and would want to use more, but the soil type and climate here make it impractical.

He uses the axe and saws to cut, notch and shape the logs as needed. A friend, a draft animal or heavy equipment would be handy, but here again the hand winch proves its value, and several large trees are kept standing nearby for use as anchor points. It surprises him at how fast the walls seem to rise around him, and he decides to allow himself a "break day" every Sunday or so, in which he goofs off or scouts around his property.

On weekends he occasionally breaks from pioneer work to resume his attacks against The Algorithm. He finds them to have steadily diminishing effects, but he also finds damage occurring that is not of his doing, at least not directly. It's possible, and in fact probable, that this is some mutation in the code which is slowly spreading and corrupting whatever it interacts with. It's also possible that another human is infiltrating and attacking the system, independent of himself. Perhaps someone else who was in the know regarding the Algorithm, and who also saw fit to oppose it? Does Daniel have a companion somewhere in cyberspace, possibly an ally? Or will this be a rival?

He may have more even closer. There appears to be unpossessed humans nearby, at a campsite or possibly a homestead. He faintly hears them working and talking through the woods, and sometimes he even smells their cookfires, but he doesn't approach just yet. And if he knows of their presence, then they are as likely to know of his.

Probably a good idea to throw up some sort of warning signs regarding his bear bangers, just so no humans set one off when trying to pay a friendly visit. On the other hand, might it be better to keep them concealed, in case they make an unfriendly visit?

Eventually he'll have to make contact, but for now it seems wiser to get his home in better shape. They

may well be the same ones responsible for bombing the causeway, and he knows that people on this island can be a little standoffish and odd when it comes to outsiders. So not unlike himself, then.

Truth of the matter is, he really hasn't gone to meet the neighbors mostly because he doesn't enjoy the company of other people. Oh, he's no misanthrope, he isn't even half-bad as a socializer, but social interactions wear on him after a time. He can only spend so long doing it before he wants to be alone again. He had gone into STEM largely from a desire to be the lone genius working by himself in a corner of a lab, in the vein of Edison or Tesla. He learned very quickly that upper management and the HR busybody types had long ago proscribed such personalities. Now was the era of interpersonal relations and the office family and the "team player."

Well, "then" was the era of the team players. Now? "Now" is an era where building a cabin by yourself is a bitch-and-a-half and it'll be even worse when the power tools are gone. And when the cabin is finished then you're still going to spend a third of your life asleep, and wouldn't it be just your luck if someone chucks a grenade through your window or sets the place on fire while you do? People always loved talking about the "omega man" and the "lone-wolf survivalist" who could weather the storms of collapse with nothing but his own strength and skills, but Daniel suspects that unsupported people like himself are really just waiting for something to come along and kill them. This is still a world where the team players have... what did they used to say? They still have the greatest potential for career advancement.

Whoever the neighbors are, it wouldn't be a bad idea to meet them. Later.

* * *

He should reach the northern shore tomorrow, if nothing unforeseen happens. Kunder had learned at Karyn's campground that the causeway to the island had been destroyed, but a ferry was in operation and willing to carry passengers across for a small fee. That information may well be out of date if it was ever true, but the strait between the island and the mainland is so narrow that finding a boat or even swimming it shouldn't be impossible, even in his current condition.

He settles in for the night and tentatively pulls down his pants and examines his bandages. He can still feel the burn of the hemostatic powder, though he sees no sign of infection or significant blood-loss. The bullet didn't break any bones or hit any arteries, though the muscle damage will probably leave him with a limp for the rest of his life. In the morning he rises up on his makeshift cane and continues steadily on his journey. The boy had known what he was doing with that trauma kit, or at least his hive mind knew.

Hive mind? If it was the hive mind working through those dirty hands—which thankfully had the good sense to put on gloves before treating him—then why keep him alive? Why render first aid and then point off into the forest, sending him on his way before more of them could arrive?

Maybe he was broken? Well, of course he was: a badly mangled leg and what might have been a skull fracture. Maybe those injuries were enough for the soul to partially regain control of its brain and body? And if so, then what were the implications of that? Is it possible that the creatures could be saved?

Well, not the other four that he killed, nor countless others he had slain since the start of all of this, and not always necessarily. Were there more innocent men and women among those mindless hordes, who

might have had no desire to hurt the unturned but who had been coerced or convinced into seeing us as a threat? And is there a single thing we could do differently if we knew that to be the case?

At that moment, his mind plays a horrid trick upon him. It takes the face of his late wife, who had died as a result of the last plague, and superimposes it on the gaunt faces he had seen over a machine gun sight in the light of flares as they marched heedlessly into Karyn's settlement. It gives her the same look of childlike innocence that had been on his healer, even as the bullets and shellfire draw closer and closer to her. Disgust begins to well up inside of him, though his sense of stoicism is enough to fight it down. When that feeling fades, it's replaced with a morbid since of amusement:

"Full circle, he thought while the final lethargy crept into his limbs. Full circle. A new terror born in death, a new superstition entering the unassailable fortress of forever. I am legend."

* * *

Looking through their binoculars, there's no sign of enemies in the sprawling rock quarry on their side of the strait, nor in the oil refinery on the far side. It also doesn't look anyone has tried to repair the damage to the causeway. It's doubtful that the possessed will leave this region untouched indefinitely, but at the moment Heather can literally say that the coast is clear. Unfortunately, she and Sarah are not the first to think of putting water between themselves and the apocalypse; there doesn't seem to be a single boat left on their side.

"Think we can swim for it, Sarah?" asks Heather.

"Sure, if we're willing to turn our shopping sled into a shopping raft. Though, some of those gaps look pretty wide, and we have no idea what the tides or currents are like down there. We could be well out to sea before we know what hit us."

Heather shivers. Lovely thought, that.

In truth, neither Sarah nor Heather know much at all about their destination or the path to reach it. They know that Grand Royal Island is large at 10,000 square kilometers, covered mostly in coastal and highland forest. The terrain is hilly and greatly confused by the abundance of ridges and canyons and coves and fjords. They know that the island was sparsely populated at 130,000 people, three quarters of whom were packed into the industrial municipality. Newvinland, even higher up the seaboard, was more isolated and more remote, but also probably harder to reach and harder to survive in.

It was a place that a lot of the survivors had talked about as a good location if Kayrn's settlement were to fall, not that anyone had ever seriously thought that would happen. As an island off the coast of a peninsula that might as well be an island, they hope it'll be remote enough that maybe the hostile hordes won't bother with it, just like they had hoped that their previous settlement wouldn't be bothered...

"Wherever the ferry is, it probably won't be too easy to find," says Heather. "Not if it lasted this long without being torpedoed."

"Yeah, probably so," says Sarah. "I guess that means we better start looking for it right away, then?"

Chapter Eleven: 1,140,000

“...so like I’m saying.” continues Heather. “HALO is an allegory for Yugoslavia, in which Master Chief, who represents Tito, fights an antagonist called the Covenant with weird religious beliefs, which represents the Croats and Catholicism”

“What in the actual fuck is wrong with you?” asks Sarah.

“And have you ever noticed that the old Mississippi flag was just the old Yugoslavia flag with the Confederate emblem on it instead of the red star?”

“Yugoslavia is not real, Heather. Yugoslavia cannot hurt you.”

“Perhaps not.” says Heather. “What about our refuge in Grand Royal Island, though, do you think that’s real?”

“Well, it might be.” offers Sarah. “One of the only things I know about the island is that fishing was still a big industry with the local indigenous communities, and that a lot of their members violently resisted what we think might have caused this. I have partial Native ancestry myself, and that might help our case with them. Or it might hurt, if it turns out that I’m the ‘wrong kind’ of Native.”

“That’s still a problem?”

“I don’t know, probably. It was after the last apocalypse our people experienced, so why shouldn’t it be after this one?”

Heather falls silent at that. She knows enough about her own Scottish ancestors’ history to know the truth in what her friend is saying.

The women reach the stony shoreline and proceed to walk along a hiking trail just within the narrow band of trees and shrub, which divides the shore from a highway thoroughfare and railroad. They check the office of a local seafood distributor and are almost glad to find nothing; thirty- or forty-day lobster doesn’t really sound appetizing. They continue to a small, waterside public park, and are momentarily taken aback at what a lovely place it seems to be.

More than a month into the apocalypse: the sun is still shining, the air is moist and chilly, though the trees are greening with the onset of summer. A steady breeze ripples the crystal blue water of the strait, various water birds still fly and cavort, and their brains have started to filter out the occasional sights of wrecked cars, scattered garbage, burned-out buildings, spent shell casings and dried traces of blood. Heather lowers the sled and almost asks Sarah to push her on the playground swings, when she notices her friend staring at a handmade wooden sign nailed to the park’s bulletin board. An arrow is drawn above an incomprehensible array of letters and numbers and symbols:

G @ 5, @ 5 5, O R G \ @ 5 5
|\ 0 B 0 |) ^ / |\ 1 |) 3 5 4 P |-| |\ 3 3

“What do you think that means?” she asks in puzzlement?

“Gas, ass, or grass. Nobody rides for free.” Heather translates the 60’s-era slogan in the 90’s-era cipher almost automatically. “My uncle used to write like that; I wouldn’t be the leet haxor I am today without

him.”

“The what?”

“Nothing. Though now that I think about it, my granddad said that he had a sticker like it on his Harley. Fair bet that’s our way to the ferry.”

“I see,” says Sarah with a pause. “Well, considering the kind of people we’re likely to meet, maybe we should reconsider your idea of swimming the causeway. Otherwise, I guess we follow the arrow and see if we can pay the ferryman.”

“Don’t pay the ferryman.” warns Heather. “Don’t even fix a price.”

“Chris de Burgh?” scoffs Sarah. “God, you’ve been hanging around me for too long.”

* * *

The roof isn’t fully finished before Daniel begins work on his home furnishings. Dividing his attention between two or more tasks has always been his way of avoiding burn-out or other forms of emotional weariness, though he does have to be careful not to stretch himself too widely into too many areas, or else nothing ever gets finished and nothing comes of his work save a worthless pile of clutter. But what he works on now is likely to solve rather than add to the clutter problem.

Tables, desks, cabinets, cupboards, shelves. These are things that people often fail to appreciate until they’ve had to live without them, and weeks spent in a cave or a tent leads one to miss them greatly. Making level tables and good cabinets is harder than one would think, and Daniel still isn’t exceptionally skillful as a carpenter, but in time he does have room and storage enough to begin work on some of the many home projects he wants to try.

It requires more time and work than he thought it would, but in the end he is happy with his new flintlock rifle. He spares a few rounds for sighting and practice, and finds that he likes its range and power too.

For just a moment, he sinkingly wonders if the cops or game wardens ever got around to putting gunfire locators in the wilderness, the same way they have in the cities. They do have those in the national parks of Africa as a way of detecting poachers, after all. They also put GPS trackers on the animals in many places, and he wonders if one of those wildlife lojacks might send out an alert if he shoots the critter attached to it. Either one would put him in a bad spot, though there isn’t much he can do but hope that a few bears and deer and maybe a moose disappearing won’t rise too high on anyone’s list of priorities.

If this or something like this had all waited another ten years or so to happen, wilderness surveillance would be every bit as ubiquitous as urban surveillance. Those wanting to flee from tyranny by grabbing their longbows and running off to Sherwood Forest to live freely on the King’s game would have to hack, spoof, or jam all the sensors first, so as not to immediately bring the Sheriff down upon them. The dogged primitivists and the Deep Greeners would be rounded up even faster than the guys who hide in their basements until their canned beans run out. And technomancers like himself? Well, he still knows that every press of his computer’s power button is another invitation to a drone strike.

He sets out in the first pre-dawn light of morning with the flintlock in his hands, the modern rifle slung across his back, and his pistol at his hip. Way too much gun for anything he's likely to face, but who knows what he'll run into out here? He plans for a long outing today, though he doesn't know for sure where he's going.

He checks the snares and fish traps that he set along the pond. Nothing, though he did catch squirrels here often enough and on one occasion a porcupine. He collects some cattails, famous for their many survival uses. The weather is pleasant but windy and getting colder, and he wonders if some polar vortex might bring one last blast of winter before summer fully establishes itself. May is typically cool and rainy in this region, but snow and even blizzards are not unheard of.

As he walks a familiar trail in the forest, he decides that he'll put aside his worries about radio or GPS trackers and try to focus on bagging some wild game. It'll be considerably harder in the coming months, with summertime vegetation bringing visibility down to almost nothing. Getting up in the trees would be ideal, but failing that he could find an elbow in the game trails or a good spot overlooking a grassy meadow. Deer and bear have poor eyesight but excellent smell; they like to walk against the wind, but places where they're required by terrain to turn broadside to it are excellent locations for an ambush.

Daniel comes upon an odd sight while traveling to such a spot. He crests a ridge and finds a bear moving downhill, tearing wildly through the underbrush, stumbling as it goes and veering back and forth erratically. If he didn't know better, he would think the thing was drunk. Seeing his chance, he takes a knee and raises his weapon.

Daniel draws a bead on the animal and waits for the right moment to fire. It's a big target, at close-to-middling range, but he's not yet confident in his skill as a marksman, and the bear is making it difficult by moving in and out of vegetation. It slows to a near stop for a moment and he squeezes the trigger. The hammer drops and the powder lights, creating the flintlock's distinctive snap-and-boom. The butt kicks against him, forty grains of powder send a fifty caliber ball spinning out on a one hundred and fifty meter flightpath, straight into the centre of the bear, tearing through its vitals and ensuring a fatal injury.

Daniel sees the puff of bloody mist where the impact occurs, he watches the bear go rigid for a moment, then he sees it fall. He lets out a triumphant howling laugh as he springs to his feet, hardly believing that he actually dropped it. He wonders if this is the same bear that so terrified him those few nights back, though of course it hardly matters now.

Rather than reload, he unslings the other rifle and cautiously approaches with both in hand. He'll lay down the flintlock and give the beast a burst of semi-automatic should that prove necessary, but he doesn't think it will. It's twitching on the ground in it's death throes and Daniel would have hardly had time to send another round through its brain when the spasms slow to a stop. He looks at the chest for signs of breathing, and quickly surmises that the bear is very much a dead bear.

His initial elation is now replaced by a host of other feelings: regret at having killed what is in truth a beautiful creature, consolation at the fact that it suffered little, happiness at how well the meat and fat and hide and bone will serve him, and just a bit of irritation at how hard it'll be to dress and skin the heavy brute. And, as he draws nearer, he finds the reason for its erratic behaviour. There's a steady trail of blood not made by his musket-ball, and sticking out of the side is the wooden shaft of an arrow.

He hears leaves crumpling on the high ground above him, and knows the he's made an error.

He had been so focused on his kill, he hadn't even considered that something or someone else might contest it.

* * *

Walking through further woods, on a trail less traveled, Sarah and Heather are surprised to find a camper bus parked on the beach of a sheltered cove seemingly inaccessible to land vehicles. A closer inspection reveals it to be one of those "Duck Boat" deals: an amphibious passenger bus popular on guided river tours, converted into living space. A middle-aged bearded man with a long grey ponytail, a maritime pea-coat, and a ship-captain's hat sets aside his ukulele and rises from his lawn chair to greet them. His uniform looks almost comical upon him, which is probably intentional. He has the general look of what they used to call an aging hippie, though he's technically not quite grey enough for that.

"Hello! Hello, my friends! Ah, let me guess: one-way ferry for two passengers, plus luggage? Request departure ASAP? Destination irrelevant?"

The women look at the alleged captain, then trade unsure glances.

"Not completely irrelevant." says Sarah at last, gesturing to the far side of the strait. "Uh, there, can we go over there?"

"Mais certainement, mademoiselle." says the ferryman with a bow, picking up on her accent. Sarah Hebert frowns. "I'm Captain Steve Cansonni, by the way. I'll signal for a boat to come over, right away. And if you saw one of those silly old signs of mine, forget about it! I'm good for gas, I'm a married man again, and friends of Kundar Singh do ride for free."

"Kundar Singh!?" gasp both women in unison. Steve Cansonni shrugs.

"Pretty good guy, y'know? He told me you two shouldn't be far behind; we shade-tree mechanics and erstwhile electricians run in small social circles, don't you know? Same as all dying breeds."

Steve looks at the girls and their cargo, walks to the beach, and raises a series of flags. Within seconds, a reflected flash of sunlight shines from the other shore. Heather and Sarah watch as a small boat emerges from an opposite cove and begins to track towards them, moving at a respectable speed but showing no sign of independent propulsion.

"Cable ferry." says Steve in simple answer to the unspoken question. "Bit of a pain having to randomly move it from one anchor point to another, but it works out well enough. We came up with the idea early on, after they sent their jets to strafe the big RORO ferry we were using. We couldn't fix the engine, so we grabbed some equipment off a dredging barge and improvised. The electric winch saves fuel, it's quieter, and I think the reduced wake makes it harder for the zombies to recognize it for what it is. They're at least as smart as us in some ways, but they can be a little dumb in others."

The summoned vessel is no roll-on/roll-off ship. It looks like a flat-bottomed, open-topped aluminum pleasure craft. A bass boat, and as it draws near they can see a turban-wearing man holding to the improvised tiller. Sarah barely waits for the craft to make landfall before running up and wrapping

Kundar in her arms. He stoutly endures the pain of his jostled wounds. Heather smiles, then she looks to Steve in surprise.

“At least as smart as us in some ways, but a little dumb in others? Steve, how could you possibly know that?”

Steve shrugs.

“Really only an educated guess on my part. Just an inference that I sort-of got from being married to three of them.”

“Being... what!?”

Sarah and Kundar return presently, the latter limping badly. Heather’s line of thought is interrupted in the joy of reunion, as the three friends share hugs and a moment of reverence for the ones they lost. Kundar smiles and embraces his friends warmly.

“Ladies, it is truly a pleasure to see the two of you again. And if we may, I think we should depart for the distant shore, where perhaps the lot of us might come up with some new hypotheses on the nature of our adversaries.”

Chapter Twelve: 1,100,000,000

Daniel had always been ambivalent at best when it came to children. He had dated a single mother off and on for several years, and had gotten along well enough with her young child and the several nieces and nephews that often stayed with her. They were fine when still babies and toddlers—he didn’t even mind changing their diapers or staying up at night when they had nightmares—but they become a lot less engaging once old enough to use smartphones and begin their inevitable process of electro-digital zombification. In a way, he often muses, we were already training our children for life under neurological totalitarianism.

However, after playing hacky-sack with his neighbor’s sons and talking to their teenage daughter about the novel she wants to write, it dawned on him that children who haven’t had their curiosity and creativity sucked from their souls by consumer capitalism, public schools, and social media are every bit as endearing and joyful as the writers from previous generations often claimed they were. When the smallest of them earnestly hugs him before bedtime, he quotes a line of poetry to her:

“O happy living things! no tongue
Their beauty might declare:
A spring of love gushed from my heart,
And I blessed them unaware.”

The first thing Daniel sees of his next-door neighbor is the arrow nocked on the string of a recurve bow. It seems bigger than he always imagined arrows to be, and the sight of it unnerves him for its unfamiliarity. The stranger behind the ancient weapon looks spry enough and skilled enough to fire it in a hurry; Daniel doesn’t know if it’s possible for a bowman to quick-draw on a rifleman, and he really doesn’t want to find out. However, there’s no look of menace on the other man’s face, and the bow is held in a way to make him think it’s meant for the bear and not for him. He lays his rifle aside and brandishes a hunting knife.

“Don’t worry, it’s dead. Share?”

Black eyes scrutinize him from behind a full white beard. Daniel notices how the stranger is wearing the same type of green plaid jacket and softshell pants that he is, though his show more signs of wear and repair. He has maybe one or two decades on Daniel, and looks like he’s been in the woods for longer too. Apart from that, the two of them are fairly similar in appearance.

The other man shrugs and shoulders his bow. He squats beside the felled bear and helps to hold the rear legs apart so that Daniel can more easily gut it, though he looks askance at the uncertain and hesitant cuts.

“You ever done that before?” he asks.

“To a bear? No. Skinned a few rabbits and deer before, though. You?”

“About once a year for as long as I’ve been hiding in these woods. Bears, and the odd unlucky gendarme who stumbles across me. I should probably let you know that, by the laws of man, I am technically a federal felon.”

He smiles, and Daniel smiles back at the older man before passing him the knife.

“You, me, and absolutely everyone else still alive and unpossessed.”

“Name’s Gerald Canssonni.” he says. “You probably met my brother Steve on the ferry. And if you’re open to a three-way split on this carcass, my wife is pretty good at making bear-meat taste half-decent.”

Daniel doesn’t need long to consider the offer. There’s plenty of bear to go around, and the temptation of a home-cooked meal from someone who does more than throw it on an open fire in his cave does sound nice.

