

GHOST OF THE GODS

ONE PERSON WORSHIPS CREATION WHILE
ANOTHER WORSHIPS DESTRUCTION...

KEVIN BOHACZ

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*To Mazelle who helped me polish my dream. To Maxine who left before
the dream was finished. To Dana who helped me dream again.*

PROLOGUE

THE FIRST OF THEIR KIND

Mark Freedman – Missouri – A few years from now, January 17, 0002 A.P.

It had been a restless night for both of them. The old growth forest was dense with huge oak and hickory trees. The ground was damp, and the air had a mossy tang to it. Mark Freedman heard the snapping and popping of the campfire as he awoke very oddly from a dream. He no longer awoke as humans had since their beginnings. At some point the processing throughput of his nanotech augmented brain surged upward and his eyes simply opened. He was fully aware of the data streaming in from his senses and his wireless neurological interface to the god-machine. The machine was an artificial intelligence whose origin was murky. It was hosted redundantly within the world's oceans in supercolonies of the same nanotech seeds that infected him. A single seed was a self-replicating nanotech machine about a quarter the size of an average bacterium, yet had the power of a personal computer. The technology was decades beyond anything humans could have created in a lab. Some thought the technology could be almost as old as life on earth while others had far different, more recent ideas.

Mark could still see the spherical colonies in his mind. He had been dreaming of them again. Each was an undulating mass of hundreds of trillion of COBIC bacteria. Each bacterium was infected with a seed that covertly replaced most of the nucleus. It was all so stealthful, like a skilled hunter toying with its prey. Only in this case its prey was the world. Each colony was only a few feet in diameter, a size easily lost in the vast chasms of deep ocean water. Only a handful of these super-colonies were secreted around the world. He could hear echoes of the artificial intelligence thinking to itself. At times it could be maddening.

The god-machine, through its global wireless web, linked together all seeds that permeated everything on the planet. The result was an ancient living network of unimaginable scale and distributed computing power. The seeds undetectably infected virtually every multi-celled creature, including humans.

Mark took a deep breath to clear the cobwebs of his dreams then took another deep breath. He heard a twig snap in the darkness, and his heart jumped. At the edge of the small clearing, beyond the reach of the campfire's glow, lurked a deep gloom thick enough to conceal almost anything. The night was alive with droning and chirping creatures that should have been hibernating. Climate change had brought so many unforeseen consequences. In seconds his nanotech brain had cataloged the telltale sounds of several species of insects and other small creatures. Some would be extinct before long.

Mark thought how humankind had come so dangerously close to extinction itself. When the nanotech seeds had metastasized inside him two years ago, the technology had not only altered his brain, it had modified his flesh and even to some extent his DNA. While most of the seeds had taken root permanently inside the neurons in his brain, some remained unattached.

Using a mental command, Mark augmented his vision to include medical information about his body. The information was mentally projected as virtual reality. Looking at his arms and legs, he saw what resembled a colored fluoroscopic view. Orange blotches in the overlaid schematic symbolically indicated where the unattached mobile seeds were now massing. He knew these seeds were concealed inside harm-

less COBIC bacteria, which they controlled and used both for disguise as well as mobility. These nanotech bacteria navigated his circulatory system like computerized antibodies. The microbes were sheathed in a chemical disguise, dialed-in to match its environment in the same way a chameleon changes its color. The result was complete invisibility to the immune system of its host. If his flesh was injured, this free-swimming nanotech could knit his tissues back together at the molecular level, healing the damage in days instead of weeks. These seeds, however, did far more than heal. Slowly, over time, they perfected through genetic fine tuning. He was the first of his kind. He had no idea how long he would survive, but he did know his lifespan would be extraordinary.