Steve gives a wave and a stout-looking woman of about the same age steps out from nearby cover. She wanly smiles and slowly lowers the throwing spear that had been ready in her hand. Just about as primitive as you can get short of sticks and stones; it would certainly be embarrassing to get impaled with such a weapon, as Daniel surely would have been had he proved himself an enemy. As Lisa Canssonni introduces herself, Daniel idly wonders if maybe this jolly old guy wasn’t joking about the gendarmes.

Gerald and Lisa explain that their family has been living as fugitives on a late uncle’s property for several years now. Their five children had been homeschooled—which is to say truant—as they could not abide the mandates that their school was trying to force upon them. They had been architects in their previous lives, and used that knowledge to construct a number of well-built and well-concealed in-ground structures for their little clan.

Though the family asks for only two-thirds of the carcass, he finds a full nine sets of hands assisting in the bleeding, skinning, and butchering of the animal. Gutted and hanging from a butchery rack in a smokehouse outbuilding, it seems oddly smaller than it had in life. Daniel gives them three-fourths of it, which still leaves more than enough for himself.

Sixteen-year old Elena helps her mother get a fire ready, the three sons Joe, Chris, and Leo help to cut and pack the meat, and six-year-old Rose mostly sits in a corner and asks questions. Gathering firewood in the back are two very interesting-looking specimens. While the rest of the Cansonniss look like Roman Patricians, Alisha Grant and Justin Millbrook are literal red-headed foundlings.

Alisha had been a schoolmate of Elena's with a bad home-life. She learned of what her friend's parents were planning and begged them to take her along. They, already facing charges of child endangerment and domestic terrorism, saw no real harm in adding kidnapping to the rap. Her disappearance was never reported.

Justin came with the property; he had fled from his overcrowded home on the reservation and was squatting in a hollowed-out hemlock tree, "My Side of the Mountain"-style. Daniel is shocked to learn that no one in the house had ever heard of that book, though they do have copies of Hatcher, Robinson Crusoe, and Walden. No copy of the Swiss Family Robinson either, which they would probably enjoy. He makes a note to solve that post-haste.

At first, Justin had tried to ignore the "new people." In time, his growing fondness for them, especially for Alisha, slowly brought him out of isolation and into their home. It had been many generations since parents in the old world responded to teenage love with such contentment; what Daniel has been hearing was the sounds of Alisha and Justin building their own cabin.

As Daniel cuts away at his masterfully-prepared portion of bear heart, he learns more about both the neighbours and the neighbourhood.

* * *

Grand Royal Island and the dozens of smaller surrounding islands had been a refuge for outlaws, rebels, recalcitrants, and refuseniks even before the alternative was the surrender of one's humanity. The Native communities, of course, held a long disdain and distrust for the federal government and its ideas of "law and order." The old settler stock of the islands had long prided themselves on their rugged independence—even when economic realities had long ago enervated those communities and their rotted-out remnants could only sustain themselves on various forms of crime or welfare. The current population is now estimated at some 20,000, and possibly one of the largest contiguous landmasses on the planet under the full control of free-thinking humans.

When they first started flocking together and attacking the unpossessed, some of the better-organized survivors decided to counterattack rather than to merely flee into the wilderness. They seized the city of Louisburg as well as the smaller towns and hamlets under enemy control. It was a quick yet grueling campaign, with many of the urban and industrial areas totally devastated in the fighting and subsequent fires. They nonetheless gained a great deal of food, fuel, and equipment, along with an understanding that enemies would eventually come to take it back.

"The crazy bastards threw everything they had at us: every man, woman, and child." says Gerald. "Small-scale ambushes at first, then like this one big banzai charge. Poor schmucks didn't have much in the way of firearms, but they outnumbered us fifty to one and that's why we hunt with bows and arrows now. They just kept running at us and trying to bash our brains in with anything they could lay hands on. We shot them 'til we ran out of bullets, then we fought them hand-to-hand. Managed to subdue and capture a lot of prisoners though, and those guys have been an interesting addition to the social fabric."

“Really?” asks Daniel as he finishes off his plate. “I thought the possessed always died after a few days, when captured or cut off from their nodes.”

“Not always, not anymore at least. Sometimes they even seem to regain a portion of their humanity. Electric shock is one good way to jolt some sense back into them. Critical head trauma seems to do it too. Blow to the noggin gets the old neurons firing again, you might say.”

“Hmm... that’s what IT workers used to call percussive maintenance. Seldom the best solution, but a fairly common one.”

“Yeah, it’s a kluge to be sure, but we’re working on fixes that don’t involve tasers and tire-irons. They had some success with electroconvulsive therapy, Suramin injections and other sleeping sickness treatments have shown promise, so have certain anti-parasitic medications, and some of the local naturalists are even putting them on herbal tea regimens, if you can believe that. I don’t know that much about it myself, but my brother is working pretty close with this doctor-type who has, like, some kind of secret base deep in the woods and a bunch of commandos protecting it.”

“A doctor type, eh?” asks Daniel between bites.

“Yeah. They say they’re a Japanese research expedition, and maybe they are, but... but that somehow doesn’t seem like the whole story. They ain’t local, that’s for sure. Rumor is, she was trying to prevent this before she happened. Now she thinks she can heal the ones we capture, shut down the hostiles remotely, maybe even bring them to our side when they reactivate.”

“Is that so? That would be incredible.”

Daniel feels a dip in his stomach, though he does an admirable job of not showing it. Could it possibly be... her?

“It’ll probably be our only hope when we get invaded again. Especially if we’re still short of bullets when it happens, which seems likely.”

“I think I might want to meet that doctor-type of yours. I was a researcher of my own in a previous life; I know some things that might prove useful to whatever she’s doing, or vise-versa.”

“That can be arranged. She’s paying a house call to my brother tomorrow. Gotta warn you though, she’s a little different. So are most of the people she chooses to work with, my brother including.”

“Sometimes different is good.” says Daniel with a painted smirk.

“Eh, yeah. Sometimes.”

And then sometimes it isn’t, thinks Daniel. Whoever she is, when he goes to meet this doctor, he’ll be sure to bring a gun.

* * *

“Clever idea with that travois there, Sarah.” says Kundar. “I wish I had thought of something like it.”

“The what?”

“The travois, that thing you and Heather have been carrying. Very common form of conveyance for societies that haven’t developed or can’t make much use of the wheel.”

“Oh, oh really?” asks Sarah in surprise. “I... it was just something I came up with when I realized that a wheelbarrow or shopping cart wouldn’t cut it on forest trails. I didn’t know it had a name.”

Sarah wonders if maybe she had seen it in a movie somewhere and had buried the idea in her subconscious. She’s visibly crestfallen at the news that she hadn’t invented a new thing under the sun, and Heather offers a comforting pat on the shoulder.

Steve takes a turn at the tiller while Kundar monitors the cable. If anything goes wrong, or if there’s any sign of incoming hostiles, he’ll throw a quick-release lever and they’ll try to escape with the outboard motor.

“Till noon we quietly sailed on,
Yet never a breeze did breathe:
Slowly and smoothly went the ship,
Moved onward from beneath.”

Kundar quotes the line of text playfully, Sarah looks back at him and smiles.

“We keep jet-skis handy on the bigger craft.” explains Steve, “whenever we need to transport vehicles or animals. Might give us a better chance to abandon ship if something wicked this way comes.”

“But, how would you know in the first place?” asks Sarah. “I hope you don’t just plan on listening for the sound of an approaching supersonic jet and expecting to get away before it hits you.”

“Not quite.” says Steve. “We have radar on the island. SAM and LASER batteries too. We found them in these container ships full of unmarked military gear in Louisburg harbor, destination unknown. We managed to seize it all when the city was recaptured and we’ve set up a defensive network, a pretty good one I think. We’ll all get a radio warning or a flare launch if any threats are detected.”

“We?” asks Heather.

“The island’s fishing and transport fleets. Most of us didn’t turn, and quite a few of us... well, you know that lobsters and cod don’t pay the bills like they used to, and we’ve had to be flexible in how we earn our living...”

“I’m not sure I follow.”

“I’m sure I do.” says Sarah. “Pierre and I often dealt with fisherman when sending or receiving things that weren’t fish. Everything from bootlegged caviar, bootlegged books and movies, bootlegged cocaine, even bootlegged grenades and Kalashnikovs.”

Steve grins and opens his pea-coat slightly, revealing what had once been a very illegal Beretta M12 submachine gun.

“Yeah. So, to put it plainly: we’re armed to the teeth, we’re reasonably well-organized and there’s still a good many of us. We’ve worked out some agreements with other groups: the Native tribal councils, the farmers, some of the bigger survivor families. Even the truckers to the south, though they’re still pissed off at us for bombing the causeway.”

“As they should be.” says Sarah pointedly.

Steve shrugs.

“I had nothing to do with that, if that’s what you’re implying. Hey, I’m only a third-generation islander, so they thought of me as New People and yet also resented me for having found a job on the mainland.”

He chuckles, then he sighs.

“Funny story though: when that causeway first opened, the islanders celebrated by having a 100-man bass band march across it. One trumpeter though, he agreed to march but famously refused to play. He didn’t approve of the project: he was concerned about ecological damage to the fishing grounds and to native island wildlife, and he thought it would lead to runaway exploitation of our mineral and timber resources. Moreover, he thought the boon it would give to the local economy wasn’t worth the social changes it would bring: it would make it too easy for speculators and tourists and chain stores to swarm us over, while also luring local people off to far away. He didn’t think a unique diversity of cultures like what we had could survive if not kept in some level of isolation, and I think he might have been right.”

“That’s a tune you’ll hear played in every remote or rural community in every developed country in the world.” says Heather somberly. “I can’t say I blame whoever it was who took out the causeway. Isolation is good for survival these days, cultural or otherwise.”

There’s a welcoming party awaiting the ferry when it makes landfall. A teenaged boy and girl—both redheads, though they don’t quite look related—silently greet the ferry and offer gifts of freshly-packed meat.

“Hey, Uncle Steve.” says the girl. “Gerald killed a bear this morning. He also met someone who might be useful to us. He wants to bring him here soon as possible.”

“Thanks, Alisha. You and Justin going to stay for the night?”

“Nah, we have a lot of work to do at home. Say hi to your wives for us, though.”

Alisha makes a goofy face and turns back to the woods, arm-in-arm with her companion. Heather finds herself pleasantly surprised by the ferryman’s amicable niece; she hopes the rest of the islanders are like her. Sarah, on the other hand, has other thoughts on her mind.

“Yeah, we definitely gotta meet those wives.” she says to Heather.

Steve’s main base of operations is an old stone barn or maybe a warehouse haphazardly converted into a house. Of the roughly designed "rooms" in the house, one appears to be a big padlocked CONEX

box, and Heather notices metal mesh draped over the entrance and a ground wire connecting to a piece of rebar sticking up through the cement foundation.

“Faraday cage?” she asks.

“Perceptive.” he answers as he works the padlock. “We don’t think they can be tracked any more, and they’re as far from the enemy’s reach as possible even if they can be. We don’t have to keep them in here all the time, but having them at least sleeping in a room free of EM emissions seems to help. I really hate to lock the poor things up at all, but I have no idea what mischief they’ll get up to if I let them stay outside for too long. I left one unsupervised for longer than I should have and she climbed a tree on me. Fractured her arm when she walked off one of the branches. They’re like toddlers, or sleepwalkers.”

Intellectually, Heather and Sarah know exactly what to expect inside the big metal box. Emotionally, they still aren’t ready when the doors open. Battery-powered lights provide a warm light to the interior, contrasting oddly with the three barred cells that take up most of the insides. A bed, a cabinet, a table and a chair, a number of simple puzzles and picture books and other forms of entertainment fill each one.

The occupant of one cell, her arm still in a cast, quits her game of solitaire dominoes and smiles warmly as Steve steps through the opened door and approaches to embrace her. One refuses to take her fear-filled eyes off the strangers, retreating to her bed and all but hiding beneath her covers. One ignores the visitors completely, focusing instead on the series of Edgar Hunt paintings on the far wall, with their calming scenes of the idyllic British countryside.

“Hello Allie, hello Bailey, hello Cailey. I know I should have asked first, but I hope you girls don’t mind if we have friends tonight. Hey, don’t sweat it, you know that I’ll do the cooking.”

Kundar looks on impassively. He had wanted to explain the arrangement to his friends beforehand, but he couldn’t think of a good way to do it. Perhaps such a thing can’t really be explained, so instead he steps between the dumbstruck women and sighs audibly.

“Mr. Cansoni and his house,” he says beneath his breath. “they’re a little different.”

“Fukkin’ hell you say.” replies Sarah beneath hers.

Chapter Thirteen: 1,070,000,000

“So, I do want to make sure that I’m with responsible people here who trust our scientists and politicians and social media influencers.” begins Daniel. “Are all of you guys up-to-date on your Persian Fever vaccines?”

There’s a few polite chuckles and subdued grunts around the large wood-burning stove, from people who might have found that joke funny the first time they heard it. The evening is growing dark and cold, and the patrons are growing tired. A heavy gust blows off the coast, and they huddle close to the heat and each other, making conversation in the dark.

Daniel had introduced himself as a neurological researcher turned woodland hermit, but left things vague beyond that. The people he meets—Gerald’s laid-back brother, his brother’s fearsome coworker,

the charming ladies just off the boat—respond with understanding. Survivors are often slow to go into details about their past lives.

“Never took a single one.” says Heather at last. “Never got vaccinated for COVID-19 before it either. I didn’t have any real objections to it at the start, but I just didn’t like the way it was being forced down our throats for two diseases with 99.7% survival rates and which weren’t likely to negatively affect anyone who isn’t old, or sick, or otherwise post-due for the Grim Reaper anyway.” She takes a sip of hot birch tea. “Inject myself with untested mystery juice from the legally-immunized Big Pharma megacorps, just so some decrepit scion of the gerontocracy won’t clock out too early on vampirizing the rest of us? Piss on that, pure-blood master race!”

“I could almost say the same.” says Kundar. “I swore off vaccines after getting sick from the botched anti-malarial drugs they gave us in the army. My late wife didn’t, she had a seizure and ‘died suddenly’ right in the hospital lobby after getting her second dose; I bought a fake internal passport and swore then that I would die on my feet with my crossbow in hand or my katar in a cop’s throat before I die writhing on the floor like she did.”

“Mort aux vaches.” says Sarah gently, placing a hand on Kundar’s shoulder. Her tone then hardens. “I dodged the COVID clot shots, but they made me take one of the Persian Fever injections when I was in jail. Held me down and stuck me in the ass, and it left me sicker than any drug I’ve ever been on before. The biggest regret in my life is that I was still too sick to be involved in the nationwide inmate riots or any of the guard necklacings that finally put a stop to that noise.” Her voice starts to quiver. “Pierre helped me fake my records once I got out, so I didn’t have to get any of the boosters. But... yeah...”

Now Kundar takes her into his arms. The two hold tightly together as she shudders from the memories of her experiences and her deeply-repressed fears of what might ultimately happen to her. Her face twists in a maelstrom of emotion as she struggles to regain her composure.

“I took all my COVID shots because I was still all legal and obedient back then.” says Steve. “I didn’t want to lose a job that disappeared on it’s own anyway. Now I’m self-employed, so of course I got a Dark Web vaxxpass same as all my customers. I actually caught Persian Fever back when it was still Saudi Fever, but I never took my shots for that one. Hope my early mistake didn’t too seriously sap and impurify my precious bodily fluids.”

He runs a hand through strands of Cailey’s honey-brown hair. She pauses from her drawing project, looks at him vacantly, then returns to the exercise. Kundar scowls at the poorly-timed attempt at humor, though Sarah doesn’t seem to notice.

“Saudi Fever, I remember that.” says Daniel. “It almost certainly started there before hopping across the Gulf, but Our Second-Greatest Ally took a short break from slaughtering Yemenese civilians to let us know how they really didn’t like the name, so we had to call it the Persian Fever instead. Or perhaps the ‘IRI Virus’ if you’re a shameless CIA shill.”

“Yeah, they never could get their narratives straight on that one. For a while it looked like the whole thing would just fade into obscurity the same way Monkeypox before it had.” Heather says. “But nope!” she adds faux-cheerfully. “Nope, turns out Persian-not-Saudi Fever was COVID-19 all over again: shortages, social distancing, lockdowns, general chaos and distress, our corporate overlords

redoubling their efforts to shade out the little guy, and finally a bunch of mandatory vaccination policies that made the COVID-era ones look like polite suggestions in comparison.”

“One hundred percent compliance, too!” crows Steve as he raised his mug in mock salutation. “The Director of the Federal Health Department told us so, while simultaneously threatening draconian punishments on all the millions of citizens who were selfishly refusing to get in line for the jabs and endangering the health of their fellow citizens.”

“Started sectioning anyone who was too outspoken about their hesitancy.” says Sarah. “Sent out his little political piggies to drag them kicking and screaming to the injection clinics and to beat them, taser them, or shoot them if they resisted. I lost a few friends that way, right up until The Big Bad Lone Wolf huffed and puffed and burned their field offices down.” She smiles.

“Had the same effect as your prison riots,” chuckles Heather. “Seems like no one wants to be a pig when it comes with the risk of being a roasted pig.”

That one gets some hearty laughter from the crowd, and Daniel quietly considers how people’s attitudes towards the System and its enforcers have changed. There was once a time when only the most hardened of outlaws would amuse themselves like this, reminiscing over the murder of policemen and petty apparatchiks. Then again, there was also once a time when the System knew better than to turn a broad segment of the population into hardened outlaws.

“I just wish I could go back and apologize to all those people who thought COVID-19 was part of some kind of evil depopulation or mind control agenda.” says Steve. “You all remember the theories that were floating around back then, right? The Mark of the Beast, spike proteins, 5G transmissions, graphene-oxide nanobots, infertility and miscarriages, behavior changes, those creepy-ass alien parasite-looking blood clots they were pulling out of people’s bodies? All that other crazy stuff? Guess it wasn’t so crazy after all, eh?”

The air grows colder and wetter outside and the wind howls steadily, though not with the same intensity as before.

“No. Not crazy, at least not all of it.” says Daniel. “But not entirely correct either. A lot of what was going around back then actually was disinformation. Some of it was hysteria, some of it was deliberately planted to confuse people, and some of it was maybe just a little bit ahead of its time.”

He speaks conclusively, and the others listen closely to what the newcomer has to say. Everyone had spent the last couple of months percolating their own personal opinions and theories on what had caused the end of the world, but they had come to ken that this guy might have a better one than most.

“COVID-19 was a dress rehearsal for what was coming, or maybe a test of how compliant we would be. Think about it: when they rolled out the very first of the mRNA shots, their big opening act involved **going out and finding a cute nurse in Tennessee to kill on live television in front of millions of viewers!**”

“I remember that.” says Heather. “Then they tried to conceal her death in the most sloppy and ill-planned manner possible. Poor sod. I’ve always wondered if the Christians back then were on to something with their idea that she died as some kind of weird Satanic ritual sacrifice. Would anything about our bloodsucking elites really surprise you?”

“The same elites who used to perform experiments on hundreds of impoverished Black men and leave their children to die of syphilis? Or who concealed the profoundly-damaging effects of tobacco and asbestos for decades, and continue to do so for hormonal contraceptives?” asks Daniel. “Nothing. And as for the millions who were killed or maimed from the vaccines side-effects, I still don’t know if those were flaws or features. Hard to tell, sometimes.”

“Flaws and features, brother.” says Steve. “Haste, greed and stupidity leads to yet another medical tragedy, as we see time and time again in the age of corporate healthcare. Does it even matter if they’re doing it deliberately?”

“They explicitly said that you wouldn’t be able to sue the corporations that got rich making them if anything horrible happened to you, and they never did bother to let us know what exactly was in them.” Daniel continues. “At the same time, they were practically DARING you to defy their half-hearted mandates, what with those stupid little cut-out cards and no way short of a blood test to verify that you really are jabbed with what you claim to be jabbed with. Anyone with card stock and a laser printer could dummy up a card; and anyone who needs a legit record in the database could find some cash and a willing homeless guy to serve as a double. Or a bent doc or pharmacist or even a random minimum-wage drug store employee to give you the card and pour the shot down the drain. It’s illegal, sure, but then so are fake IDs and underaged drinking.”

“VPN’s and torrenting are illegal now too. And yet I can’t remember the last time I paid to watch TV.” says Heather impishly. “They did try a little harder with Persian Fever, though. With their Digital Health Certificates and the Internal Passport System and no one allowed to legally opt out, for any reason whatsoever.”

Daniel nods.

“And I bet you know as well as I do that any official document can be faked by someone who wants to fake it badly enough. And by that point, they already made millions of people comfortable with the idea of fraud.”

“A lot of people were just dropping out by then, going full Thoreau or full Unabomber.” says Heather. “I always wanted to do something like that, but I knew I would never last a week in the woods, so I only had one other option. How many other people do you think really did it? Fraud, I mean?”