Mark turned off the medical projection. While he could examine his flesh, there was no command that could show him what was happening to his mind. Soon after the nanotech seeds had infected his brain, all his dreams had become conscious experiences and remained that way. In his conscious dreams he was able to solve problems, explore places, and just simply live. It was like an entire second existence had been opened to him. He knew his conscious dream life was mostly the result of photographic recall of everything, including dreams. Surveillance data from the god-machine proved most people had conscious dreams every night; they just failed to remember them and called them by a different name: lucid dreams.

Mark gazed up from the small clearing at a sky overcrowded with stars. He felt like the only being alive in this infinite, lonely place. A gibbous moon was just setting below the branches. Its pale blue light cast long shadows of tree limbs across the clearing. The shadows reminded him of ghostly talons reaching out for their prey. He checked for dream signs to make sure he was not experiencing a false awakening.

The temperature should have been frigid and the ground covered in deep snow, but it was not. More signs of a planet teetering on the brink of environmental collapse. The continent no longer had uniform seasons. Some places were experiencing a frozen winter while here in Missouri it was closer to early spring. It was chilly enough to be

uncomfortable for an organic, but not for Mark and his companion. He simply dulled the temperature sensitive nerve endings in his skin. The campfire's low flames had been reduced to orange coals. He could see the radiated warmth on his arms and legs but felt nothing. The glowing coals seemed almost alive as they writhed in their superheated world. Unable to feel the warmth, Mark was fascinated and reached out with his hand. A computer assist acted automatically in response to his state of mind. This assist, like the medical schematic, was a geo-projected virtual reality. The assist was warning him that the heart of the fire was 1,262 degrees Fahrenheit. It did this by displaying the temperature superimposed over the coals. Mark thought about the utter pointlessness of that warning and how it showed the machine interface was still adapting to him and had far to go. He never had any intension of inserting his hand into the flames.

A soft breeze stirred dying leaves on the branches around him as a few more floated to earth. He watched one incinerated as it drifted down onto the hungry coals... as it dissolved, a terrible memory crept back into his awareness unbidden and his heart broke anew. Every day when he awoke the world was as it should be for a brief time, then the serpent of reality opened her eyes inside him and the horror of what he knew broke him again as he knew it would every morning of every day of his unimaginably long life. He spoke in an urgent whisper directed at both God and the god-machine.

"I want our lives back. I want our hope back. How could you hate us so much?"

Sarah stirred next to him. She was a nanotech hybrid like him. They were the only two known to exist in a world of one and half billion humans who had survived the nanotech plague. A plague caused by the god-machine and the seeds living inside his flesh. Mark regretted whispering and furtively wiped the dampness from his eyes. Sarah's Rottweiler, Ralph, was staring at him. The dog's eyes glowed with orange light from the fire. The huge animal was like a witch's familiar. Sarah could partially see and hear through the animal's senses as they were radiated out as data across the god-machine's n-web. Since all creatures were infected with some nanotech seeds, all crea-

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tures radiated some emanations, be it mental or emotional. Sarah propped herself up. Mark could see her shadowed expression in the wavering light. She looked so attractive and so frighteningly intelligent. He knew she was curious. He could feel her empathic awareness begin to suffuse him as her cybernetic brain fully awoke like a rising sun. Her spiritual caress was a hand returning to a familiar glove. While she shared and experienced all his emotions, she must never discover the terrible truth. He concealed it deep inside himself and kept it from her so that she did not lose all hope. There was always hope.

1

EVE OF DARKNESS

Kathy Morrison – Pueblo Canyon, Arizona – January 21, 0002 A.P.

Northeast of Sedona, Arizona, was the tiny settlement of Pueblo Canyon. Dr. Kathy Morrison was walking through the crunchy snow, returning from a house call. She was obsessed with a need to act that was growing more urgent with each passing day. She did not see the sunrise or the stunning Arizona red stone vistas that surrounded her. How could she remain silent with all she knew? She had proof the governments of the world had lied and everyone was in danger. Entire libraries could be filled with material published about the nanotech plague without a single page accurately portraying the truth about what had happened two years ago. On the Internet, official disinformation rapidly became historical fact. Unimpeachable government officials and leading experts explained how the plague was caused by genetically engineered COBIC bacteria. They presented evidence showing that COBIC had been weaponized by the addition of a lethal nanotech payload called a seed, supposedly the first self-replicating nanotech ever devised by humans. The charges stated that through a conspiracy of negligence and criminal intent, the smart weapon escaped into the wild, where it multiplied. Both development

and release were declared crimes against humanity. Many in the scientific community were wrongly sentenced to prison or death in televised military tribunals.