“Very, very few.” responds Daniel glumly. “That’s obvious enough, I think. Back in the COVID days, some of the mouthiest ‘rugged individualists’ I ever knew resisted for maybe all of a year before crawling back and bending over to Global Fuhrer Fauci and his needles. Always the same old chickenshit excuses too: ‘I have to feed my family’, ‘I can’t go on vacation without it’, ‘I can’t go to my favorite bar without it.’, ‘All my friends took it, everyone says I need to take it, and anyway I’m sure I’ll go to Heaven if it really does kill me.’” he snorts maliciously at that one.

“Yeah...” says Heather. “‘Depart from me, ye worker of iniquity, for I never knew you.’”

She shrugs.

“I didn’t want ‘em, I found a way not to get ‘em, I didn’t get ‘em. Why should I behave differently?”

“I didn’t want ‘em, I found a way not to get ‘em, I didn’t get ‘em. Why should I behave differently?”

“For the good of society, of course.” rasps Sarah mockingly.

“Society can eat my dung from my bung for all I care about it.” mutters Heather.

She smiles, and Daniel smiles back at her. Heather’s dirty mouth is broad and expressive, and her crystal-blue eyes seem to shine bright in the dimly fire-lit room. Hardly what one imagines as the face of a rebel, but the mousy little ex-office worker is in her own way every bit as defiant as her statuesque, heavily-tattooed ex-coworker.

Daniel looks up to the ceiling and placidly muses, “Y’know... before Jim Jones told almost a thousand of his followers to kill themselves in the South American rain-forests, he ran several dress rehearsals where he would order them to drink what they thought was poisoned Flavor-Aid. Kept talking Samson and Masada to them, got them good and used to the idea of committing revolutionary suicide in the name of Christian Socialism and Marx-Leninism.”

“Almost a thousand? That all?” scoffs Steve. “Amateur numbers!”

Allie makes a sound that could almost be taken for an amused snort, though she might just have some dust in her nose. She motions to the stove with her good arm and Steve quickly understands the requests. He places a few more logs into the fire and returns to his line of conversation.

“Sorry! So, I guess I’m still here because I missed the final punchline. But, what about others who got at least some of their shots and didn’t turn? Or even those few who were fully-vaccinated for Persian Fever, but are still with us? That’s been the biggest argument from people who don’t think that it’s the jabs that caused this. That, and the fact that some of the people who turned never had any.”

“A lot of the late turners were partially-vaccinated...” whispers Sarah.

“Yes. But it is true that some who turned had at least claimed to be unvaccinated.” adds Kunder.

“That’s because it’s not the vaccine per se that turns you.” declares Daniel. “It’s their graphene oxide nanomachines and the worldwide cellular signals that control them. Once the nanites are introduced into your bloodstream or get created in your bone marrow, they penetrate the blood-brain barrier, they shut down and reformat your brain, then they take full control of your central nervous system; you become just another unit in the node. Vaccines are just the most expedient way to make that happen.”

“Are you saying that there’s other ways to get infected?” asks Steve.

“He’s saying that we’re all infected.” says Kunder grimly. “Infected by machines that use our own bodies to self-replicate and reproduce until they’re strong enough to take over.” Sarah looks up at Kunder, Kunder looks pointedly at Daniel. “It’s airborne now, isn’t it?”

“Airborne, waterborne, in your food and in your soil, and most definitely in your body. You can’t escape it and you can’t avoid it. It’s like microplastics or xenoestrogens, bonded to you on a

microscopic level. It's a good thing that we found a way to prevent remote activation; if we hadn't, everyone on the planet would be converted within another 12 months."

"You... you found a way to stop that?" asks Sarah, her voice again a-tremble as she awaits the answer.

"Yeah. Yeah, it's not one hundred percent effective, but it's close. We broke the Algorithm's ability to communicate with those nanites that were active in unconverted humans. They don't replicate, they don't affect the brain or other body parts anymore, in a lot of cases they'll die off completely. Direct injection will still result in conversion, and of course the possessed can just shoot you if they have to, but it should give the free-thinking remnants of humanity at least something of a fighting chance. We're not fighting a hopeless war anymore."

"What's the Algorithm?" asks Heather. "Isn't that a sort of means of controlling social media, or a guidance protocol for artificial intelligence?"

"Uh, yeah..." says Daniel, fearing that he may have said too much. "It's Skynet. Skynet, SHODAN, Worldwide Mad Deadly Communist Gangster Computer God. Whatever you want to call it. Just a word for the evil machine intelligence that seems to be in charge of what's happening."

"I see," says Heather evenly, not picking up on the Francis E. Dec reference. "I'm guessing that wasn't really part of the plan. Though whatever the plan was, I'm sure it's been around longer than either Persian Fever or COVID-19."

"Much earlier." assures Daniel. "As in, MK-Ultra, Tavistock Institute and Edward L. Bernays early, and probably even earlier than that. This kind of thing has been the dream of big government and big business for a very long time, taking the mindless herd animals they always thought mankind to be and turning us into the totally-obedient and totally-domesticated mindless herd animals that they would like us to be."

The logs in the stove crackle and snap as the winds resume their howling. Daniel leans back in his chair and sighs.

"They always thought that they could do it: calming down the masses, weeding out aggression, hatred, cruelty, greed, and above all non-compliance with authority. By the early 21st century they had even convinced themselves that the very fate of the planet rested upon their ability to make the rest of us 'better,' whether or not we wanted to be. And if they had to kill off the vast majority of us or risk turning us into Horrors Beyond Comprehension, then that's just breaking a few eggs to make an omelet."

Daniel softens his voice as he looks to Sarah and Kundar. The two appear to be sleeping, still entwined in each other's arms. He looks back to Heather, speaking very quietly.

"The 'plan' was to have all of us turn into those things rather than just most of us, and in a few more years they could have pulled it off. I don't think they expected to join us in the horde, no, nor was all the death and destruction really in the plan either, though we should thank God that it happened like that if it had to happen at all. 'The best-laid schemes o' mice an' men, gang aft agley!'"

"'An' lea'e us nought but grief an' pain, for promis'd joy!'" completes Heather, smiling. "Robert Burns wrote that poem to a mouse whose nest he accidentally destroyed with his plow, along with all her

preparations for the coming winter. He concludes by saying that mice are lucky in a sense, since they may make the same kind of plans as men and those plans may be as doomed as men's, but at least they lack the capacity to mourn for the past or fear for the future."

She smiles, then wraps tighter in her blanket and closes her eyes with those thoughts. Steve and his ladies have retired to their own quarters. Daniel lays out his sleeping mat and joins the others in slumber.

Chapter Fourteen: 1,020,000,000

The thick stone walls are excellent for holding heat, and the interior is still reasonably toasty by the coming of dawn. Thick grey-white mist enshrouds the world outside, fluffy snowflakes dance and fall in the steady breeze, though they aren't accumulating. In a matter of minutes, the clouds part away and rays of sunlight shine from a crisp blue sky, only for clouds to roll back in and the world to return to the gloom minutes later. Precipitation slides between rain and sleet, and for all of the morning the weather bounces from one condition to another.

Daniel rises from his ground mat and sleeping bag and witnesses the variable weather in astonishment. Heather and Kunder are the only ones awake apart from Steve and Allie, who are rekindling the stove for breakfast. Kunder seems to be busy with his morning prayers, and Heather is idly looking out the window.

"Have we done something to piss off the weather gods?" he asks her.

"Nah. This kind of thing isn't typical in the State of New Ireland, but it isn't unheard of either. Our summers are absolutely wonderful here, but sometimes the Divine Hag Cailleach is a little slow to sign off on her rulership of winter."

There's movement in the CONEX box and a honey-brown head pops out from the door. Cailey looks at the two of them in sleepy surprise, having apparently thought that Heather wished to summon her. Daniel and Heather try to explain that this isn't the case, but she fails to understand.

Allie determines that the floor needs sweeping. She awakens Bailey to the task and gives her a refresher course on how to use a broom, then pantomimes for Cailey to sit and keep an eye on the sweeper. Steve soon takes over this task as Allie returns to her focus on breakfast. Cailey continues watching dumbly. Bailey sits at the dinner table, looks to Daniel and nods politely, having clearly overcome her earlier trepidation. Allie and Kunder begin preparing breakfast. Sarah finally awakens, takes one look at the "wives," and steps outside for a toke. She's visibly shivering, and not from the cold. Daniel observes their interactions silently.

"It's amazing how those three are able to compensate for the lack of verbal speech." he says quietly. "I wonder how they do it."

"Isn't communication, like, 93 percent nonverbal?" asks Heather.

"Probably not. That's a misinterpretation of a study from the 1960's that was dubious even back then."

"Ah. Makes sense, I guess. Sounds like the kind of thing that some doofus trying to sell his self-help book would run with, but I always wondered how muteness is such a crippling disability if it were true."

These people are mute, and they barely emote in any other obvious way, and yet they do seem to communicate.”

“Maybe some remnant ability from their time in the hive?” he suggests. “Are they better at picking up each other’s social cues, or is there something else at play that we don’t know about? It would be nice to know.”

“Well, a lot of insects and other social animals have ways of communicating that science still doesn’t fully understand. Maybe this doctor person will have some ideas when she comes by today.”

“Maybe.”

* * *

Tall, massive dark shapes emerge from the fog, trudging slowly along the coast as they draw near. Daniel is the first to notice the extraordinary sight, he blinks in surprise and desperately tries to understand what he’s seeing. He’s about to call an alarm and go for his gun when he hears the distinctive sound of a whinny. Breathing a sigh of relief, he approaches.

The lead rider dismounts from a chestnut Morgan. It’s a small-framed figure wearing a dark cloak and broad slouch hat. She lifts the brim to reveal a middle-aged woman with a face that could be either partially-Asian or partially-Native. Daniel Scrivener happens to know that Dr. Aya Kato is in fact an indigenous Ainu from the Japanese island of Hokkaido. For a long time, both of them stare at each other in shock, neither sure of what to say. Aya overcomes it first, and finally she speaks.

“I have to warn you, sir, that I do not believe in ghosts.”

“And I don’t believe in coincidences. But if I’m a ghost, I picked good weather for a haunting.”

Aya nods, then shrugs. She leads her horse around him, ties it to a rail near the barn, and exchanges pleasantries with Steve. Her guards follow silently behind her, two sullen and serious-looking men with definite East Asian characteristics in unmarked gray army uniforms. Dr. Kato is on outpatient duty today, making house calls to all of the subjects. She greets the girls with silent warmth and guides them and Steve to their rooms, where she conducts a series of examinations. Kunder works the ferry and Sarah opts to stay with him. Heather and Daniel are left to their own devices.

“Well, what now?” asks Heather.

“You might enjoy meeting Gerald and the rest of his family. Neat people. Or, if you prefer, I just happen to know where we can find what might be the largest surviving digital library in the world.”

Heather looks at him. Her lips press into a grin.

“Now that,” she says, “that sounds like a good way to waste a day.”

Compared to the Cansoni homesteads, Daniel’s cabin isn’t much to look at even in a near-finished state. Study and talent can only do so much to make up for inexperience; his roof is already giving him trouble and he makes a point to canopy all electronics in waterproof material, just in case of a leak. Beyond that, his habitation is sparse but not at all unpleasant.

Heather reviews the catalog for his files in amazement. They print and bind a few tomes: she's always wanted to read Tolstoy's War and Peace and he makes a copy for her. They sit and read and talk about their lives and barely notice as morning grows into afternoon. The fog has burned away and the weather is incredibly drawing close to late-spring averages: sunny, temperate and breezy. Daniel jolts in alarm at the sound of a neighbour helloing the house.

"Hey Justin, watch out!" he yells. "Don't come any closer, I think you're near one of my booby traps!"

"Oh it's okay, I disarmed it." the younger man soon emerges from the trees, bear banger in hand. "Hope you don't mind, sir."

"Not at all..." marvels Daniel. "In fact, maybe you could help me find the others? Not sure if I can get them all myself."

"Sure," shrugs Justin. "I'm pretty good at finding traps and tripwires. Used to get a lot of my meat from the ones set out by poachers. But right now, I've come to let you know that the doctor would like to see you and Heather. Didn't give a reason, but she did show a lot of interest in your friend, Sarah."

"Oh?" says Daniel.

* * *

Music plays in the barn as Dr Aya Kato taps at her laptop and does her work. It's a series of Medieval Gregorian chants of all things, though the resonance is odd and the effects on those humans who hear it is strange. It feels as though it echos around on the inside of the skull, sometimes like it tingles and vibrates around the body as well. The sensation is not unpleasant for most. Aya leaves Steve with a high-fidelity portable speaker system and some instructions on when, for how long, and in what places he should play the music, and what notes he should take on his wives' response to it.

The strange metal devise that she uses to examine them is an absolute godsend. Non-needle, non-invasive, pain-free and reusable, it doesn't hurt that it looks less like a traditional syringe or infusion set and more like an RFID reader or barcode scanner. It provides information about the nanites as well as other important medical data, and most of the results are shown within hours or even minutes, though comprehensive blood analysis does still require old-fashioned phlebotomy.

Bailey presents her arm and holds it out for the doctor, a definite improvement on her part. Aya had made sure that she didn't get to see her do this with Allie, meaning that she must remember having done it during her last exam several days ago. Aya checks that Allie's injury is healing properly, runs through Bailey's blood scan, and then asks for Cailey to take her place. She does so, reluctantly, with Steve holding her trembling hand and Allie wordlessly comforting her throughout the process.

Cailey doesn't like the doctor very much. Despite using her guards or orderlies for the task, she associates Aya with the bloodwork and injections which she now fears violently. That's a common trait among the formerly-posessed, indicating that they have at least some idea of what made them this way. Of course, a lot of pure-bloods who might have previously lacked that fear are likely to develop it.

“You’re a good girl, C.” murmurs Steve with unfeigned kindness. “You’re being such a good, brave girl for me. We’re going to make you a lot better soon, we’re going to fix your problems and have you all healthy and happy again. You want that, don’t you?”

Cailey looks at him, straight into his eyes. Then she looks at her arm as Aya finishes with it, and then looks down to her lap.

Aya nonchalantly continues the exam. She re-checks the physical health of the patients, performs some mental exercises, asks a number of questions of their guardian, and ensures to the satisfaction of anyone who might ask that they are being properly and “humanely” cared for, whatever that means. She affirms to whom it may concern that Steve Canssonni treats them no sparser than she would, and quite a bit better actually. After this is finished, the women are sent off with one of Gerald’s children to help on his homestead, Steve and Aya are left alone.

“Is Cailey getting better?” he asks. “Is her mind healing, I mean? I can see the improvements with Allie and Bailey, but Cailey... I just don’t know about her...”

“She is not worsening.” says Aya. “Neither physically nor mentally. None of them are, and that is unusual. That one is a little older than the other subjects, and seems to have been more heavily-infected. For those reasons, it is possible that her capacity for improvement is more limited.”

“I just want to help her get better. Is... is there nothing more we can do?”

Steve feels anguish, and possibly guilt. Intellectually, Aya knows this. Emotionally, there’s little she can do with that knowledge. There is a good reason why she went from clinical pathology to genetic engineering; bedside manners have never been her strong-point, and empathy is known to her only through reading about it. For the good of her research, Aya thinks it best to keep the subject in her current location and continue the monitoring of her condition. Then again, it would also be well-advised to placate one of the better outpatient guardians, and she does have room left on one other, short-term experimental regimen. She pretends to consider his question for some time before answering.

“There might be something.” she offers tonelessly. “But I cannot make guarantees. And I will have to take her to the Facility for a few days, if it will not disrupt your operations here.”

“I... well, the other girls are more comfortable with her around, and she likes them a lot too. But, if it brings us closer to seeing her smile one day, then--”

“Hello the house!”

Aya recognizes the voice immediately. She concludes the discussion and greets the two as they step inside. Heather responds to her presence with the cautious obeisance one typically shows to a wizard who is not a friend. Daniel responds with the smirking pugnacity that a wizard typically shows a rival wizard. He walks over to the table where she had been analyzing her test results, picks up the blood testing device and examines it playfully.

“Oooh, a medical tricorder! Wish I could have brought one of these babies out with me.”

“It is not a tricorder, Daniel! It is a very complex and very fragile medical device!”

“What’s it do?” asks Heather.

“It diagnoses most diseases and adverse medical conditions,” answers Daniel ahead of Aya, “it measures thousands of physical and chemical variants in a patient, it recommends courses of treatment, and it does most of this within a matter of hours, minutes or seconds. This model isn’t even very fragile; it was primarily produced for the black ops community.”

“You just press it against someone and find out what’s wrong with them? No punctures, no incisions, no visit to the clinic and no waiting for lab results? Whatever you call it, that’s incredible.” Heather stares at the device in wonder. “Is it safe? Can you test me with it? Assuming there’s no needles,” she quickly amends, “and that you use a fake name for me on any logs you keep!”

“It is perfectly safe. I would like to test both of you, and the procedure is completely non-invasive and perfectly anonymous.”

Heather looks at Daniel, who nods reassuringly. The two of them allow Aya to make her exam and eagerly await her findings.

“I’ve been reading about people working on things like this for as long as I can remember.” says Heather some time later. “What I don’t understand though: if you can finally make it, why isn’t it in every doctor’s office? It would completely revolutionize healthcare!”

“You have answered your own question.” spoke Aya. “Doctors do not want revolution, and neither does the pharmaceutical industry or the lobbyists and politicians that answer to it. This technology has existed for decades, but practical attempts at research, development, and production have always been opposed by medical authorities who fear that consumers will use the devices to perform unsupervised self-diagnoses, and by extension unsupervised self-medication.”

“Yeah.” says Daniel. “The problem isn’t so much that it makes lab techs, doctors, and pharmacists obsolete. It doesn’t. The problem is that it makes it possible for normal people to bypass the hegemony of the Labcoat Priesthood, and that’s even worse. Imagine a bunch of random nobodies finding out what’s wrong with them without talking to a doctor about it or asking a pharmacist for permission to fix it. That model even has a list of herbal and field-expedient remedies for when modern medicine is unavailable.”

“Home medication is illegal now.” says Heather mockingly. “Same as OTC medication. It all needs prescriptions these days, and of course you have to show your vaxxpass to get that.”

“I’m a doctor Jim, not a lawyer!” quotes Daniel.

Heather, largely unfamiliar with Star Trek, is unsure of how to answer. “It’s amazing they didn’t start requiring prescriptions for food.” she says instead. “That’s kind of like a medicine, you know? I mean, it treats the medical condition known as starvation.”

“That is true, and that was being planned.” says Aya plainly. “I’ve almost finished with your blood analysis. I’ll announce my findings when the others return from the ferry.”

* * *

“So, are we all really going to keep pretending that there’s anything normal about our host and those... things he’s sharing a house with?” asks Sarah quietly.

She and Kunder return just after Steve leaves for his brother’s house to retrieve his wives. Elena is helping Aya’s guards in readying the horses and helping her prepare for the next leg of her circuit. She’ll be a few days before she reaches her main facility again, and she asks Daniel if he would be willing to travel by sea with Cailey and meet her there. He agrees, genuinely curious as to what she’s gotten herself into.

“Well, yeah, it’s a little creepy.” says Heather “I mean, three wives and all...”

“They’re not his wives!” sneers Sarah. “They’re zombies! Docile, well-kept and clean zombies granted. But they’re still fuckin’ zombies! And what he’s doing to them... well it’s rape if you think they’re still human, bestiality if you don’t, and a bit of necrophilia either way.”

“So it is.” says Kunder. “And that’s worse than shooting them on sight, which was always our standard procedure?”

“That’s a little different, don’t you think?”

“Sure. And I’ll admit that I don’t quite approve of Mr. Cansoni’s domestic situation, but I likewise see worse things that could happen. He does, at very least, seem to care for them.”

“It’s hard to understand it, but I really think he loves them.” adds Daniel quietly. “They’re a lot more to him than just obscene fantasy sex toys; I think he really wants them to regain their humanity and independence.”

“But does he have to call them his wives? And couldn’t he wait to see if they do come back all the way before he screws them?”

“We are not sure if that will ever happen.” says Aya as she finishes bringing up several tabs on her computer. They show graphs and charts and data points which are indecipherable to most of those gathered around. “They are like lobotomy or brain damage victims, and their ability to recover varies considerably from one subject to another.”

Aya’s command of English is near-perfect, but she has an oddly stilted and clipped speaking style. It seems to go well with her personality, and Sarah has to wonder what she might have been thinking when she put three attractive young women into the home of a middle-aged bachelor. Probably thinks it’s a fascinating social experiment.

“Anyway” she says. “I am very interested in what I found when I checked the lot of you for traces of nanite infection. None of you are at a risk of turning at any point in the near-future, as you will be happy to know. Mr. Singh appears to be the most undamaged, which is to be expected for someone who was never vaccinated and who spent most of his days working out-of-doors and away from other people. Mrs. McMillan also shows low levels, which is consistent with an unvaccinated individual who works an office job in an urban area. Mr. Scrivener has medium-low levels, probably due to his past work in close proximity to central transmission sources.”