Kathy walked past the settlement's schoolhouse and heard the smiling voices of young children inside but could not smile herself. It was the government who was the true criminal, not the scientists. Everyone, including schoolchildren, learned the lie of how nanotech COBIC supposedly collected into a waterborne supercolony and that the military had destroyed it, ending the threat. None of the few who knew the truth dared mention the god-machine or its deep infestation into the biosphere. That information, as well as any proof of the truly advanced nature of this technology, was violently suppressed. These seeds were everywhere and in everything. Yet almost everyone believed they were not infected, and the government encouraged this lie with a mix of bribes, solitary confinement, and worse. Reports to the contrary, which had been issued by the CDC during the plague, were dismissed as part of the criminal conspiracy. Only a small number of people knew the god-machine was the true threat and that the military had failed to destroy it.

It was to stop humankind's damage to the biosphere that the god-machine had begun its bloody work. The machine operated as if it was the very immune system of the planet and humans had become an invading contagion. Long before the threat was understood to be anything other than biological or chemical, vast numbers of people were being murdered in what were soon called kill-zones. The best doctors and scientists in the world were initially out of their depth. They could not explain how this agent, which killed with the devastating speed and 100 percent lethality of a chemical weapon, only affected people and not animals. Its selectivity was like a virus targeting very specific DNA. They could not explain the zones of sudden death that were miles in diameter and bloomed out of nowhere. Even more so, it was inconceivable that someone standing one foot outside a kill-zone lived while those within the zone died. It was far too late once they'd finally discovered what humanity was truly up against.

On the day the old world ended, it was in response to the U.S. Navy's destruction of a supercolony that the god-machine had struck back with an escalating barrage of kill-zones like none before. In a matter of hours billions of people were dead. When the nanotech plague ended that day for unknown reasons, the world's governments declared victory. Kathy was maddened that the public was ignorant of every critical fact in a global catastrophe that had nearly driven humankind to extinction. No one was safe. The horror could happen again without warning.

KATHY WASHED her hands after seeing her last patient of the morning, then headed to her study. The dining room of the two story prairie farmhouse had been converted into an examining room where she saw her patients. The house itself was at least a hundred years old. Upstairs were two large bedrooms, one of which had been converted into a study. She was the only fully qualified medical doc in Pueblo Canyon, which meant she worked long hours. Her grueling residency after graduating from Harvard Medical had been easy compared to life in Pueblo Canyon, but also far less rewarding.

Walking through the living room with her coffee, Kathy stopped to tend the fire. The house was heated by a large stone fireplace and stream radiators fed by an ancient, temperamental oil furnace in the basement. The warmth from the fire was soothing; the other rooms of the house were too cold and empty. She picked up a favorite photograph of her and Mark Freedman from the mantel. A tear ran down her cheek as she stared at his face. They had lived together for a year after the plague before Mark had ended their relationship and moved out. He had told her it was hopeless and he was right. Now they were very close friends. He lived in a house only a hundred yards from hers. She still loved him, though worked hard to convince herself otherwise. She thought about how they had been thrown together at the CDC's BVMC lab in Atlanta when the plague was just emerging. Mark was a Nobel Prize winning molecular biologist. His years of research on primordial bacteria had proven COBIC was a living fossil. Thanks to him, this

tiny creature had been crowned the oldest known form of motile life on Earth. He had literally discovered the missing link between the great kingdoms of plant and animal. This prize winning work made Mark the expert on a bacterium, which was now also the carrier of a nanotech plague. For this reason he quickly became invaluable to the CDC and Kathy. His work with COBIC predated the plague by a decade and had no connection to nanotech infected COBIC, though in retrospect the coincidences were hard to ignore.