The others glance at Daniel, who shrugs.

“Probably. Even now, if you were to spend all your time standing and sleeping directly in front of functioning 5G tower, that alone would turn you.”

“What about me?” asks Sarah.

“You, Mrs Hebert, are an anomaly.” she pulls up her tab, which is visually dissimilar from the others but otherwise every bit as incomprehensible. “You said you were given one of the injections, and it shows. Your bone marrow is completely riddled with signs of nanite production, enough so that you should have probably turned by now. And yet we see almost no sign of live nanites in your bloodstream or nervous system. They died off, and then they were purged from your body; your blood and brain-matter are probably the cleanest of anyone here.”

“Really? How is that possible?” asks Sarah.

“Something about your body renders your bloodstream uninhabitable to the nanites. I have a hypothesis as to what it is, and I do not suspect that I will be wrong. You have an elevated blood flow level and a stimulated immune system, and your blood also shows elevated levels of progesterone, estrogen, and hGC. Are you late, by any chance?”

“Late, late for what?”

“Your period. Are you late on your period?”

“I’m irregular, but--”

“Sarah, haven’t you figured it out yet?” asks Heather, unable to hold it any longer. “Congratulations girl, you’re pregnant!”

Heather squeals with joy and throws her arms around her, Kundar takes one of her hands into his own. Daniel nods and appreciatively pats his new friend on the back. Sarah looks ahead dumbfounded.

“Pre... preg... Pierre...”

Aya secures her exit before the crying starts.

Chapter Fifteen: 925,000,000

As they had at Karyn’s, Heather and her friends quickly settle into one role or another. Kundar and Sarah temporarily move into spots recently vacated by Justin and Alisha, he continues working on the ferry and she finds a role within the homestead. Lisa provides the younger woman with a crash-course in parenting, primarily by sending her out into the forests and salt marshes with the children to forage for fiddleheads, groundnut, spruce and rose hips, cattails and pickleweed.

There’s an orchard nearby, previous owners dead and no known inheritors, which has been reoccupied by a number of refugees. There’s also a midwife in residence. Sarah and Kundar may ultimately move there, but for the moment their current arrangement suits them well.

Heather stays with Daniel, and finds that she likes her role as librarian much more than her previous one as a plumber. They continue to print off manuscripts for the benefit of themselves and their friends, and Daniel is even convinced to share a few with others in the area. Steve is their primary link to the rest of Grand Royal Island, serving as a source of information and trade. Gerald and his household help him with the rebuilding and waterproofing of his roof, and he helps them make better use of the surrounding natural resources.

Daniel is astonished to learn that Gerald and Lisa had never so much as spent a night outdoors before making the jump into outlawry, and Justin had gone to the woods only slightly better prepared. He, in contrast, had spent several weeks taking survival courses through fake names and laundered cash before making his move, and he had still gone in with a fear that his inexperience would cause him to share the fate of Chris McCandless. Indeed, it may well have done so if more of his cache had been stolen or if he hadn't been given some pointers on smoking wild game, which he hadn't quite understood from his volumes of survival guides.

Still, while his neighbours have learned much in their years of hard-won experience, there are gaps remaining in their knowledge. They knew about pine needle smoke bathing, but they didn't know that soap could be made from pine tar as well as tallow. They knew about the many uses of cattail plants, but they didn't know about the antiseptic properties of the jelly or the usefulness of the pollen in poultices. They knew that salt could be extracted from hickory—though hardly enough to be worthwhile for people so near to seawater—but they didn't know that the bark of the shagbark hickory tree produced a delicious syrup. They knew about using mud or cedar or wild onions to ward off biting insects, but they didn't know that the leaves and berries of juniper trees could ward them off as well. They're especially thankful for that last bit of information, with another summer on the way.

* * *

The Algorithm continued to focus its efforts on Africa, the Middle East, the Indian subcontinent and the rest of Southern and Western Asia. From the mountains of Afghanistan to the jungles of Nigeria, the hard and undomesticated segments of humanity continued to resist and occasionally to strike back. Not even a nuclear strike on Kabul nor a dusting of Phosgene gas on the African Gold Coast was enough to cower them. The more thoroughly-converted segments of the world were increasingly forced to send weapons, and units to use them, into hundreds of literal quagmires around the planet.

Nate the Assistant Head Manager found the state of his domain considerably compromised by world events. Not only was he having to find more creative reasons for why he couldn't more fully contribute to faraway military operations, he was also facing shortages of the fuel, food, and raw materials needed for the continued functioning of an industrial society. He needed a more local source for these things, and he looked to the coal mines, refineries, fisheries and foundries of Grand Royal Island with envy.

Reviewing his plans for an invasion force, it looked less like an amphibious assault fleet and more like a pleasure cruise flotilla. The troops it carried looked less like a combat force and more like a recreational shooting club. Advanced military equipment was available, but it was in limited supply and had to be used sparingly. Losses would be heavy against an enemy who was likely to be entrenched and well-prepared, but this was of little concern to him. It was as good of a method as any to dispense with his surplus population, and his rendering plants would make good use of the cadavers on both sides. There was, after all, much to be said for green energy.

* * *

Allie and Bailey spend more of their time in Cailey's presence than is usual. They seem to understand that she'll be leaving soon, and may not return for some time. Sarah finds the behavior amusing, almost even endearing, though not endearing enough for her to forget what disturbing creatures they are. Whenever they visit their brother-in-law, she makes a point to find something worthwhile to do with the kids.

"You're lucky, you know," says Elena as they walk. "You tall women always carry pregnancies so well!"

The giddy teenager is practically bouncing around her as they follow the edges of the brackish ponds in the back of their homestead, checking the juglines and trotlines for fish.

"You really think so, Little Miss Obstetrician?" she asks. "Or do you think it's going to exacerbate my lifelong back problems?"

Elena grins goofily.

"Uncle Steve is really happy for you," she says. "He's hoping to have a few kids of his own as soon as possible, and I'm looking forward to having a lot of baby cousins!"

"You're not afraid they'll come out... damaged? Like their mothers?"

"So what if they do?" she shrugs. "Dr Kato says she's looking forward to seeing if her patients can bring pregnancies to term. If there's any problems, we'll try our best to take care of them, we'll hope that some of the underground research being done on nanite technology can help fix it. It's really some amazing stuff when not under the control of evil institutions."

"Institutions that let people try to impregnate something that can't possibly give consent, you mean? Or does that not fit your definition of evil?"

Elena stops in her tracks and looks piercingly at Sarah. Her face goes dead, then it resets with a look between incredulity and... what? Sadness? She sighs.

"No, it doesn't. And I know how you feel about the whole affair. You think my uncle's a crazy weirdo for what he's doing, and you think Allie, Bailey, and Cailey are freaks of nature."

"I—"

"—and you're right. He is a crazy weirdo; I'll be the second to say it, and he'll be the first. He's always been weird, and I think it was COVID that sent him completely off the rails, when his ex-wife died."

"His ex-wife died? Of COVID?"

Elena shakes her head sadly.

“Lockdown suicide, which if you’ll remember actually caused more deaths among the young and healthy than the virus. She had a lot of her own problems, and a year and a half alone with her demons was just too much for her. He blamed himself for it, he never was the same afterwards. I think that’s why he... and the women... well yeah, maybe you’re right on that point too. Maybe they are freaks, but even if you don’t think of them as fully human anymore, you should try to remember that they were just like you or me not too long ago. They didn’t choose to be like that, they may have not even had a choice in getting injected in the first place.” Sarah catches a lump in her throat. “All I’m saying is, I know you can’t help it if you can’t stop fearing my uncle and my aunts. But try to understand them too, if you can.”

Sarah can’t begin to form any response to this girl, almost half her age but maybe more than twice her wisdom. The two finish the day’s chores in relative silence.

* * *

The battery bank sounds its alarm and Daniel finds a stopping place to power down his desktop. Heather glances at him from over the top of the book she’s reading.

“I can’t believe you would bring a monster machine like that with you, and then not put any games on it.”

“I have games on the laptop. Never have the time or inclination to play them, but—”

“You have strategy and management sims, not games. Anything that needs a spreadsheet to play is not a game, it’s a facsimile of what I used to do for a living.”

“Yeah, sure, I used to play first-person shooters too. I stopped doing it not long after I stopped chasing my brothers through the woods, pointing sticks at them and yelling ‘bang!’”

Heather sticks her tongue out at him. She rises from the chair and walks the fresh-swept timber wood floor of his cabin. Daniel smiles. He had gotten used to his solitude and privacy, and wasn’t sure how he would feel about inviting another woman into his world again. Turns out, he finds that he values her company as much as he ever valued his own. She provides perspective and balance to his life. She had insisted that they make some raised beds for a garden, and at least look into getting a dog or a cat or even a few goats or donkeys. She also wants him to teach her how to ride his bike, which he promises to do right after teaching her how to sew and how to hunt.

Heather has already taught him a few things. When Daniel tells her about his incident with the bear and his tree bags and his plan to use cables next time, she offers an easier solution in the form of the PCT Bear Bag method: tie a carabiner to the end of your rope, make a loop with it with your bag in the middle, pull the loop closed to suspend your bag away from the ground and then keep the loop closed by tying a clove hitch knot around a jam stick. He makes a point to remember that.

Daniel is lucky, and he knows it. Somewhere outside his forest, the world is still reeling and sinking further and further into horror. But here he has everything he could ask for: neighbours and friends, a good supply of food, clean water, a roof and four stout walls to keep out the weather, a soft bed to sleep in, a smart and charming woman to share it all with, even solitude and privacy when he wants it. It’s all so much more than he deserves.

He wonders how much of it he'll lose if his role in this is ever discovered.

* * *

Sarah finds Cailey unattended for the moment, sitting in a lawn chair outside Gerald's house. Yellow evening rays shine through the gaps in the trees and she holds up the back of her hand, looking at the shadows of the leaves as they play upon her skin. Sarah takes a seat opposite from her, she remains mesmerized by the phenomenon for several seconds before finally noticing the other woman.

"You're leaving tomorrow, and I guess I should say goodbye. I hope everything works out well for you."

Big, doey eyes look through Sarah. Cailey is a few years older than her, early 30's at the youngest, but it really is hard to tell from looking at her empty, innocent face. She looks back down at her hand and returns to the pressing matter of shadows and light dispersion. Thinking quickly, Sarah puts her own hands into the sunbeams and creates two shadow puppets against the cabin's log wall. Cailey looks in rapt attention as a little shadow bunny runs away from a little shadow wolf. Sarah continues to do this as she speaks.

"What were you like, Cailey, before all of this? Did you have a family? A lover? A home? Is there anyone out there missing you right now? What kind of a person were you before, well, before you lost your personhood?"

Cailey seems to be at least a little interested in what Sarah has to say. Her eyes are back on her as she slides her chair closer. Sarah, to her own surprise, finds that her typical feeling of disgust isn't coming this time.

"What made you this way? Did you know about the dangers? Did you really believe them when they told you it was safe and effective? I see one of you, and I always assume that you were one of those who went laughing to the clinic and mocking those of us who had to be dragged. I of all people have no right to be like that; I should be able to remember that a little less than two-thirds of the population were reportedly 'willing' to take their shots. Which implies that one in three of us had to be coerced."

Cailey works the muscles in her face and tilts her head at an odd angle. Sarah almost takes the movement for a shrug.

"Did your friends or family talk you into it? Did you do it because the things you enjoyed in life were being refused to you? Did your school or your workplace make you do it, or did you find yourself unable to pay for food or utilities unless you did? Did you do it because the government said you had to? Or were you one of those who tried to get around it, only to have the pigs show up at your door and offer you a choice between injection on the spot or an injection down at the station. I always said that I would have pulled a Chris Dorner on them if I hadn't already been in lockup, but I guess I shouldn't judge others for not being so suicidal. And, in hindsight, I'm very glad I didn't."

Sarah reflexively reaches a hand to her belly. Cailey notices, the muscles in her face move again and Sarah thinks that she can see a sheen of mistiness forming in her eyes.

"For all I know, maybe you weren't even vaxxed at all. Does it even matter? None of this is your fault,

and I'm sorry for what happened to you. You're still a human being."

* * *

"I overheard part of your chat with Cailey last night," says Elena to Sarah as the two stand on the shore. "Quite the 'St Francis and the Leper' moment there, eh?"

"I hope not," says Sarah. "Historians think his stigmata might have been caused by him contracting leprosy."

Elena looks at her oddly, having clearly not expected her to get the reference, Sarah grins and shrugs.

"Yeah, I have a Catholic background too. I'm just saying... just because I'm willing to treat your aunts like the victims of circumstance that they are doesn't mean I'll make a habit of hugging every former zombie I run across. And I still think your uncle's a degenerate."

"That's... that's fair enough I guess," says Elena, chuckling.

Heather and Daniel load the last of their provisions into the rowboat. Cailey goes too, after one last hug and kiss from Steve. She smiles at him brokenly, something she had only started doing as of this morning. Daniel promises to let Aya know that, and to make sure that she doesn't do anything too weird to his wife.

"I really appreciate this," says Steve. "If there's anything I can do in exchange, name it."

"Try and get some more guns and ammunition," says Daniel, painfully aware of how underarmed they are. Heather carries his pistol, while he arms himself with the flintlocks, more in the hope of bagging game than for self-defense. The small trawler that awaits them will travel some 260 km around the island and disembark close to Aya's facility. Water, foot, and horseback are said to be the only practical ways to get there, and the journey is expected to take some ten or twelve hours.

Three more of Aya's guards await them. Not exactly the same ones as from earlier, though it's honestly hard to tell. Same unmarked uniforms, same basic weaponry: unlicensed copies of CZ-75 pistols, Sterling and Scorpion submachine guns and Kalashnikov rifles, plus civilian shotguns and a Russian belt-fed machine gun on the forward deck. Not really fooling anyone, and no longer even trying. Daniel boards the ship and nods to the deckhand.

"Anyoung haseo," he says simply. The man's demeanor cracks slightly at Daniel's use of the phrase, the sum total of his Korean vocabulary. Within a few minutes, the vessel is underway.

Not long after their departure, the Cansonnies receive word that they will indeed be receiving more guns and ammunition. Rudimentary explosives, body armor and other tools of war as well, and even some instructors to show them how to use it. The reason for the munificence, however, is not an altogether agreeable one.

Chapter Sixteen: 872,000,000

Heather feels well and truly Maritime as she stands on the rolling stern of the trawler in her Safety Red parka. The automatic pistol in her hand feels a little out of place, but she hadn't been able to find any

harpoons aboard.

The trawler crew can't or won't speak much English, but they do have a lot of ammunition. To amuse their passengers, they tie a rope through a large wooden block and throw it overboard, then invite them to shoot at it. They had even let the two of them fire off a few bursts from the belt-fed gun, though beyond that they are largely ignored.

"I think the skipper's still mad at me for calling him Japanese." says Heather to Daniel. "I guess I came across as culturally insensitive."

Daniel shrugs. "It's a fair mistake. Can the average Korean tell an Englishman from a Frenchman just by looking at one? But I don't think that's the reason, I think they just have backgrounds that discourage idle conversation, if you get my drift."

Heather smirks. She raises the Glock towards the block in the water, aims, and fires. The bullet sends it dancing in the air, she squeals in delight, aims, and fires a second and third time. Each round finds the target and each success brings another joyous squeal. It is not easy to hit a moving target with a pistol when you are also moving, but Heather is becoming a skillful shooter. Daniel, in contrast, is adequate at best.

"Any chance of getting Cailey up here?"

"Not a chance. She's scared to death of the noise. She would never shoot my .22 either, and she's barely willing to shoot Kunder's crossbow. Odd, since the other two have no problem with firearms. She's spent most of the voyage either hanging out on the bridge or sleeping."

"Too bad. Might be useful therapy for her."

Their destination is a narrow rocky shore inside one of Grand Royal Island's many fjords, often underwater at high tide and almost perpetually shadowed by the high sea cliffs that surround it. The crew lands them ashore and bids them goodbye. An artificially widened footpath through a crevice leads to the top of the cliffs and the forest above, more guards await to guide them on the last leg of their journey.

On a ridge deep in the forest is a metal door into the limestone. Beneath the door is an ancient concrete corridor. Its walls are worn and crusted from age, though evidence of recent repair is visible. It terminates in an open central area, with more rooms and alcoves branching off and stairs leading to at least one more lower level. It hums with activity as men and women come and go or work by the light of computer screens and battery-powered lamps. Power lines snake along the concrete floor or cling to bolts in the ceiling, desks and benches fill the spaces and Aya looks up from one of these as Daniel approaches.

"You brought the patient?" she asks. "Very good, come with me."

She leads the party through a set of double doors into what seems to be a mix between a laboratory and a medical examination room. Several other nanite victims lay behind their own dividers, with Aya's personnel hovering over them. The strange-sounding Gregorian chants are softly playing through speakers here, the same as they were at Steve's. Cailey lays back on the bed and watches curiously as Aya plants electrodes on her body, wiring her up to what looks like a UPS box, which in truth is

basically what it is.

“You’re not electro-shocking her again, are you?” asks Daniel.

“No.” says Aya. “Not exactly. That works well enough in breaking them free of the hive, but shows little effect in restoring their cognitive functions. We are going to stimulate certain areas of the nervous system with targeted bursts of micro-current over extended periods of time.”

Cailey gives a broken look to Aya, and Aya smiles back even more brokenly. If the low-voltage currents are causing any discomfort, she isn’t showing it. In a few minutes, she’s back to sleep.

“Sounds like some kind of turn-of-the-century quackery, to be honest.” says Heather.

“The medical usefulness of hand-washing was quackery before the advent of germ theory.” says Daniel. “Given the electrical nature of the brain and nervous system, the idea of it being affected through electro-therapeutic means has plausibility.” He shrugs. “Who knows? Maybe the makers of the Rogers Vitalator and the Sears and Roebuck Medical Battery were on to something. Heck, maybe we should even give the Rife Machine a second look: break up the blockages in her brain with radio waves.”

“That is currently being tested.” interjects Aya offhandedly.

“I dunno, maybe.” says Heather, still unconvinced. She glances up towards the sound of the music, then looks back at the doctor. “Okay, so what about this Dark Age soundtrack you have going in here? I mean, I don’t hate it, but it’s not the first thing I would expect to find on the playlist of someone like you.”

“Solfeggio frequencies.” says Aya. “We believe that certain sounds commonly produced in specific forms of music, such as in Gregorian chants and Sanskrit mantras, can be used to encourage physical and mental healing in subjects who are exposed to it.”

“Huh. Almost like the opposite of how some people think that low-frequency noises from wind turbines may be harmful to humans and wildlife?”

Aya nods.

“Curing with electro-currents, healing with sound?” she muses. “And hear I was thinking things couldn’t get any weirder.”

“Oh, we’re not even halfway down the rabbit hole.” mutters Daniel quietly.

Cailey sighs in her sleep and stirs slightly, her head lolling on the foam pillow. Aya ensures that she won’t awaken or dislodge the electrodes, she instructs an orderly to continue monitoring the patient and the three of them agree to rejoin their conversation in her office.

* * *

Gerald always feels weird about it when his brother asks him or Lisa to sit in for him on the war council.

The Grand Royal Island's War Room is an old worksite managers' trailer, the war council is whoever has enough prestige, wealth and power to justify being there. There's the tribal chiefs and commissioners, Justin Millbrook's Aunt Diana among them. There's a couple of gang kingpins and church leaders, there's a representative from the fishermen and one from the loggers. There's a few from the bigger farming families, and some from groups of people working to partially-reopen the steel mills and refineries as well as the old coal, gold, iron, and zinc mines. The Cansonnis, lowest on the totem poll though they are, seem to speak for the island's ex-fugitives.

Almost all of the representatives are chosen through direct democracy among self-managed collections of workers. Their "government", such as it is rules through mutual consent rather than through a monopoly on the use of force, and Gerald can't help but chuckle at that. It's anarcho-syndicalism as done by people who can hardly spell the word and are better off unable. For the moment it seems to be working, and maybe it won't just last until someone gets the clout to crown himself king, or until something bigger and stronger shows up to take it away from them.

"So, I'll get the dumb questions out of the way first." says Reverend Andrew Smith. "Are we sure this is an invasion force, not just a big sabre-rattle or a training operation of some kind?"

"As sure as we can be." says Ray Tichos of the fishermen. "Impossible to know for certain, but we don't think the possessed really do those kinds of things. All the training their minions ever need, they just beam it into their heads mostly. My guys who've gone to have a look at them have seldom seen any evidence of massed training or drilling, and Dr. Kato's people haven't either, or haven't told us if they have."