KATHY WAS GROWING AGITATED as she climbed the stairs. She'd been worried to distraction for the past eight weeks since Mark had left Pueblo Canyon to find this thing he'd started calling a singularity. He believed this singularity was proof that more of his kind now existed and that when he found it he would also find more hybrids like himself. He should have been back by now. She refused to allow herself to imagine him dead.

The steps creaked with sounds that had grown familiar, yet she felt vulnerable and alone for so many reasons. Mark was their leader and with him gone the weight of leadership was on her shoulders. She thought about all the people at Pueblo Canyon who knew the dangerous truth about the government's lies. Most of the doctors and scientists who had fought the plague with her had died in Atlanta at the BVMC lab. All of the survivors from the lab who knew the truth now lived here in Pueblo Canyon. If the government wanted to ensure their official lies were never exposed, making everyone at Pueblo Canyon disappear was the smart way to start.

Kathy sat down at her desk. The room had wonderful light from a row of three old wood framed windows. The glass was not insulated and radiated cold, making the space feel like a refrigerator, but she didn't care. The sunlight warmed her soul. Kathy sipped her coffee while gazing out at her view of the small community. Pueblo Canyon was such a peaceful, secluded place. A small collection of buildings were scattered about the broad, uneven snow covered base of the canyon. Smoke drifted from chimneys as people worked at various

chores. She spotted two men tending to livestock in one of the paddocks just beyond all the buildings. They'd both been well respected medical researchers at the BVMC lab. She had treated one of them a week ago for a nasty animal bite. Not far on either side of the canyon floor, mountainous red stone walls rose almost a thousand feet to meet the high plateau. With its natural fortifications, it had been an ideal place to end their exodus from a devastated world two years ago.

When they'd arrived, Pueblo Canyon had been an isolated horse ranch abandoned decades ago. Now it was in good repair with new structures being added almost every month. Food had even been grown the past spring, summer, and fall. A small crop of pumpkins had been especially successful. The well water was sweet and the air was pure. At night the sky was filled with so many stars that it filled the soul with wonder. Electricity had been restored about a year ago. All wireless phones companies had been nationalized. Through broadband wireless, the Internet was back and thriving. All the original settlers had stayed on even after the government had begun rebuilding, and the benefits of moving to the large protectorate cities like Manhattan, Chicago, and Los Angeles became substantial. Some of the settlers had contacted their extended family members. As a result, their little community had grown, including more than a few children. Without invitation, newcomers had even started to arrive in Pueblo Canyon. In the beginning it had been rare for anyone to stumble upon the reclusive settlement and even rarer for them to stay.

Every so often a transient would arrive because of Internet rumors. Conspiracy blogs claimed that certain small towns in New Mexico and Arizona had been passed over by the nanotech plague because of experimental government technology located there. Sedona was one of the few towns that had made it onto everyone's conspiracy list, along with Roswell and Los Alamos. Sensible people wrote off the blogs in the same spirit as crop circles or energy vortexes. There were, however, others who made their living by searching for grains of truth buried in the wildest rumors. Kathy was concerned trouble might start if a reporter actually uncovered something even stranger than the experimental government technology they were seeking. What would

happen if they uncovered a small group of ex-CDC scientists and doctors who had discovered ancient technology and a truth more dangerous to the new world order than a nanotech plague? The truth was that humans were no longer the most advanced hominids on Earth.