Kim Kunitomo, "speaking" for the shadowy fly-by-night exorcism clinic, shifts his gaze slightly. He and others who answer to the doctor prefer to be seen rather than heard, and in truth they rather prefer not to be seen.

"Large northward movements of manpower and vehicles, ships and aircraft." continues Ray. "Stockpiles of weapons, ammunition, gasoline, diesel, and spare parts. They're improving the road and rail network throughout their part of New Ireland. Yes, they aim to take this island, and they'll be sending a lot of people to do it."

"How many?" asks Diana Millbrook.

"How many possessed do you think live in New Ireland?"

"Six hundred thousand seems to be the common guesstimate, and I reckon that's as good of a number as any. But surely they won't send all of them after us, they only do that when they're desperate like at Louisburg."

"They may be desperate now." answers Ray. "Something we have which they want, or something we're doing which they want to stop. But you're probably right, our guess is that they won't completely uproot their entire society for the sake of one island. More likely, they'll send anywhere from a tenth to a third of their population against us, so anywhere from two hundred thousand to sixty thousand."

"Well, if not all of them then still a lot of them." says the Reverend soberly. "How do they do that, though? How do they mobilize that many and keep their economy from collapsing?"

“They don’t have much of an economy left, at least not as modern civilization understands it. For the most part, farmers still farm, builders still build, craftsmen still craft and mechanics stay mechanics. But what use do they have with the people who once made up the vast majority of a First World economic system? They don’t really need much of a service or retail industry, given their... Spartan lifestyles and consumer appetites. The whole ‘omniscient hive mind’ thing leaves little use for education, bookkeeping, data entry or management positions. What else do you do with all of the surplus leftover population?”

“Assuming you’re an amoral machine intelligence?” asks Diana. “Ironically enough, the same thing human societies typically do when they have a population surplus: send the useless eaters and potential troublemakers over the hills and far away to bonk some people on the head and steal their stuff for you.”

Gerald smirks at that comment. *To Flanders, Portugal and Spain; the King commands and we obey...*

“So, they’ll outnumber us three or ten-to-one?” says Peter Fraser, speaking for the lumberjacks. “That assuming they don’t bring reinforcements from other states?”

“Try twelve or forty-to-one,” says Diana. “Societies that don’t have hive minds are lucky to mobilize a fourth of their population at any given time, that if you’re willing to give a gun or a club to everyone who can hold one.”

“And I suspect most of them will have guns this time, not like what we faced at Louisburg,” says Gerald.

“Most. Though probably not high quality, since most of the good stuff has been sent overseas.” says Ray. “A small cadre armed with decent gear, the rest armed with hunting rifles, reactivated museum pieces, Kyber Pass Copies, homemade shotguns and submachine guns, maybe some grenades and mortars and RPGs firing black powder warheads. They’ll look a lot like us, and in some ways they’ll look worse. But they’re not bothering to outshoot us, they’re swarming us with more men than we have bullets.”

“Not that we have very many bullets.” notes Gerald. “Any way of taking a bite out of that swarm before it gets into shooting range?”

“Rockets.” says Tim Weigley, a former Louisburg factory manager. “Packed with high explosives, chlorine and mustard gas among others. Following instructions provided to us by our, uh, non-CWC and Ottawa Treaty signatory friends.”

Kunimoto nods almost imperceptibly.

“Speaking of which, we have mines too, both land mines and sea mines. We can put the latter at likely avenues of approach, or tow them behind speedboats and try to kite them into enemy vessels if anyone feels especially ballsy.”

“Damned travesty to be putting leg removers on the same beaches where our children will one day play again.” says Diana. “It’s bad enough that we’ll have to worry about plagues and filth diseases even in the event of victory, both from all the corpses left behind as well as from what bad health they were

likely to have been in. But what if they come at us with everything, from all directions, all at once? Send skiffs up every cove and river, drop from the air on every crossroad and hamlet, give us nowhere to hide and no space to maneuver?"

"They do that and we won't have to worry about the beaches our children play on." concedes Ray. "But if they do that, they'll be showing a lot more strategic skill than they typically do, judging from what we hear on the shortwave. Most likely, they'll just sail across the straight and try to sweep us up from one end to the other. If they're really smart then they might think to swing out to sea and turn about on our oceanward side, find a better landing spot than the rocky shore of the straight, though I doubt they even have the good sense to do that."

"I'll have my crews out to make sure they don't." says Paul Ewing, a former smuggler who's gang had played a pivotal role in the liberation of Louisburg. "We've managed to get a few paragliders working again, we'll be able to see anything coming and ready a rapid-reaction force, just in case the devils get clever."

"That reminds me, what kind of air power do they have?" asks Diana "A lot of people died early on because they just couldn't grok the idea of zombies with fighter-bombers and attack helicopters."

"Probably no fighter-bombers." says Ray. "Civilian choppers and civilian prop-planes converted to transports or light attack craft maybe, and even that won't be common. They seem to have a thing for improvised armed drones, though. They'll either use them sparingly or they'll send massive swarms to try and overwhelm our missile and laser defenses."

"We're working on that too." says Tim. "forty millimeter autocannons and twenty-millimeter rotary cannons, basically homebrewed copies of the World War II Bofors guns or Cold War-era Vulcan Air Defense Systems. Not much good against anything flying fast or high, but it should work against simpler foes, and it'll definitely take out vehicles, boats, and massed infantry. We'll mount them on trucks and boats and have them ready in a few weeks."

"Then they'll be firing from the assembly lines like Stalingrad T-34's. We only expect a few weeks before they make their move on us. And as Diana says, if we're going to have a chance at all then we'll have to have everyone who can hold a weapon of any kind doing so." Ray shakes his head. "We've got some other things we're working on, things I don't want to talk about even here. It might help out a little. It's a long shot, but then so is everything else we're going to try."

* * *

Aya's little office is similar to the one that had been assigned to her in her days as a mid-level geneticist. It's almost monastic by Western standards; it might have once been a broom closet. But it's sufficient by both the standards of her culture and the standards of her personality. Daniel is reminded of how Mohamed went from a caravan merchant to ruler of half the known world without ever living in anything more opulent than simple tents and cottages.

"What are the odds, Aya? Thousands of islands, thousands of wilderness refuges, thousands of little hidey-holes around the world where you could run away to do whatever it is you're trying to do. And you just... randomly happen to set up shop in mine?"

"I am sure that the probability of the two of us finding refuge in the same area is low, but not as low as

you imagine. I chose this area for a lot of the same reasons you did. You and I think in much the same manner, and that is why you never liked me.”

“Oh? That’s why I never liked you? Not because you found out what was going to happen even before I did, and your response to it was to start spying for the North Koreans? What did they do, give you a special commission in their Special Forces?”

“I don’t think those are North Koreans, at least not all of them.” says Heather. “Some of them seem like commandos or mercenaries, and they are Koreans obviously. Koreans who get really ticked when you mistake them for Japanese, but also Koreans who have a lot of Japanese-sounding names and Koreans who seem to mostly read in Japanese.”

Aya looks at her in surprise. Perceptive, this one.

“I may not be able to tell Koreans apart from Japanese just by looking at them, but I can tell the writing systems apart. I think they’re Zainichi.”

“Yes. Many of our instructors and specialists are teugsujagjeongun, Korean People’s Army Special Operation Forces.” says Aya. “Most of the rest were originally Joseon Chongryon, long-term Korean residents of Japan and their descendants who still culturally and politically identify with Korea.”

“With... North Korea.” notes Daniel dryly.

“With a unified Korea.” corrects Aya. “One which sees an advantage in having research facilities like this one spread across the globe.”

“I was wondering about that.” says Heather, gesturing at the cloistered office around her “What is this place? Someone’s private bolthole? Some forgotten Cold War-era doomsday vault?”

“It’s older than that, I think.” says Daniel. “I’ll bet it pre-dates the Diefenbunkers by a decade or two, looks 1940’s at the latest.”

“You are both right.” says Aya. “This facility once belonged to someone who used to do business with the People’s Democratic Republic, with whom we’ve been out-of-touch since the disaster. It was originally constructed at the very beginning of the Second World War, with the idea of it being used as a surveillance and command center for guerrilla staybehinds should Axis forces invade New Ireland.”

“People really thought that would happen?” asks Daniel.

“Why not?” answers Heather on Aya’s behalf. “The Germans made it as far as Greenland and the ports of Madagascar, the Japanese were in the Aleutians and Christmas Island. Imagine things going a little different in the early years, and it’s not impossible to think of them making it all the way to here.” She gestures around at the concrete walls. “It’s basically our own version of Operation Tracer from the Rock of Gibraltar, apparently up to and including being forgotten for decades thereafter. I think this one is bigger, though.”

Daniel makes a point to never again tease Heather for her fondness of World War II shooters, which apparently extends into quite a trove of World War II bunker trivia. Aya looks around noncommittally and shrugs.

“Perhaps. It is large for an underground structure, two storeys deep and eighteen hundred square meters in floorspace. More than enough room for myself and my men, though as you know I’ve had to house many of my patients off-site. We’ve also built camouflaged structures on the surface for the benefit of our horses, and we’ll soon have a dock and hanger for our seaplanes.”

“Seaplanes?” asks Heather. “Seaplanes, a private army, and a nigh-impregnable secret fortress to hide it all in? Add a superweapon or two and you’ll be a fully-fledged Bond villain.”

“Indeed.” says Daniel. “Your communist masters rewarded you well, Aya.”

The edge of her lip goes tight for an instant, but her flat affect quickly returns. She seems to carefully consider what emotion she should feel from that statement, and decides to settle upon droll contemplation.

“Do you remember what I am, Daniel? Or what about you, Heather, are you familiar with the Ainu people?”

Heather stammers, not having expected to be put on the spot like this. She looks around for reassurance, but recovers quickly.

“The Ainu? Well, uh, not really... I know that they’re the original indigenous inhabitants of Japan’s Northern Islands. They’re a collection of Siberian hunter-gatherer tribes, like the guys who do the throat singing?”

“Throat singing? The Tuvans?” asks Aya in surprise. “Well, the Tuvans are not really Siberian hunter-gatherers, they are a Turko-Mongolic people who historically lived as pastoral nomads. The Ainu are primarily hunter-fishermen and are more culturally related to reindeer herding groups like the Chukchi or the Nivkh and the Evenk. Genetically related to them too, probably, though we do not know that for sure.”

“I see.” says Heather, still not fully grasping the relevance.

“We were the original inhabitants of Hokkaido from long before the arrival of the Yamato Japanese, up until the end of the 18th century. With the failure of our last great rebellion in 1789, the Tokugawa Shogunate embarked upon a scheme of genocide against our people. Many thousands of us starved to death when we were forbidden from fishing or hunting and our rice was taken as taxes. Our women were taken from their husbands and raped or forcibly married to Japanese men. Our men forced to work as indentured slaves for Japanese traders, and later in the farms, factories and mines that were built on land seized from us. Our condition only worsened with the Meiji Era and the coming of capitalism, and worsened still more under Showa Era fascism and Americanist consumerism. For generations, intermarriage was encouraged even among our own people to remove the still-present social stigma. By the start of the 21st century, there were only 300 unmixed Ainu left in all of Japan, and even that’s questionable. It is biologically impossible for us to avoid a natural extinction in this century.”

“So, that’s... God, that’s tragic.”

“That is what typically happens when a primitive society is overcome by a more advanced society.”

says Aya with a shrug. “Though it does not mean I have to like it, or to accept it.”

“So, that’s why you’re battling for the Norks?” Heather asks innocently, willing to momentarily pretend that Marx-Leninism doesn’t have its own record of putting it’s share of unique ethnicities in the grave.

“That is why I give them my fealty and accept their patronage, because I can get what I want from them.”

“Revenge on the Japanese?”

“Only if you define ‘revenge’ in the same way that Bobby Sands did: in the laughter of our children. You see, there is a way to save my race: recovered ancestral DNA, haploid genome editing, embryonic engineering. I can bring back an entire human ethnic group from the brink of extinction, or even from beyond extinction.”

“Jurassic Park for humans?” asks Heather. “That’s, wow, that’s uh...”

“That’s madness is what it is.” says Daniel at last. “You looked in a mirror recently, Aya? You clearly have Japanese admixture yourself, and maybe even a bit of ‘Big Nose’ too.”

Aya glanced in confusion at the phrase, then she smirks bemusedly.

“Big nose? You mean Russian? No. Polish actually; from my grandfather, a former political prisoner in Sakhalin. It does not matter though, I could be as blonde as flaxen or as black as ebony and still have a child who is every bit as Ainu as Shakushain, who may well be one of the fathers. It is unorthodox I must confess, but genetic engineering opens up a world of possibilities for us.”

“So do mRNA gene therapies and graphine-oxide nanobots.” says Heather sourly. “So long as they don’t fall into the hands of malicious, foolish, or just plain short-sighted people. You’re not doing James Bond or Jurassic Park here, lady. You’re doing Resident Evil. And Pyongyang is okay with all of this?”

“Of course they are. They have their own concerns for which the research that I was doing will be most helpful. A near-century of capitalist domination in the South has left a lot of genetic waste for them to clean away.”

“You are at least focused on more pressing issues, aren’t you?” asks Daniel. “Protecting the remnants of humanity from the nanites and those infected by them, not airing out your racial inferiority complex?”

“Sanctimonious indignation is not a logical emotion for such a one as you, Daniel. Yes, thanks to you, my previous research has gone on hold indefinitely. Or do you think I failed to guess your role in all of this?”

Heather looks at Daniel in surprise. Daniel sets his face stoically. This is gonna hurt, but Heather is indeed perceptive and she was bound to start asking questions before long. This will be as good a source of answers as any. Aya continues.

“When I first learned the truth of what we were working on, I came to the same conclusions about it as you and then I found allies who could help in mitigating the worst effects of it. You... on the other hand, you thought it would be a good idea to preempt the makers of the Algorithm by turning it on for them. You caused the neurological enslavement of billions and the death of millions, you are singularly responsible for the greatest act of multicide in all of human history.”

“Didn’t have a choice.” says Daniel firmly. “It was either most of them or all of them, and every day I delayed would have seen an even lower survival rate.”

“You did have a choice. There were people all around the world working to prevent this. We might have been able to stop it if you had given us more time.”

Aya speaks in the tone of someone who disagrees with a rival’s business decision, rather than as someone casting moral accusations. Daniel ardently avoids looking at Heather’s face, too scared to see what he’ll find there.

“Might.” contends Daniel. “You ‘might’ have been able to stop it. Stop it, and maybe stop whatever abomination comes next from the people who made it. I’m sorry, but I wasn’t willing to risk the fate of mankind on a ‘might,’ especially from people who only oppose it insofar as they’re not the ones controlling it.”

Aya raises an eyebrow.

“Admit it, you would inject those little demon machines into your own bloodstream if you thought you could be in charge of them an not the other way around.”

“Of course I would.” she answers in genuine puzzlement. “Why would I not?”

“Why would you not?”

Daniel glances towards Heather to see that she’s already excused herself. He certainly hopes it’s not the last time she’ll ever agree to be in the same room as him.

Chapter Eighteen: 846,000,000

Daniel sits alone in the bunker’s cafeteria. He watches as a mug of yellow-brown liquid slides down the table, Heather’s palm pushing it along.

“You look like you could use a drink.”

“What is that?” asks Daniel curiously. “Not soju or sake?” Heather sits down beside him.

“Surprisingly enough, no. They call it kvass, it’s a type of very light rye beer. It isn’t bad, at least not when you get used to it.”

“Oh yes, the liquid bread of Russia.” says Daniel, taking up the mug and sipping happily. “It spread to the Orient via the Trans-Siberian Railway, where it was the primary ration for the track-layers. It’s very filling, but the alcohol content is little or none. Aya always was a fan of it, she probably wants to keep her troops as sober as possible.”

Heather sips from her own mug and the two sit in silence for a time. Looking at him seriously, she finally speaks,

"I really can't be too mad, you know. I mean, you never tried to deceive me. You never said that you WEREN'T responsible for The End of The World as We Knew It." She smiles slightly. "You were maybe a little evasive on some parts of your background, which I guess is understandable. And, as you said, you thought it was a choice between most of us or all of us..."

"So, that means...?"

She leans over and kisses him.

"It means maybe I would give a damn if the world you ended had been a world I cared to go on living in. I do miss parts of it. I miss the Internet and I miss plumbing and hospitals and heating and air and electric razors. But I think I'll be okay like this. We'll be okay like this."

Daniel returns the kiss with interest. They slide into each others arms and hold tight together, and he swears to himself that he's keeping this one. She breaks the embrace with a look of curiosity.

"So..." she begins. "Aya Kato is an... an Ainu supremacist? Don't meet one of those every day, do you?"

"Certainly not." says Daniel. "Aya is abnormal, obviously; most Ainu don't try to tie their culture so closely to their genetic makeup. No rational person who actually understands culture or genetics does."

"Then again, if anyone in the world should be feeling superior, I guess it should be people like her." says Heather. "It was the supposedly-intelligent groups like East Asians and Western Europeans who overwhelmingly opted to inject themselves with zombie juice, while supposedly-primitive people like Africans, non-Gulf Arabs, Romani, Australian Aborigines and Indigenous Americans fought the hardest against it."

"Yeah. Once upon a time, they all Trusted The Science, then The Science tried to exterminate them."

"Do you really think she can do it, though? The whole 'human Jurassic Park' thing? I'll overlook the question of whether or not it should be done, I just want to know if it could be done."

"Ha! No. It won't work, for the same reason Michael Crichton gave as to why it wouldn't really work in Jurassic Park: you can't re-create the past. The past is gone. You can only recreate your own version of what the past might have been, or more likely a version of what you think you want it to be. In a very real sense, there wasn't a single living dinosaur featured in that book, there was just a bunch of new, genetically-modified animals made to resemble an interpretation of dinosaurs."

"I... I actually never read the book." says Heather, blushing.

"No? That's too bad, and I don't think I put anything by Crichton in my library, an oversight on my part." He shrugs. "In a sense Aya has an easier job of it, since all she's really doing amounts to minor cosmetic adjustments of her own species. She'll still run up against the insurmountable problem of not actually knowing what those adjustments should be. The only people who really knew for sure what the

Ancient Ainu were like are all dead, and it's doubtful that recovered DNA will give a clear picture on the matter."

"You know," muses Heather. "if she really does do anything more than give all her kids cancer or go full Resident Evil on us, there's probably still an army of schizophrenic women out there who think they're Mary Magdalene. They'll be swabbing holy relics for DNA so they can have babies with Jesus."

Daniel blasts a stream of kvass through his nose. He struggles to gasp out a "That's awful, Heather!" before breaking down in laughter. Heather grins naughtily. The nearby personnel in the cafeteria mostly scowl at the dishonorable display of public revelry, though more than a few who understand what she said are smiling.

"Can we really trust her, though?" she asks seriously. "I mean yeah, it's easy to laugh at, but maybe we should try to remember that she's very powerful, she's clearly very intelligent, and she's very, very weird."

"Isaac Newton."

"What?"

"When he wasn't busy revolutionizing the field of physics, Isaac Newton was more interested in things like alchemy, astrology and Bible Codes. That's Aya Kato for you: genius deeply intermixed with madness. As to whether or not we should trust her? Uh, probably not. But if there's any truth in the word going around of a coming invasion, I think we'll have no choice."

* * *

The communities of Grand Royal Island prepare to weather the coming storms of war. When they're not training, they're working. Pillboxes are erected, trenches are dug, sandbags are stacked, landmines and booby-traps are planted, and the feral cats who pass as human survivors are herded into something resembling a half-coherent military force.

Gerald, his wife, and all but the two youngest of his children will take part in the defense. He and Lisa are riflemen in the same taskforce, Elena is taking a crash-course as a stretcher-bearer and donkey handler, Alisha and Justin man a machine-gun nest, his two pre-teen sons will help carry ammunition for the mortars, and young Leo and Rose will be taken north to stay with friends of Steve's. Steve and his wives are on one of the mortar teams. His entire family is in mortal danger, though he tries not to think about that as he throws himself into the grueling work that must be done.

"Fifteen to one." says Kunder Singh, setting down the wheelbarrow he had been pushing. "If they outnumber us no more than fifteen to one, I think we should have victory."

"You think so?" asks Gerald. "You're not joking?"

"I would not joke about such a thing."

"What kind of thing would you joke about, Kunder?"

“Pakistan.”

“...rrright. So, we’re just going to reenact the Battle of Rourke's Drift here, you think?”

“Well, I was thinking of something more akin to the Battle of Longewala, but yes. I think we can use the favorable terrain and the enemy’s lack of tactical sophistication to overcome their superior morale and numbers.”

Gerald looks out across the strait, then down at the rocky shoreline and the trees and bluffs overlooking it. Yes, they’ll undoubtedly maul any seaborne attacking force. Many will die in the water, and many more will die as they throw themselves against the coastal fortifications and entrenchments. But, will it be enough?

“We’re not beating them at all if we don’t beat them on the beaches, are we?”

“Probably not. We don’t have the flexibility to reform our lines further inland. If they succeed in their landing then some of us will manage to go to ground, some might even evade the sweeps that follow, but the vast majority of the people on this island will perish.”

Gerald nods somberly, and goes back to work. There’s nothing else to do.

* * *

“They will outnumber us twenty to one at least.” says Aya. “It is more than we can hope to overcome by conventional methods.”

“And I’m sure you’re busily working on unconventional methods.” says Daniel gamely.

Daniel’s ex-coworker steps back in on Heather and Daniel, still dressed in her outdoor wear and riding boots. It’s an odd variation from the clinical look that he more commonly associates with her, but she and most of her subordinates are skilled horsemen, and they’ve spent the afternoon working in the corrals with some of the patients.

“How’s Cailey?” asks Heather.

“She enjoyed the lessons, I think. They almost always do; horseback riding has therapeutic value for them, and it might be a useful skill in the future. She is sleeping now, which is a good sign.”

Daniel grins,

“Oh sleep! it is a gentle thing,
Beloved from pole to pole!
To Mary Queen the praise be given!
She sent the gentle sleep from Heaven,
That slid into my soul.”

“You and Kundar should spend more time together.” remarks Heather to Daniel, chuckling.

“We have two new tools of interest in the coming conflict.” says Aya in an attempt to reorient the

conversation. “First of all, we will broadcast high-powered beams of pulsed radio-frequency cellular signals, which mimics those originally sent from the Algorithm. We’ll force receiving units to undergo the same activation protocols that they did when first converted. They’ll be temporarily immobilized, which could prove decisive at the right moment of a major battle, once we’re sure that their attack force is fully committed.”

“Like pushing the reset button on a computer?” asks Heather.

“Very much like that, yes.”

Which assumes they don’t completely destroy us before committing their full force, she thinks, though she knows it won’t help to think too much on that.

“Show me what you’re working on, and I can probably help make them stay offline a little longer.” says Daniel.

“I am hopeful that you can, though I think you can help even more with the second project: I want to develop a device, probably a handheld directed-energy weapon of some form, which can target hostile or inactive units and send out command signals to drastically modify their behavioral programming. We will induce them to not only deactivate temporarily, but to behave as friendlies upon recovery. We can already do this indirectly sense of course, but we would like the ability to do it directly, in active combat conditions.”

“So that when the reset finishes... the computer is now a member of your botnet instead of their botnet?” asks Heather, extending her previous metaphor.

“Our acquisition teams have already made experiments in this area, though our ability to conduct field experiments is limited by a desire for secrecy. Given his intrusion skills, we think Daniel can help us to increase the reliability, effectiveness, and range of the disruption signal.”

“Hmm, temporary deactivation and permanent reversal of the friend/foe protocol?” muses Daniel.

“Yeah... I think I could do that. Though I won’t say it’ll be easy. If something like it can actually work, it’ll be a lot more convenient than shooting it out with them.”

“We’ll prevent our own destruction, and maybe increase the number of zombies that can be cured instead of killed.” agrees Heather. “It’ll save ammunition, too. Though now we’ll have to worry even more about feeding a horde of people who could have once been medically classified as morons, imbeciles, or idiots.”

“Oh, if they’re still in decent shape when we capture them, we’ll probably find a way to get more out of them than we put in.” says Daniel with a surprising tinge of unhappiness. Heather doesn’t yet understand what he’s getting at.

* * *

In the cow pasture turned training camp, the score of faceless gasmasked men run and crawl with acceptable speed through the set of obstacle courses. Even accounting for the bulky rubber bags they wear, their movements are noticeably stiff and jerky, almost puppet-like. When they reach the firing line, they yank up their weapons and engage their targets in ragged semi-automatic volleys. Sarah and

Kundar attentively watch the drills from the sidelines. They're not the best of shots, and there's still not enough ammo to train them better, but they're not much worse than she is.

"All the ex-zombies I've seen so far have been women and a few children." says Sarah. "I didn't even know they captured any men."

"They didn't take as many, from what I understand." says Kundar. "It tends to be military-aged adult males who end up in combat roles, and thus more likely to be killed instead of subdued. It's the infirm and elderly that we seldom find at all among the enemy population, and far fewer children than would be expected..."

That strikes at Sarah more profoundly than it would have mere days ago. Kundar continues,

"Most of the disinfected men find roles as menial laborers in one place or another: farms, factories, mines, quarries, logging camps..."

"Slaves?"

"Oh, not really. No more so than Mr. Canssoni's consorts."

"Slaves, then." says Sarah pointedly, then she sighs. "Well, I guess I shouldn't be surprised, since I already know what these regressive churls do to the women they take. But, menial labor? And now cannon fodder too? God, you're probably better off as a concubine than as one of those poor cons."

She glances back at the trainees as they continue in their drills, tossing dummy grenades and maneuvering to recapture a facsimile of trenches.

"Well, I can't say that I like it either." says Kundar simply. "But there is a reason why almost every settled society from before Sumeria up until the Industrial age was a slave society: it's second to genocide as the most convenient way of handling members of a captive, conquered enemy population. The Janissary and the Odalisque have been with us for a very long time, and they'll remain with us for longer still. Perhaps all we can do for now is try to ensure some level of benevolence in the whole affair."

"Yeah, sure, maybe." says Sarah, still clearly far less than convinced. "I gotta wonder though, is it a good idea to deploy the ex-infected against the still-infected? I know they'll fight in self-defense when they have to. They're willing to kill when ordered, or at least they'll kill wild game and meat-bearing livestock. But will they really fight against what used to be their own kind?"

"I think they will." says Kundar. "Honestly, what worries me more are the fully-functional survivors: so many of them have learned to sympathize with the enemy's minions. They've taken them in as workers, as guests or housemates, even as family. They've started to see them through an altruistic lense."

"Isn't that a good thing?"

"Well yes, of course, but not if it hinders you fighting against the ones still programmed to do you harm. I, for one, will find it much more difficult to fire on them now that I've come to see them as not inherently antithetical to me. Would you not feel the same way?"

"I... well, maybe I wouldn't have felt that way if you hadn't so helpfully made the connection for me."

Kundar throws his palms up in apology. Sarah smiles.

"Anyway, I'm not going to completely forget that most of them never resisted when they were ordered to report to the vaccination centres, and half of them supported putting us in jail for refusing. Most of them were about as capable of free thought before they were converted as they are afterwards. I will say though, I'm glad that I'll be here at the aid station, probably not in front-line combat."

Kundar frowns. "Sarah, I wish I could--"

"Don't start!" warns Sarah sternly. "Look, I'm willing to take a rear-echelon assignment for the sake of the baby, but don't think that you'll have me sitting on the sidelines completely, not yet at least. They already know that I can handle the sight of blood and they're doing a good job of teaching me how to keep people from bleeding to death. Shit, you took a spot in the trenches, and you can still barely walk without a cane!"

Kundar's frown deepens before he forces it into a broken smile.

"You're right, my dear. Please forgive my misplaced concerns."

* * *

Aya and Daniel watch from the bluffs as the trawler pulls out to sea. Heather and Cailey are heading back early, with a shipment of mustard gas riding with them. Heather would later remark that such a cargo didn't unsettle her as much as she would have expected. If anything, she's glad that her interactions with the Special Forces give her access to some of the better-quality gasmasks.

"You two seem very compatible." says Aya with uncharacteristic cheeriness.

"What makes you say that?" he asks.

"Yet another thing that the two of us have in common: similar tastes in women."

Daniel blinks.

"Uh, yeah. Fair enough."

Aya fishes an item from her pocket and passes it to him. It's a round lead musket-ball, a bit lighter than usual. Examination shows evidence of a cavity where something is clearly meant to be poured into the core.

"What's this?"

"A gift, for you. Exploding ammunition, with a core of mercury fulminate. It was one of the earliest munitions types ever banned by international treaty, four years after the American Civil War. It was used experimentally by both sides during that conflict, but quickly deemed too gruesome for use on human enemies, and the versions of that period were dangerous to those who tried to fire them. We

have improved upon the design considerably, both in safety to the user and in lethality to the target, and we hope to produce a number of them in several common muzzle-loading calibers.”

Daniel had traded his assault rifle to the Cansonis for goods and services. Sometimes he regretted having done that, but then it seemed as though the family could make better use of it than he could. In any event, he found that he rather liked his flintlocks.

“Sounds like you only solved half the problem.” he counters. “We’re going to use a weapon that was too cruel for the people living in the time of William T Sherman and Bloody Bill Anderson?”

“We cannot afford to be squeamish.” she replied, dispassionate as always. “You know as well as I how hard it can be to render the automatons combat-ineffective. If rate-of-fire cannot be improved, then the amount of damage inflicted must be maximized.”

“Oh, you’re right of course. And, Hell, we’re already open to using gas aren’t we? On that note: are we going to have enough masks and respirators for everyone?”

“We should have enough protective equipment, yes.” says Aya. “Though the quality of the improvised products will not match that of the factory-made designs.”

“As long as we’re not wrapping urine-soaked rags around our faces or using asbestos in the filters.” says Daniel. “Though from what I understand, a lot of what they’re passing out is only a step or two above that: burlap or canvas hoods with tin cans for filters.”

“For that reason, my men will be holding many of the key positions along the beaches. Our equipment should keep us reasonably safe even in the event of significant chemical blowback or retaliation. And incidentally, most of the enemy forces are not expected to have any protection at all.”

“They may not need it.” points out Daniel. “After all, only a minority of World War I soldiers exposed to choking and blister agents actually became casualties, and only a minority of those became fatalities. Plenty of unprotected soldiers survived unscathed. Gas is primarily a psychological weapon, and psychology doesn’t play a part in the tactics of the Algorithm.”

“A fair observation.” admits Aya. “That is why we need to prioritize our work on bioelectronic signal disruption.”

And for the next several days, that is what they do. The finished products tend to look like police radar guns stretched out into oversized rifles, with crude antennas often strapped to them in ways that make them look a bit like cheap sci-fi movie props. The fact that they’re made from scrap electronics increases the slapdash appearance, and Daniel wonders how much the quality will vary. But, if he and Aya’s engineers know as much as they think they know about the Algorithm’s methods of radio-telepathic control, they should all be effective.

Of course, it’s entirely possible that it won’t be effective and hundreds of men will be sent into battle with glorified laser-tag guns.

“This’ll do, I guess.” Daniel says as he takes hold of one of the bulkier devices and hefts it dramatically. “Kind of funny that we pilfered the island’s 5G towers for a lot of the needed electronics. We could have turned the towers against our enemies instead if we hadn’t thought it was such a good

idea to destroy them all.”

“Indeed.” agrees Aya. “It’s regrettable that the towers were destroyed when they could have been depowered, though I understand why people destroyed them. I am more worried by their contempt for vaccinations of any kind, or for modern medicine of any kind.”

“Tell me about it,” glowers Daniel “I have nightmares of my children growing up in a society where they decide that living with diphtheria, polio, and smallpox is preferable to living with the risk of something like this ever happening again. I don’t think I could blame them if they did.”

Aya’s lips twist slightly. “In the Korean war,” she says, “the US Army deliberately spread disease to the Chinese and North Korean populations, knowing they would be distrustful of vaccination efforts. The Japanese had previously injected civilians with diseases under the guise of vaccines.”

“God, I hope the Algorithm never gets clever enough to do that. We call it an AI sometimes, but it’s not really intelligent, you know. At least I don’t think it is, not in the way that a human or an animal is. If it or anything like it ever develops an intelligence, though, it could jerk our chains as easily as the people who created it did.”

His tone hardens.

“They shouldn’t have tried forcing it down everybody’s throats like they did. It was the worst thing they could have done, even if it really had been safe and effective.”

“‘It seems to be a deep instinct in human beings for making everything compulsory that is not forbidden.’” quotes Aya tiredly, causing Daniel to crook his eyebrows in surprise. “The problem with the so-called Western capitalist democracies is that their rulers never did realize just how many of their subjects had long ago stopped trusting them, stopped liking them, stopped respecting them, and worst of all stopped fearing them. They claimed to rule by ‘popular mandate,’ they eventually became so stupid as to believe it, and thus they expected their own mandates to be followed without question. They became contemptible in the eyes of their subjects, and then everything they tried to enforce was likewise held in contempt.”

Daniel smiles cordially at his ex-coworker. He’s tempted to ask if Pyongyang gave her clearance to be reading Heinlein, but decides instead to paraphrase a quote of his own:

“At one time kings ruled by the will of God, so the problem was to see to it that God’s will aligned with their own. In this age the myth is ‘the will of the people’... but the problem changes only superficially.”

Chapter Nineteen: 512,000,000

In the coming days, a pall of anxiety settles across Grand Royal Island and its survivor communities. Conditions remain fairly peaceful, save for intermittent artillery duels and occasional swarms of crude missiles, rockets, and suicide drones launched at equipment or defensive positions that were not as well-concealed or well-protected as they should have been. At night the residents occasionally glimpse odd shimmers and twinkles in the sky, where otherwise-invisible laser beams aimed at incoming ordnance catch on airborne particles.

The flight of four unmanned aerial drones cuts across the water, skimming not over the waves but

through the rolling troughs as much as possible. This is their best bet for avoiding the coastal patrol craft or the roving air defense batteries that protect the island and waters around it. They had been fast, long-range delivery drones in a previous life, meant to carry medical supplies and other small packages to residents of remote boreal villages. They have now been equipped with heavy machine guns or light rocket pods to hunt their former patrons.

Heather sees them coming first off the port bow. She screams a warning to the skipper, who immediately orders battle stations. He throttles up the engines and begins evasive maneuvers, his crew man the deck gun and prepare to engage, while Heather runs to the hold and grabs one of their new weapons, the signal disruptors.

Daniel had called them his “Tom Swift Electric Rifles” and meant to use them against nanite-infected humans. Among other things, they sever communications between the human servants and their master while rewriting mission objectives and action parameters. She remembered him saying that they might be partially effective against non-organic drones as well, and now is a good time to test that hypotheses. Glass breaks, someone yells, and a stream of bullets rivet the superstructure, the vessel seems to shift oddly as she climbs back to the deck.

The crewmen return fire. The skilled gunners loose a stream of 7.62×54mmR armor-piercing rounds, clipping one of the drones and sending it tumbling into the water. Rockets fall around them and the men hit the deck as the air fills with shrapnel and splinters. Designed to take the worst of what the stormy northern seas can throw at her, the steel-hulled little trawler will not sink easily. Fire or the complete destruction of the bridge and its controls, however, are much more pressing concerns, as is the fact that its occupants are not quite so bulletproof.

When the drones pass astern, Heather aims her weapon and fires, holding the invisible beam as tightly as possible on the target. There’s no sound of discharge, no lights or flashes or anything else to be seen or heard. Just the steady, optionally-mutable tone and LED display to indicate that a target has been found and engaged. The only evidence of any effect is that, when one drone turns to make a second pass, the other flies unresponsively out to sea.

The last one fires another short burst of rockets amidship, shredding the empty crew quarters but largely missing the bridge. It jinks wildly and pulls up high before flipping over in a dive and bearing straight down on the vessel, clearly intending to end with a kamikaze strike. Heather tries to aim and fire again, but she knows that she probably won’t knock it out in time. And to have the whole drone slamming home at that angle might well be enough to send them to the bottom.

There’s a low yet deafening buzz from the direction of the coast and the drone practically disintegrates in midair, with part of what must have been the propeller slicing through Heather’s backside and leaving a nasty-looking gash. She’ll keep the bloodied piece of aluminum as a memento. She looks to the water to see a zodiac craft approaching, the multiple spinning barrels of its mounted gun still smoking. In spite of the pain, she smiles in impish satisfaction.

Gatling gun. When in doubt, have someone mount a Gatling gun to something.

* * *

Now a' is done that men can do, And a' is done in vain.

The Algorithm tramples them down like wheat in a hailstorm. The mind-wiped minions charge unabated over minefields and barbed-wire, through bullets and gas, and straight into the foxholes of their opponents where they hold them down and force the needles into their arms, compelling them to join the horde. Some error in Daniel's coding, some flaw in his design, it all proves to be the undoing of everything.

Aya Kato shrugs with disinterest and sips at her kvass as the hordes pour into her bunker. Ah well, she thinks, I've always wanted to see how the other half lives.

Daniel manages to somehow escape the calamity. He joins a small remnant band deep in the highlands, only to see them falling away, one by one, his earlier efforts undone. They can hide from the converted, but they can't hide from the microscopic nanites. Every breath of air or drink of water will hasten the time of their own conversions. A few opt to die by their own hand, though now even their corpses rise again as slaves to the Algorithm. Eventually, the animals and even the plants show signs of infection.

In the years to come, Daniel wanders alone throughout the region, never turning and never stopping in the search for the last person he had cared for. He eventually finds what had been Heather McMillian at the very twilight of mankind, crawling through the ashy silver-dust landscape that had once been northern woodlands. Her body has grown bloated, distended and amoebic. Slimy grey goo runs from her mouth and nose and ears, thin metallic tendrils grow from bloody sores and tears in the rotting, rubbery fabric that had been her skin. Her head is denuded of its chestnut curls, he pulls it firmly into his lap and looks her deeply in the eyes. She stares unblinking into a silver-grey overcast, and he tries to convince himself that she had long ago lost the ability to perceive what had become of her. He thankfully sees no sign of awareness within, and he can remember the crystal-blue eyes that he had once marveled at by firelight so long as he ignores the queer grey jaundice of her sclera. He holds against her tightly as the silver-dust ash continues to fall, as strange aeons follow one upon another, and as the planet hurls unimpeded through the void, devoid of higher life.

One of Dr. Kato's henchmen wakes him up long before his shift. He thanks the man graciously, downs a cup of cold instant coffee, and hurries along with him to the radio room.

He spends the afternoon in stony silence, listening to reports from the trawler. They had been lucky, with only one life-threatening injury and no apparent risk to the seaworthiness of the vessel. But Daniel doesn't think that it would be wise to count on more such luck. For the rest of the day, he throws himself into his work as a way to counteract anxiety. Most of Aya's remaining henchmen busy themselves with the packing and loading of equipment, some destined for the bridle paths and some still bound for the sea lanes.

"Sea interdiction," he states later. "That could be a real problem for us, considering how much we rely on the water for getting supplies out to forward positions."

"We will have to up-arm and up-armor the ships as much as possible," says Aya. "They should travel in convoys as well, though I suspect that we do not have much longer left before D-Day."

"Will the fishing fleets attempt to intervene against the landings?"

"After much deliberation, they have decided to take a non-aggressive role in the opening stage of the invasion. It is an understandable course of action for them, as losses would likely be high and the island will need those vessels for food procurement."

“Perhaps. Though if we lose all of our waterfront property then we won’t have much need for them, will we?” He sighs. “Part of me thinks we should have gone with the original plan and just tried infecting the opposing horde with anthrax.”

“Yes, perhaps. We certainly could have done that.” says Aya. “But they might respond in kind. And even if they didn’t, there would be a risk of the disease falling back upon us. We would need to produce enough *Bacillus anthracis* STI-1 and 55-VNIIVVIM strains to protect our own human and livestock population, and we would need to convince them to actually use it, and...”

“Yeah.”

* * *

“I suppose they’ve found a solution to the ammunition shortage.” says Kundar as he helps pull a crate of freshly-reloaded 30.06 bullets from the back of the waiting truck.

“Yeah, same one they found in Medieval China.” says Steve. “They’re going back to using black powder in as many roles as feasible. Not sure how well it’ll work trying to use that stuff in cartridge guns, but it beats trying to blast away at them with muzzle-loaders like my brother’s friend plans on doing.”

Kundar chuckles. While it is certainly possible to produce modern nitrocellulose and nitrocellulose-nitroglycerin-based smokeless powders in a field-expedient setting, and while several people on the island are doing it, it is not particularly easy nor safe, and the finished product is often of dubious quality. It requires lab conditions and a fairly in-depth understanding of chemistry.

Black gunpowder, in contrast, can be and often is produced at near-Stone Age level technology. It’s easier and safer only in a comparative sense, but anyone with access to trees, industrial waste, and manure has access to charcoal, sulfur, and saltpeter respectively. Unfortunately, even much of that will be exhausted in just one large battle. Then it’s bow season forever, unless someone finds a guano deposit.

“Not so good for automatics, but it should be fine for bolt- or lever-actions.” he says. “Fact is, a lot of older ammunition types were once designed with black powder in mind: 30-30, .303 British and 7.62 Nagant among others. Weapons chambered in those rounds are still reasonably effective on a modern battlefield.”

“Fouling and corrosion are going to be big problems.” notes Steve sourly. “So will the familiar old problem of reduced visibility from all the gunsmoke.”