BY THE TIME the sun filled the canyon with light, Kathy had been typing rapidly into her notebook computer for hours. From her windows she had watched the sun travel a good distance. Its rays cast moving shadows along the surrounding red stone walls, changing their appearance by the hour. It was a natural diorama as surreal and beautiful as anything imaginable. At different times of day, different stone shapes came into view and then faded like ghosts. Some of the shapes appeared to be human faces, while others were giants locked in mortal combat. Thousands of years ago Indians had named these natural statues and spun legends around them. Kathy's eyes were growing blurry as she glanced up from her screen at the red stone phantoms on the canyon walls. She was trying to get her ideas completely down before she lost some of the details. She had failed. She could think so much faster than she could type. It felt like such a luxury to have a computer and electricity to run it. Not so long ago the best she had were spiral notebooks and a gas lantern. The world they had lost was coming back in many ways, but it felt more like a failed experiment being retried one last time than any kind of real hope for a lasting future. She looked at the words on the screen. Her journal had grown to thousands of pages of historical manuscript. She was speaking truth to power. In these times, that was a dangerous thing to do. The journal that she'd begun while they were fleeing from the ruins of Atlanta had ripened from a whim into an obsession. Now all her free time was devoted to her writing.

On the old fashioned paper calendar on her desk, the square for today's date read January 21. It looked the same as all the other squares before and after it. A notepad on her desk had the word darkness sketched on it in different sizes and lettering. Every version of the word seemed to embody despair. The old world had ended on January

21 two years ago when the plague reached its crescendo and then stopped. *Darkness* was the name given to that bloody day and what followed, a name that had spread on its own until everyone had adopted it. Today was the *Eve of Darkness* 0002 A.P. – year two after the plague.

The plague had come so quietly, so unexpectedly. What everyone mistook as isolated pockets of death in remote jungles was, in truth, the end of times. Perhaps if she and the others at the CDC had been quicker to recognize what was happening, more could have been done, more lives could have been saved. Kathy felt terrible guilt under the glaring spotlight of that historical fact. She knew it had been her responsibility, her team of CDC doctors and scientists who were the leaders in the fight. She'd had the best chance of anyone to stop the nanotech plague and had failed miserably. As a result, a new world, a new dark age, had begun.

Just as children leave the womb in agonizing pain, this new world was born in the agony of an entire species. Kathy knew her kind was doomed; those of the parent breed would die out at a natural pace. Though no one had found another hybrid like Mark or her ex-patient Sarah, Kathy suspected by now there had to be hundreds, and their numbers would be growing. You were not born a hybrid—you made yourself a hybrid. Under the right conditions, nanotech seeds could be forced to replicate in vast numbers and migrate deep into the cerebral cortex, where they penetrated the nuclei of cells and took root. The result was gray matter that was partially organic and partially nanotech. Like a fossil slowly forming as its original organic material is leached away and replaced with minerals, the nanotech seeds slowly replaced organic neurons with nanotech constructs. Kathy was deeply troubled by the entire concept. Once a brain had been infested and nanotech circuitry now did the thinking, were you still the original person or some kind of perfect computer simulation of what had once been human? What about the soul, the essence of life? Was it still there?

Kathy cared for Mark. She desperately wanted to believe he was the same person. She prayed he was the same person but hoping and praying was not enough. Doubts remained. Sarah acted so alien and at

fleeting moments Kathy thought she'd caught Mark acting like Sarah. The risk of losing what made her uniquely human terrified Kathy and kept her from trying to take that irreversible step of becoming like Mark. With his nanotech mind and flawlessly maintained biology, he could live endlessly with the body of a middle aged man. Even his skin had become a faultless, smooth, expanse of silk without a single freckle or mole. She would grow old and wrinkled. He would outlive her by generations, maybe even forget her, and that thought stabbed shards of ice into her heart.

Hybridization, the greatest adventure imaginable, was within her grasp, yet her fingers refused to close around it. Even if she remained herself after the transformation, aspects of her humanity would inevitably erode away. Human life was filled with little rattles and squeaks. Life was not perfect. It was never meant to be. If you removed the specter of death, didn't you also lose the very ingredient that brings emotional vibrancy to life? Didn't death give everything its meaning?