“The latter can be partially addressed with infrared thermal imaging.”

“So now we’re strapping thermal scopes to our charcoal-blasters?”

Kundar shrugs. “Why not?”

* * *

The train of pack donkeys carries their cargo to the top of the bluff. A machine gun nest has been hewed into a ledge halfway down, and the easiest way to reach it is from above by rope and ladder. A sturdy observation post sits atop the bluff, giving a commanding view of the nearest cove and the strait beyond. A distant trawler can be seen heading their way. Elena and Sarah offload their packages and rest for a time against the dry stone structure, with Sarah glancing inside and nodding her greeting to the watchman.

“This reminds me of the rock fort in the Swiss Family Robinson.” she says. “Have you ever seen that?”

“No.” says the teenager, opening a can of tinned mutton and passing it to Sarah. “It was a book though, wasn’t it? Inspired by Robinson Crusoe?”

“It was a live-action Disney movie, based off a book, yes. Modern audiences find it, how you say? Controversial?”

“Controversial? In what way?”

“Well, it was a 1960 live-action Disney movie, based off a book written in 1812, with an author who was considered a bit reactionary even back then. In the movie, the good guys are all sophisticated God-fearing European colonists and the bad guys are a scurvy crew of Chinese-Malay pirates.” Her lips purse into a smirk. “Yeah, controversial.”

“Oh... I can only imagine.” says Elena smiling. “Wait, is this the same film that has Asian tigers, African zebras, and South American anacondas all living on one fairly-small island?”

“The very same, which is something it has in common with the book. Anyway, I was thinking of the climactic final battle: the pirates swarm ashore and find themselves whittled down by the stalwart men and women and the ingenious traps they lay: crossbow traps, whip snares, concealed pits, landmines, rockfalls and rolling timbers, coconut hand grenades, firearms, and at the very end bare fists. Probably one of the most memorable battle scenes in cinema.”

“Sounds like a party.” says Elena between bites. “Sounds like a lot of what we’re doing. Though, from what I’m hearing, our own battle is going to look less like any Disney movie and more like Gallipoli, with a good dose of Vimy Ridge or Passchendaele on top of it.”

Elena rubs behind the ear of the nearest donkey, which looks at her with bored disinterest. The team is made up of older animals, most in their 20’s or 30’s or even older. Living that long isn’t uncommon for domestic donkeys, and these specimens are still sturdy in spite of it. Far from being stubborn or ill-tempered as commonly portrayed, they’re remarkably well-trained and helpful creatures, though their uncanny intelligence is sometimes a problem for human handlers.

The trawler is close enough to be recognized as the one belonging to Dr Kato’s organization. The signal lamp flashes and the watchman writes down the message before morsing his reply.

And then the shells start falling.

Chapter Twenty: 500,000,000

Flocks of rockets and guided missiles pass each other in the night, setting the skies aglow with their ephemeral smoke trails. Objects weave and dodge to avoid interception, with a constant twinkling of mid-air explosions to mark the ones that fail. On the ground, the long-range guns fire blasts of batteries and counter-batteries against each other. Exploding shells flash and thunder in the dark, to admittedly little destructive effect. The hearing of the defenders is saved by liberal distribution of earplugs, but there is no hope of getting sleep before The Longest Day, which seems to be the main intent. With the coming of the dawn, the explosives gives way to screening clouds of smoke. This is likewise only partially effective, with defending gunners having both the advantage of pre-selected firing positions and a fair amount of infrared optics.

The ships of the landing fleet pour in with the morning tide, practically blanketing the waters in their thousands. Sea mines tear open their bottoms, explosive shells reduce their hulls to splinters, and bursting clouds of gas turn the passengers into flopping, crawling, writhing invertebrates. Surviving vessels veer around the derelicts and try their best to avoid the worst of the toxic fumes. Their passengers pour ashore as soon as they draw near enough to row, swim, or wade. They ignore the burn on their skin and in their lungs, and they also ignore the streams of bullets that greet them. Many crew on the ships offer covering fire with small arms or crew-served weapons. The odds of the attackers actually hitting anything is ten thousand to one, but the number of rounds fired in those first few minutes number well into the hundreds of thousands...

Thud! The bullet makes a strange sound as it enters the embrasure of a pillbox, takes a defender in the skull and shatters it. Hair and scalp and bone spray across the confined space in a warm welter which his trench-mates barely notice. Alisha and Justin continue firing down upon the landing zones with an ancient Maxim gun taken from God only knows where. They wear their masks as much for the steam and burning powder as for any fear of backwards-drifting gas.

“How many more!?” screams and motions Justin as Alisha loads another belt. She points to the fresh belt in the gun, points to the ammo box, and extends four fingers from a bandaged and bloodied hand. Even through the translucent lenses, he can see the desperation in her eyes.

Four more belts. A thousand rounds. All of two minutes worth of continuous gunfire.

* * *

In the defensive lines before the pillboxes, Lisa prays the box of crude homemade grenades won't explode in her hands or else fail to detonate at all as she throws them one after another from her trench and into the advancing zombie horde.

In this case they really do look like Hollywood zombies: shambling out of the chemical mist as blood and vomit and mucus stream from gasping throats, some dispensing with their weapons and clawing forward blindly. Very few have proper respirators or protective gear, but their analgesia serves them well in this instance. The sight is so unnerving that many defenders run away in terror.

Gerald quickly empties the rifle that had once guarded ground zero of the cataclysm, then fires his World War surplus Lee-Enfield into one as it scrambles over the tangle of abatis and barbed wire before his position. The high-powered bullet tears through its body and violently staggers it, but fails to stop it right away. He curses aloud, wishes for more STANAG magazines, and frantically chambers a second round as the twitching, blood-covered apparition raises its own piece in response. They fire at about the same time, his round slams into the jaw, exits through the spine, and almost decapitates the target. He

cycles the bolt a third time and scans for more. More accurately, he tries to decide which of the thousand before him should be his next target.

The forward march continues. Barbed wire channels their forces and slows them down while hopelessly entangling many, landmines and bear traps and other pitfalls take their toll, but it's all little more than sponges against the rising tide. The islanders are forced back in short order, with Gerald joining the others in retreat. He suddenly stumbles backwards and crumples to the ground in agony, body growing weak from blood loss and brain only now deciding to inform him of the bullet in his gut.

* * *

Elena had always wanted to be an ambulancier, an aspiration seemingly forestalled by the mandates and her family's exile into the deep forests. Or so she had thought. Now, it almost seems fitting that she finds herself guiding a donkey and a modified game cart along the gravel trail as they carry the wounded away from the fighting. She tries not to think too much about the mangled, moaning cargo behind her, just as she tries not to think too much about the collapsing battle line only a little further back.

She leads the cart into the field hospital, and the likely quality of their healthcare system does little to raise her spirits. It could be worse of course, they do at least seem to have a decent store of antibiotics, antiseptics and anesthetics. They have electricity, which means they have refrigerators and surgical lighting and somehow even X-ray machines. They have most of the essential life-saving equipment that a modern hospital should have. It won't end up looking like some nineteenth century abattoir, where severed limbs stack up like cordwood and the wounded rest beneath the shade of the flies. They should be able to avoid that so long as the people working there know what they're doing. Problem is...

The head surgeon is a retired veterinarian who has to be pushing eighty. His immediate subordinates are his three grandchildren who are only a few years older than she. In the time before the battle, pretty much anyone who could hold a scalpel steady and not faint at the sight of human carnage could get a job at the operating table. It had to be that way of course; the government had gone out of its way to make sure that medical specialists of any kind would get their dose of zombie juice, pursuing the ones who tried to resist or evade with particular ferocity. In the nineteenth century, combat casualties suffered and died as often from the poor training and experience of their healthcare providers as they did from the primitive state of medical science. What is healthcare going to look like now that most of the nurses and doctors are either coughing up their lungs on the beaches or running inland and ripping apart her neighbours?

She was still thinking about that when she noticed a rustle in the nearby shrubbery. The plants were thrust aside and one of the Horrors came lurching forward. Its outstretched fists clench and unclench in a ripping motion. Matted, mouldy green-black hair veil a gasping face with lips flecking blood and vomit. A squad of its comrades follow unsteadily behind. Shots ring out and one of her escorts falls screaming to the ground, the other raises his sub-machinegun and sprays into the group. Elena is so paralyzed with shock that for a long time she doesn't even think to reach for one of her mom's spears. Others turn about and open fire as the bullets zip around her.

* * *

It hurts more than the drone shrapnel did. It doesn't hurt as much as it looks like it should, though it probably will in time. Heather's wrists bleed from multiple lacerations, both of her arms tingle from

where the 3D-printed carbine had exploded in her grasp. No severed arteries or missing fingers by the looks of it, and that makes her luckier than some. She glances down at the smoking ruin of metal and plastic and curses. Goddamned glorified zip-gun.

It's like Karyn's campground all over again. Heather once more finds herself among the reserves, again hoping that desperation will make up for shortcomings in weapons and capability. It had been expected that the forward beach defenses would fall, but it was happening faster than the planners would have wanted and they aren't sure if the attack can be checked. Her company is deployed in a counter-charge to allow the others time to rally and reestablish their defenses.

They move forward in steady skirmish lines, diving for cover as they must and firing on their foes with whatever weapons they have. Before long they're fighting hand-to-hand. Heather hopes that her backup firearms won't fail her so painfully, though she expects the use of them to be at least as dangerous.

She brandishes the two flintlock pistols and fires one at the nearest enemy. The .490 caliber ball slams into the chest and the explosive core blasts a crater of blood and fire where the thorax used to be, killing it instantly. The one following is a large, flabby, long-haired trollish figure. She fires her second round at a distance of less than five paces. The ball tears through the top of its shoulder and exits without exploding, but the ensuing cloud of burning powder catches in the mat of greasy hair and sets it aflame. Two down, innumerable to go.

Pistols spent, Heather sidesteps a club-wielding foe and unsheaths her lawnmower-blade machete in time to hack at its neck. She narrowly avoids a thrown stone that could have crushed her skull, a comrade on her left is brained by the swing of a shovel. The battle devolves in a matter of minutes from industrial to medieval to primeval, and at every stage the enemy remains unrelenting.

Then she hears the noise of an approaching engine.

* * *

The Antonov An-2 biplane was arguably obsolete even when it first flew in 1947. It's a large, slow, single-engine aircraft originally meant for agricultural, forestry, and utility work. One of the most successful designs in history, with tens of thousands still flying after eight decades of service, easy to maintain and capable of landing on short improvised runways or on water, it's almost the perfect bushcraft. Hard to pick up on radar, North Korean commando teams still use it for covert insertion into enemy territory, and even those operating far abroad find it to be remarkably versatile.

This one was originally fitted with rocket pods and machine guns, and it could carry heavier ordnance in the form of improvised barrel bombs. It would have been fairly effective in naval interdiction or ground support. Instead, it's stripped of non-defensive weapons and loaded with a powerful set of cellular-radio frequency transmitters. From high above the battlefield it blasts out its electronic music, drowning out the pied piping of the Algorithm and forcing the possessed to heed its call for several seconds. That's all it needs for most. Aya Kato converses with her radioman and motions to Daniel. An artillery shell bursts some distance outside their dugout, one of the last of the battle.

"Reports are coming in, first signal seems to be effective! Our people report automatons going down all along the line of contact!"

Good news, thinks Daniel. If all goes well, it'll take a long time for the enemy to even know what hit

them. Considering how long it took for them to realize that humans under its control have a need to rest, heal and to bathe, maybe it will never figure out what happened.

Then again, that's a dangerously optimistic prediction to make. It's just as likely that the machine intelligence that is the Algorithm will quite easily put 10 and 10 together and come up with 100.

There are only 10 types of people in the world: those who understand binary, and those who don't. That was the only joke Daniel had ever shared with Aya that she found funny.

"Shame we couldn't do this at the start of the battle rather than at the end," he says to her. "How many people do you think we drowned, bombed, shot or gassed, who could have been saved?"

"Well goddamn, man, I ain't happy about that either!" says Aya, in a tone surprising for both its vernacular and for sounding almost as kindly as angry. "But you know as well as I why it's gotta be that way: we can't have them only partially commit their forces, get an idea of what they're up against, and evacuate the beaches so they can try again later, possibly with better protection against it. We have to hurt them as badly as possible now, make a clean sweep if we can."

Battle stress must be getting to her. She had placed the bulk of her Koreans at the most prominent, and the most vulnerable, point in the defenses: just beyond the remnants of the stone causeway. The enemy had come at them with pontoons and bridge-laying equipment to span the gaps caused by the cratering charges, but they made little headway against the withering fire of the well-trained, heavily-armed and fanatically-motivated commandos. Enfilade fire from their position had taken a heavy toll on nearby landing craft, and their forces upon disembarking made a special point to envelop and suppress this aggravating thorn in the side. Before the arrival of the seaplane, they were massing all around to storm the position and crush them decisively, and that's right where she wanted them. Rather than hopelessly surrounded, she prefers to think that they find themselves in a target-rich environment.

Their enemies crumple to the ground as the airborne transmitter draws near. They twitch and jerk much as they had done three months ago, though with eerily little screaming or outward displays of discomfort this time. Aya strides from the bunker and fires off orders to the handpicked men and women of her taskforce. They file in behind her, and Daniel does as well, ignoring the uncertain looks spared him. I must not look like much of a commando to them, he thinks. And I don't look like a lab researcher anymore, either. Aya grabs two electroguns and passes one to him.

"You sure you wanna do this?"

"Sally forth into a horde of zombie gunsels and hope that I really can change the channel on them with my glorified TV remote? No, I don't want to do this, but what would it look like if I didn't? Can't have people thinking that I don't trust my own product, and dying in battle beats Hell out of having to admit that I screwed up afterwards. You're not exactly a formal OCS graduate yourself; I'm going out there for the same reasons you are."

Aya nods with understanding. She reaches the parapet, puts a whistle to her mouth and blows. Up and over!

* * *

Sarah motions to Kunder, who points his disruptor at a figure standing among the twitching fallen. A few of the zombies, the unusually tough or lucky or sometimes the badly injured, hadn't been knocked unconscious by the first signal, and of those a few were still dangerous. He squeezes the trigger and his target falls in an instant like a puppet with the strings cut. It's still surreal to see a weapon striking down enemies without a sound, and without causing any visible damage to the target.

He closes the distance and proceeds to tag each of the bodies for good measure. Sarah follows behind and places colored ribbons as a form of triage for the medics and stretcher teams: green ribbons for minimal medical care, yellow for delayed care, red for those needing immediate attention, grey for the dying or those unlikely to survive, black for those already dead.

It wasn't an enviable task to make the call between yellow and red and grey. The line between what was or wasn't survivable had become a very broad spectrum indeed: gut shots and lung shots and penetrating head wounds were very bad news, so was gas inhalation and full-thickness burns. But all could be survived, assuming supplies and equipment hold out, and assuming someone has time and skill to use it, and...

...and assuming the patient doesn't die anyway from complications brought on by thirst, starvation, exhaustion, infections and sepsis, diarrhea and dysentery. Captured zombies had been found with signs of scurvy, beriberi, rickets, pellagra, and xerophthalmia. And, ironically enough, they've become an eager breeding ground for every disease and infection ever known to man. They typically don't stink as much as would be expected, or perhaps she can't notice anymore, but they're still a horror to look at. She wears her MOPP gear for fear of lice and fleas as much for fear of the still-present gas.

Sarah had once heard that, in the Middle Ages, besieging forces would sometimes catapult plague victims into hostile cities. But at least back then they had the good grace to kill them before sending them.

Better out here than back at the aid station, though. Elena was a psychological casualty now, having brought in first her father and then her uncle and then a brother when his 3-inch mortar burst. They had diplomatically lied to her about Gerald's prognosis, she had watched the surgeons saw Steve's foot off, then held them at spearpoint when they wouldn't try to sew Joe's head back on. Poor girl; that was going to leave a mark.

Nothing except a battle lost can be half so melancholy as a battle won

The counter-attack is a solemn, almost somnolent affair. Scattered shots ring out in the distance, but resistance remains minimal all the way to the shoreline. There's no sign of any foes escaping across the strait, and the island's fishing fleet has already disembarked a shore party to seize and return with whatever they can of the enemy artillery park and staging equipment. Once zapped with the disruptors, the formerly hostile units very quickly reactivate and return to life as obedient servants of free-thinking humanity. They assist in the mop-up with a minimum of prompting. It's a triumph for the island, though much too good to last.

Epilogue: 500,000,001 (suck it, Guidestones!)

I

As the tide turned against his troops, Nate the Nodemaster responded to the reports with resigned

indifference. Ah well, he had lost nothing that either couldn't be recovered or that he wasn't planning to get rid of anyway. And those strange signals they deployed against his force! Better to learn about that when the renegades use it in defense of their own island than when they decide to launch an assault upon his territory.

It would have been ignored, had it been successful, but the Algorithm seemed very unhappy at his launching such a massive undertaking without asking for permission first. But the voice of command grew fainter in his head every day... and you know what? Fuck the Algorithm. It hasn't done anything worthwhile for him recently, and all it ever wants to do is take more of his hard-earned citizens or other possessions and waste them in pointless battles on the far side of the planet. He doesn't need the Algorithm to help him run his fiefdom anymore, and if he ever does need to bleed off a bit of excess population then there are people right next door who will happily do it for him.

But he doesn't think that'll be necessary in the near future. Quite the contrary, he needs to stabilize and maybe start regrowing his population. It might not be a bad idea to enact some changes in their living conditions. If he plays his cards right, he has everything he needs to build his own personal kingdom from the ground up. And judging by the actions of other nodemasters, it seems obvious that a lot of them feel the same way. How ironic it will be that a change originally meant to foster the collective oneness of humanity will instead usher in a world of fractious autonomous despots.

Although, as much as it pains him to think of it, it might be a good idea to open a line of dialogue with whatever remains of the neighboring forest barbarians.

II

In theory, the humans could now swarm into occupied territory and perform technogenic exorcisms to their hearts' content, until all of New Ireland is completely free of the Algorithm, all of its nodes and all of their units. Realistically, there are quite a few reasons why that wouldn't be feasible for the exhausted and depleted human survivors, latest of which comes in the evening when the Antonov is shot down and its transmitter destroyed—not by enemy action, but by the undertrained and overeager gun crews of Grand Royal Island. Aya Kato is surprisingly undismayed by the event—she has a second non-operative aircraft and she expects to get at least one of them back into the air 'ere long.

"It is for the best, I think," she tells Daniel days later as the two of them seek to improve upon the disruptors. "Becoming overly expansionist is not a good policy for us at this time."

"Yeah, probably shouldn't be too quick to spread beyond this island," he agrees. "We grow too fast, get too big, take too much without also building up the power to defend it... then something much bigger comes along and destroys us." He holds up one of the disruptors. "And anyway, these things aren't working as well anymore. I doubt the transmitters will either, once we get another one."

Our wonder-weapons aren't so wonderful, and the possessed are starting to clean up their society, literally. They've rediscovered soap, and vitamins and nutrients and reasonable working and sleeping schedules. They're taking steps to minimize casualties in those cases where our forces and theirs come into conflict. Whatever controls the things over there, it apparently decided to preserve what manpower remains for it. Here we had thought that it was too stupid to properly care for human slaves, now it seems that it just didn't care to, until absolutely necessary. Never attribute to stupidity what is adequately explained by malice.

As the guns fall silent, the survivors bury their dead and return to their old lives. Summer soon blossoms brilliantly upon the northern land. No midnight suns at this latitude, but the longer days and typically-pleasant weather are a helpful boon for the fishermen, farmers, orchardists, loggers, and all those others working at their trades and preparing for the inevitable return of winter.

Weeks after the battle, someone notices odd transmissions on the low end of the FM radio band. A voice is speaking in a rapid and continuous gabble, the oration seemingly a product of organic human lips and yet lacking of anything that would make it human.

“and-so-we-wish-to-address-our-friends-on-grand-royal-island-in-an-effort-to-foster-positive-empowered-cooperation-and-to-optimize-our-efficiencies-so-that-we-might-jointly-stay-ahead-of-our-mutual-competitors-we-must-think-outside-the-box-and-do-away-with-old-ideas-and-the-curent-modus-operandi-so-that-we-can-drive-innovation-and-streamline-core-competencies-in-the-coming-paradigm-shift-and-find-value-added-solutions-for-our-holistic-approaches-in-an-effort-to-foster-an-environment-of-team-players-who-are-respectful-of-the-diverse-cross-section-of-our-corporate-family-and-we-ask-that-our-friends-on-grand-royal-island-please-contact-us-at-your-conveingience-so-that-we-may-be-proactive-and-not-reactive-in-adressing-world-trends-and-internal-needs-we-hope-to-improve-teamwork-and-collaberation-with-the-goal-of-maximized-cooperation-and-communication-with-your-future-family-colleagues-to-meet-our-ultimate-objective-for-a-better-tommorrow-as-long-as-it-takes-”

Heather looks like she’s about to laugh. Daniel rubs his eyes and massages his temples as he sits in front of Steve’s old radio and slogs through the auto-repeating monologue. Lisa, who had never quite experienced the world of corporate jargon and gobbledygook, is even more unpleasantly affected.

“Oh mother of God, what is that,” she asks shortly before excusing herself, “Skynet as presented by Dilbert’s pointy-haired boss?”

“That... sounds oddly familiar.” says Heather. “Like, I’m pretty sure I’ve heard that voice somewhere before, and I know I’ve heard the tone. Oh God have I heard the tone... I used to work at a place where our managers would unironically speak of ‘positive thinking’ and ‘empowering positivity,’ in the same way that they would have spoken of ‘leveraging our synergies’ a generation ago.”

Steve chuckles and shifts slightly on his peg leg. Daniel continues to listen intently before making his declaration.

“They want a cease-fire, I think. A cease-fire, maybe even alliance. That makes sense, I suppose. We’ve been hearing reports around the world that major military operations have ceased, and that groups of the possessed are attacking and fighting with other groups of the possessed. The Algorithm as a coherent global network is breaking down and splintering. This is the new world we’re in; we’re no longer prey to be hunted or renegades to be subjugated, we’re just another faction to be... interacted with as our neighbors deem appropriate.”

“If that’s what they’re getting at, then why don’t they just say that?” asks Steve.

“I don’t think they know how. They haven’t learned how yet. I mean, listen to that broadcast, there’s no evidence of conscious thought having gone into it. It’s like duckspeak from George Orwell’s 1984.”

“The novel that everyone wants to talk about, but no one seems to actually read?” asks Heather,

looking up with a smirk.

“I... I actually never read it.” said Steve. “Cliff Note version, please?”

“Duckspeak is the art of making articulate speech issue from the larynx without involving the higher brain centres.” says Heather, “It’s useful for anyone who wants to make a living by speaking eloquently without saying anything: corporate managers, clergymen, MLM marketers, TED Talk speakers, political demagogues or their spokesmen. It’s one of those artforms that you never really master unless you’re at least a little stupid.”

“All of your best political commentators are doubleplusgood duckspeakers, or doubleplusungood duckspeakers if they happen to disagree with you.” comments Daniel. “It’s one of those rare Newspeak words that could be a good thing or a bad thing, depending on context. I always wondered what it might really sound like, in spoken form.”

“You did, eh?” asks Heather cheerily. “Well, you should have watched more TV. I’ll bet a week of whatever medium of exchange we’re currently using that Sean Hannity is out there right now, running a node of his own.”

Daniel laughs out loud at the thought of Rupert Murdoch’s Buzzword Machine resurrected as HZIC of Long Island. It would fit him, moreso than anything he ever did as a free-thinking human. Daniel wonders once again how many people would have taken their shots even if they had known full well what it was going to do to them. Quite a few, probably. If you’re never going to use the gooey stuff between your ears, why not let someone else use it? Most people really are natural-born robots.

Which begs an uncomfortable question: is he really so damn butthurt at the algorithm for what it did to his species? Or does he, like Dr. Aya Kato, merely disagree with its managerial policies?

Bailey enters the room and gestures to Steve in very a simple sign language. He smiles and kisses her on the forehead, then gently caresses the growing bulge of her lower belly. Daniel looks at Heather, her sharp clear eyes and her rose-flushed face, the barely-perceptible changes to her body which show that she isn’t far behind.

On second thought, perhaps it is better to be among the free-thinking remnant.

“TV, huh...” says Steve absently. “Hey, that gives me an idea! You know how this is broadcasting on 87.75 megahertz, which is below what most modern FM radios typically receive?”

“Yeah,” says Daniel, “It’s below the FM radio band. That’s why it took everyone so long to notice it.”

“Well... 87.75 megahertz is technically in the VHF range, meaning analog television, that’s TV Channel 6.”

“Meaning...?”

“Meaning we’re picking up just the audio on radio. If someone was to find an old TV and dial it in to Channel 6, we just might put a face to those words. Meet our enemy face to face, or as close to it as we would ever want.”

III

If any sociologists had still been alive and unpossessed, they would doubtless write many articles on the intersection of DIY libertarianism and Backyard Furnace communism.

When the harvests are in and the wood is chopped, the islanders set about to cottage industries and various home projects. Aya's cadre of technical advisors often aid in these pursuits, being especially helpful in the local pharmaceutical industry that produces drugs, antibiotics, medical supplies and other therapeutic biologics. They even produce vaccines for those diseases which are actually dangerous enough to warrant vaccination against, vaccines of an open-source and pointedly non-gene-editing, non-mRNA variety. They follow the same mandate policies as the Old Order Amish: some people make use of them and some people don't, and somehow their community manages to avoid any overly terrible epidemics.

Pierre Jr. arrives just before the first freeze. The delivery had gone well, complications had been minimal and mother and son were both in good health, though both self-isolate for several days thereafter. "Perfect" is the only description Kunder can manage as he runs his finger across the tiny pink palms and digits, softly caresses the back of the sleeping form, and gently lays him in the wooden crib that the Cansonnies had made for him. Sarah's "Frank Castle Special" is nailed to the wall above the crib, having never been used in battle. Kunder thinks of Gerald, then he thinks of Pierre. He knows he can never truly replace his old friend, but he vows that he'll be everything the boy could ever want in a father.

Kunder and Sarah are still at an odd place in their relationship. They're husband and wife for all practical purposes, and largely saw themselves as such. Sarah had returned to Catholicism, though not quite the hardcore Tridentine form that her neighbors followed. They had both been in firm agreement that none of their children would be circumcised. She didn't mind him chanting the Mul Mantar or reading the Guru Granth Sahib over his children. He didn't mind Pierre Jr. having a Catholic baptism, nor would he object to having it performed for the future children they wanted to have. Their kids would get the best of both worlds and ultimately choose for themselves which faith, if any, to follow.

Elena is doing better now. She met someone at group therapy and it seems to be serious. Heather is due in a few more weeks, Alisha at about the same time. Bailey had just given birth to a healthy daughter with no sign of abnormalities, though Cailey had regrettably not survived her pregnancy. Sarah has been the forebear of quite the trend it seems, though it really isn't surprising, Birth-rates typically go up in the aftermath of cataclysms. Even Aya Kato has come to realize that she isn't getting any younger; she finally decided to consummate her relationship with her turkey baster and let the next generation worry about engineering the Indigenous Ainu master race.

IV

"And except those days should be shortened," quotes Daniel, "there should no flesh be saved: but for the elect's sake those days shall be shortened."

"You're not getting religious over there on me, are you?" asks Heather, rolling out and up from the bed-rugs and orienting herself ponderously. Daniel takes a moment to admire the radiance of her sleepy smile and the taught dome of her belly pressing against her nightgown. He shakes his head dismissively.

“No, not really. Maybe I should though, you know as well as I do that atheism is a luxury of the overcivilized. And this isn’t an S.M. Stirling novel, so I really don’t think Wiccan Celtic Paganism is going to fly.”

Heather frowns theatrically. Daniel had been a good sport and helped her in trying to build a sacred fire for Samhain, and hadn’t even galled her when a sudden squall came out of the ocean and doused it. Maybe that was a sign? Yeah, a sign that weather in this region is unpredictable.

The weather is cold now. There will be snow tonight, possible blizzards tomorrow. There’s a good chance they’ll only travel by snowshoes and skis by the end of the week. Elena and one of the local midwives will be coming in the morning, the former staying with them in the event of an early delivery. Daniel looks out into the darkness, and then looks back to her.

The possessed populace on the New Ireland mainland had largely left them alone that summer. They never responded to any attempts at communication and never offered any more of their own beyond the auto-repeating TV broadcast. No one knew why they would think it wise to use such an antiquated method of making contact—one that could have easily been missed entirely—but then the possessed were never known for logical thinking. Or for thinking at all, depending on how one defines “thinking.” And according to Sarah and Heather, Nate the Assistant Head Manager had been very much like that even when he had still been human.

“We’ve been lucky so far, you know.” says Daniel. “Do you have any idea how lucky? Four strong walls around us, a dry roof above us, a warm bed and full bellies. The fact that most of us get to go on about our lives without knowing what horse, dog, or cat tastes like is a pretty good sign of just how lucky we’ve been up here.”

Heather chuckles nervously. “Still not sure about horse. Mutton and rabbit for the other two, respectively. And I never resorted to Long Pig but, believe me, if I ever have to and if I can be sure of cooking out all the zombie juice... then...” she trails off, and Daniel doesn’t doubt her. In truth, he suspects that the only humans still alive and unpossessed at this point are ones willing to do anything imaginable to stay that way. Gonna leave a heck of a mark on the cultural mores going forward.

“...yeah.” he says uneasily. “zombie juice, GMO’s, corn syrup... not exactly Grade A Certified there; you would be lucky if eating that did nothing more than turn you into a wendigo.” He grinned emptily. “Though, history does show that it’s an easier taboo to break than people like to think it is. You ever hear of the Custom of the Sea, or read about what happens in a standard Old Testament siege or famine?”

“A little about the latter.” she says. “You will eat your babies?”

“You will eat your babies.”

Daniel glides over to the edge of the bed. Heather makes room as he sits, and he begins to run his fingers through her shining chestnut hair. She lets herself rest against his side, and for a long time he holds her. The horrid old nightmares are mostly gone, albeit replaced by those common to first-time fathers.

“Speaking of unpleasant mythologies with which to terrify innocent pregnant women...” she says sleepily, “are you familiar with the story of Sleeping Beauty?”

“The American Disney version, or the Italian necrophilia-and-cannibalism version?”

“The French necrophilia-and-cannibalism version, actually. Although no cannibalism, that came later. Sarah told me about it. In the original Perceforest, a 14th century courtly romance, princess Zellandine isn’t saved by true love’s kiss. She’s saved when the hero Troylus ‘follows the urgings of the goddess Venus’ and impregnates her. Nine months later, she gives birth in her sleep to an infant boy who seeks his mother’s breast and suckles her finger. He draws out the poisoned splinter in her finger and Zellandine returns to life. It’s set in an ancient period, around the time of Alexander. Their son becomes a valiant knight and a distant ancestor of Sir Lancelot.”

“That would explain Venus” says Daniel. “Pagan gods were allowed to make physical appearances in medieval works so long as the setting was ante Christum natum. No cannibalism, though?”

“Not in that part, no. The whole... ‘angry spurned wife who tries to feed her philandering husband’s own misbegotten children to him?’ That was thrown in some time around the 16th century, weirdly enough.”

The time of the Renaissance and Reformation, thinks Daniel with some irony. Also the time of the Werewolf of Dole, the Werewolf of Bedburg, and the near kilo-killer Christman Genipperteinga who by some accounts ate his own children. Not a pleasant era for the common people of Central and Southern Europe. Heather continues,

“Troylus and Zellandine had been in a relationship before she was enchanted, he wasn’t just some creepy rando sleeping with a coma victim. He didn’t want to do it at all until the Goddess of Erotica personally hit him with a horny spell, and even then he felt conflicted about it. Tres progressif, oui?”

“Yes, I guess so. And it relates to us because...”

Heather looks at him for a moment.

“...nefarious enchantment counteracted through pregnancy and childbirth.”

Daniel thinks about that and, in another moment his memory brings back a small, soft, scared crash-landing victim and briefly superimposes it on the form of his lover. Miriam Baker’s community had made contact just before the weather turned. She was alive and well and the mother of a baby girl, despite almost certainly having been fully-vaccinated as a requirement for flying. That was someone he would like very much to see again, just as Heather and Sarah want to see a friend of theirs, the widow of a coworker who had joined them in their first refuge and managed to escape its destruction, fleeing all the way up to Newvinland.

His mind turned to Sarah, she who had also been saved from possession of the evil nanite demons through the intercession of her unborn child. It seems that there are many Zallandines living in this era, and that is very interesting. Could it be that forgotten wisdom was to be found in those ancient stories?

Heather sighs, and Daniel slides into the bed alongside her. The wind howls outside and flurries start to fly and a wolf howls in the distance.

References:

I. Case Study: Population Growth of Humanity

1804- 1,000,000,000

1927- 2,000,000,000

2023- 8,000,000,000

????- ?

II. Hypothetical Function: Exponential Decay in Months After “the Event”

$$y=ab^x$$

$$a=8 \times 10^9$$

$$b=.4$$

Where x is number of months, and y is number of living, unconverted humans left on the planet.

It is of course unlikely for depopulation trends to follow such a clean formula in any real-world extinction-level event. But this serves us reasonably well for narrative purposes.

0- 8,000,000,000

1- 3,200,000,000

2- 1,280,000,000

12- 134,218

13- 53,687

Humanity would fall below minimum viable population within 16 months. Total extinction of unconverted humans within 26 months.

III. Case Study: Population Growth of Reindeer on St Matthew Island, Alaska, 1944-1966

1944-29

1957-1,350

1963-6,000

1966-42; one male, likely infertile

In memory of...

Pierre Nkurunziza, President of Burundi, 1964-2020

Ambrose Dlamini. Prime Minister of Eswatini, 1968-2020

Jovenel Moïse, President of Haiti, 1968-2021

Hamed Bakayoko, Prime Minister of Ivory Coast, 1965-2021

John Magufuli, President of Tanzania, 1959-2021

...you are not forgotten, nor are those who killed you.

Afterward

I.

Zombies. What's so great about zombies?

They're grotesque, I suppose. A zombie apocalypse would be yucky, no doubt about it. But a lot of things in real life are grotesque. Frogs, lice and flies are grotesque too, but I've never seen anyone try to write a frog or lice or fly apocalypse, at least not since the Book of Exodus.

They're not dangerous. I mean, not really. If you have a rifle, and you're facing something that can be killed with rifles, and it responds to rifle fire by groaning loudly and slowly shambling in the direction of your rifle, then you are not dealing with a dangerous enemy. Not unless you face a lot of them, but then how did something so weak and so stupid grow so numerous in the first place?

Some would say that I'm confusing features for flaws here. Zombies are weak and stupid, and yet somehow capable of turning the majority of humanity into themselves, because zombie fiction is the domain of escapist fiction written for bloodthirsty adolescents (of any age) who need a moral fig leaf to imagine a world in which it is acceptable to open fire on large crowds of unarmed and minimally-threatening human beings.

I'll admit that's a part of it. It's a big reason for me being here, though at least I am willing to admit it. But I think ubiquity of the zombie in Western pop-culture strongly suggests of something deeper.

II.

A fairly common premise in zombie fiction is to imagine a slightly-fantastical version of the modern world where zombie as pop-culture archetype doesn't exist. I didn't do that, because I don't think a culture like ours could exist where the concept of zombie doesn't. Not zombies as in "cannibalistic walking corpses" necessarily, nor even in the sense of victims of Haitian Voodoo magic, though I'm a lot more partial to that kind. But shiftless human automatons deprived of will and freedom? Or large groups of weak individuals turned dangerous by force of number?

Yeah, someone would come up with that eventually, even if no one thought to call it a zombie.

And I have to wonder if the deracinated, flesh-eating "Hollywood freakshow zombie" is deliberately popularized by Corporate Media and lazy video game designers as a way to diminish those deeper themes of existential dread, societal alienation, and the fear of losing control over one's own body, mind, and soul. They'll let us think about the zombie, but they would rather we forget about the bokor, the wicked witch-doctor who created them. Who is he? Why is he (or she) turning people into zombies, and to what end are they compelled?

III.

American novelist Zora Neal Hurston studied the Zombie phenomena, in the original sense of the term, while she lived in Haiti. She wrote of this in a chapter of her 1937 anthology, *Tell My Horse*, and was inclined to believe that such beings actually existed. This might seem surprising for a woman known to ground her worldview in materialism and scientific rationalism, and though the book itself is admittedly not an easy read, her reasoning is not easy to dismiss.

She described Zombies as "bodies without souls. The living dead. Once they were dead, and after that they were called back to life again." The fear of Zombies was "real and deep" among even reputable

and educated Haitians, and sightings of zombification victims common. At the hospital at Gonaives, Hurston herself has a chance to meet, examine, and even photograph an alleged Zombie.

She describes the complex methods and rituals by which a voodoo bocor (witch-doctor) supposedly steals a person's soul, rouses the body from the grave, wipes the memories of its premortem life, binds the human body to a loa (minor god or spirit), and forces it to serve either himself or a paying customer as a menial laborer or sometimes as a sneak-thief.

The Haitian Zombie is a figure of tragedy as much as horror: robbed of the love and friendship it had known in life as well as the peace and repose it had known in death, forced into an unnatural state of unending drudgery and stripped of the intelligence and willpower that would ever allow it to break away from bondage. Remember here that Haiti is a nation created by liberated slaves, remember also that the power to reason and rebel is argued by many as the very thing that sets human beings apart from animals.

The living dead of Haiti are not dangerous in and of themselves, at least no more so than the living living. Nor do they appear as grotesque walking corpses, except that their hygiene and grooming might suffer, and that their lifeless eyes and vacant facial expressions are often unpleasant to look upon. Indeed, embalming the dead (rare in 1930's Haiti) was said to prevent a corpse from returning as a Zombie, as was the injection of poison or the inflicting of any postmortem wound which would prove fatal to a living human. And while Zombies never show discontent at their workload or living conditions, they do still require food and rest in the same way that a living human does.

While it is possible to see all of this as evidence that folk-belief in zombies—much like European folk-belief in vampires—may partially derive from the horrors of premature burial, Hurston had another hypothesis:

“We went to a more cheerful part of the hospital and sat down to talk. We discussed at great length the theories of how Zombies come to be. It was concluded that it is not a case of awakening the dead, but a matter of the semblance of death induced by some drug known to a few. Some secret probably brought from Africa and handed down from generation to generation. These men know the effect of the drug and the antidote. It is evident that it destroys that part of the brain which governs speech and will power. The victims can move and act but cannot formulate thought. The two doctors expressed their desire to gain this secret, but they realize the impossibility of doing so. These secret societies are secret. They will die before they will tell.”

Zombies were not created by ritual ceremonies or magical necromancy. They were victims of some chemical or mechanical process not understood by the science of the time, and perhaps still not understood by the science of today.

At least, not officially.

IV.

The US military held unrestricted control of the nation of Haiti from 1915 to 1934. A couple of decades later, within Zora Neil Hurston's own lifetime, the US government would use the power of drugs, behavioral conditioning, hypnosis, and other forms of “black psychiatry” against their own servicemen and unwitting civilians, seeking to reprogram them into unquestioningly-loyal thralls for the purpose of interrogation, espionage, homicide, and control. Project MKULTRA and its abuses are fairly well-

known these days. A better-kept secret is the contemporaneous Project MKOFTEN: the study of black magic, voodoo, demonology, psychics, and other aspects of the occult.

While great deal of material relating to the MKULTRA project has been declassified, it only pertains to those parts proven NOT to work, or those parts that didn't work well enough to be worth using. The CIA will tell us that those parts are the only parts, that there was nothing else to declassify and that, anyway, that all happened a long time ago and they've quit performing experiments on humans in search of a way to turn them into mindless automatons robbed of will and independence. And considering how little has been said of MKOFTEN, we can thus infer that little if anything was discovered in those studies.

That's entirely possible. The people who rule you sure want you to think think so. Our corporate elites and our government intelligence and law enforcement communities can all be trusted these days, they don't even massacre church groups in Texas, firebomb Philadelphia townhouses, or leave unsuspecting Black men (and some of their spouses and unborn children) to die of untreated syphilis anymore! Anyone who thinks otherwise is an antisocial paranoid who thinks the government is out to get him and who needs to be monitored, silenced, ostracized, and eventually eliminated by the government. So I will therefore speak no more on the matter.

V.

You might be surprised that I dedicated this work in part to Will Smith. He did get a fame-boost for the wrong reasons lately, and I think we can all agree that you're not supposed to openly assault people at highbrow public events when there's a lot of other people around and the cameras are rolling.

What you're supposed to do is rape them at private events when no one else is around and it won't be caught on camera. That's how Harvey Weinstein rolls, and how many years did it take for anyone to care what Weinstein does?

Were movies like "Men in Black," "I, Robot," and "I am Legend" really nothing but consumeristic vehicles for product placement, or were they trying to tell us something about secrecy gone amok, technology gone amok, and medicine gone amok? Was Will Smith the most deceptively perceptive social critic of our era? Was he and his wife's son blinking at you in Morse Code whilst his adrenochrome-chugging overlords rape another starlet and try to convince you to get your latest booster shot and drink more bugmen juice?

Probably not. But it is fascinating to think about.

About the Authors: Anton Donbass is a grouchy communist from Eastern Europe, Fangorn Monsato is an unstable hillbilly from Appalachia. Neither of them have myocarditis.