In prehistoric times, seventy thousand years ago, some disaster had caused what evolutionary biologists call a population bottleneck. The number of *Homo sapiens* in the world had been reduced in that bottleneck to six hundred mating pairs. *Homo sapiens* ancestor *Homo Heidelbergensis* might have been alive seventy thousand years ago. *Homo Neanderthals* were alive until twenty-eight thousand years ago. *Homo Floresiensis* were alive until a mere twelve thousand years ago. Those six hundred pairs of *Homo sapiens* went out to conquer the world and replace all other human species. Every man and woman alive today was descended only from the DNA of those six hundred mating pairs. There could be a similar number of transhumans alive today. What would future scientists write about this parallel circumstance that launched a new human race? Was this a repeat of something that had happened seventy thousand years ago? Kathy knew Mark believed the answer was yes. He was unshakably convinced the god-machine had been shepherding our evolution ever since we separated from the great apes.

One night while they were still together as a couple, Mark had

explained to her that without a genetic advantage it was extremely difficult to become a hybrid, but not impossible. Taking brain damaging overdoses of drugs as he and Sarah had would fail if you lacked the required gene mutations. Part of what this rare bit of mutated nucleic material did was entice otherwise inert nanotech seeds into repairing damaged brain tissue, which contained the mutation. Carried within this mutated DNA was a dormant blueprint of changes needed to build neurons that had seeds for nucleuses. Large scale repairs made by seeds using the DNA blueprints created clusters of nanotech neurons capable of spreading the same restructuring into nearby neurons. To her medically trained ears this sounded like a terribly dangerous biological chain reaction.

Mark had then explained there was a safe purely mental path open to almost everyone. The instructions were stored forever inside the god-machine and our DNA. If she could develop conscious control in her dreams, she could learn to operate the thought-interface while in that state of altered awareness. A very gradual all-inclusive restructuring could then be switched on. The mental switch was thrown by using an intense single-mindedness to push the throughput on the thought-interface above a threshold. This critical threshold was calculated based on the amount of free-swimming nanotech COBIC in the body. Kathy knew scientists had a name for this altered state of awareness Mark was describing—it was called lucid dreams. Becoming a hybrid that way could take a lifetime of dedication and practice. Mark had told her he could increase the level of COBIC in her body, which would give her a huge advantage. Still, the entire process sounded like a test of mental worthiness. Kathy could not help thinking about how closely Mark's description fit the teachings of many religions from Tibetan Buddhists and their Dream Yoga to North American Indians and their dream journeys. Were the similarities only a coincidence or had information been leaking from the god-machine into religious teachings for time immemorial?

Kathy glanced out the windows at children playing in the snow and felt a deep sense of loss. She could hear their faint shouts of joy. Where did children fit into this coming transhuman world? How would this

new race reproduce? Would they give birth to hybrid infants, or would their children be born human and then undergo restructuring? Without death, at some point birth would have to stop to prevent overpopulation from destroying the planet. Childhood could become rare or even obsolete. The entire human population would age but not show it. Kathy imagined a planet inhabited by physically perfect men and women who were nothing but gray Methuselahs deep in their hearts. Would evolution also stop or would the transhumans change over time evolving through self-reconstruction? Kathy tapped out a few more sentences into her journal.

What a horrible irony that immortality, the dream of every human, finally arrives but with a price that is too high to pay. It is immortality born from the death of billions of innocent lives. Who could choose to benefit from that kind of bloodletting? I only hope the hybrids remain more human than machine. I hope they do a better job of stewardship over this little blue planet than we did.

Outside, a scattering of snow had begun to fall. A cold wind rattled the window frames, and Kathy wrapped the day blanket around her shoulders. At this higher altitude over a foot of snow covered the ground. Thousands of feet lower there was only rain and mud where in past years there would have been a blanket of white. Many of the trees had autumn leaves and new green leaves on the same branches. The surreal landscape was incriminating evidence of what our disregard had wrought. The effects of global warming had not stopped with the nanotech plague. For now, the symptoms were continuing to worsen. Kathy sipped her cup of coffee. The dark brew was a soothing reminder of a comfortable world that was forever lost. She returned her attention to reworking the preface for her journal.

Approximately 30 percent of humanity survived the nanotech plague. In the aftermath, interruptions in food, medical, and shelter killed a quarter of those who'd survived. Ironically, most of those who died in what is now euphemistically called the "supply shortages" lived in the industrialized world. Those with a simpler way of life survived in larger numbers because they did not depend on support from big industries and infrastructure. Industrialized countries, which had not fared so well, lost closer to 90 percent of their people. Unchecked fires swept through many of the great cities of the world, reducing large swaths to charred rubble. The European and Asian land wars over resources then destroyed much of the infrastructure that had been spared in those regions. In North America droughts caused by global warming further strained the food supply and sparked massive wildfires in the western half of the continent.

North America has now become a land of two separate societies, the Protectorates and everywhere else, collectively labeled as the Outlands. Two years after the nanotech plague ended, life is slowly recovering and even beginning to flourish in spots. Yet North America has become a much darker and different place than what anyone could have imagined.

Industry and commerce are reemerging but with very different markets and goals. With the population so drastically reduced, and abandoned stores overflowing with goods, much of what was considered toys of the rich are now owned by the masses. From the richest to the poorest, everyone has large screen televisions, computers, appliances, cars, and clothes. What most do not have is basic security in the form of food, medical care, and protection from crime. The chasm between the haves and have-nots is still growing but no longer measured in material possessions. With violence and deception having become the pocket change of everyday life, that chasm is now measured in lifespan. Existence in so many places has reverted back to something closer to that experienced by stone age humans: a life that is short and brutal.

North America's population is precariously holding at thirty million while Europe is at fifty. There are fears that the numbers are still falling. The population of North America and Europe is tiny when compared to Asia or Latin America. Asia still has over a billion people and Latin America has about two hundred million. In North America the Native population, which had been less than 2 percent of the total, is now closer to 10. A viral rumor is that the scales had been tipped back by God for how we'd abused each other. Ironically, this rumor is closer to the truth than most would guess, except the acts of god were those of an ancient nanotech machine and the misuse turned out to be what we did to the environment and not just each other. In a pattern similar to indigenous people, rural populations outweigh the cities' but not for long. As the protectorates become more established, the population will inevitably migrate to the sanctuary offered by these new city states run by the United States Alliance Government (USAG). This corrupt partnership between the remains of the United States government and a handful of the largest corporations in the world now controls all—

Distant engine sounds jolted Kathy from her writing. It was the low rumbling of a heavy vehicle. Was someone coming? She'd walked past the settlement's parking lot on the way back from her last house call. None of the vehicles had been taken out. The sound grew faint, then disappeared. The acoustics of the canyon and surrounding land could play tricks. Her heart was pounding. For a brief moment she allowed herself to hope it was Mark returning. So much could have gone wrong while he was out there searching for his singularity. It could all be a trap. The complete list of scientists wanted in connection with the nanotech plague had never been published. Through friends still inside the government, Kathy had learned Mark was at the top of the secret watch list of traitors. As a Nobel Prize winning molecular biologist he was an obvious target. His work with COBIC certainly added reasonable sounding grounds, but the true reason for his appearance on that

list had nothing to do with his research. He was on that list because of what he had become. He was on that list because nobody outside the top-secret maze of government agencies could ever be allowed to learn that Mark was no longer fully human.

Mark was risking too much to find this singularity. Kathy wanted to believe he'd told her everything, but she could never be sure all the ideas that came out of his mind were his own. His brain was a nanotech organ connected to a global wireless network. In a very real sense he had become a node in the nervous system of an artificial life form, the god-machine. Kathy hated that cold, destructive silicon monster. She was no longer sure Mark felt the same way. By his own admission, the god-machine used the n-web to implant memories inside his brain. That was how it communicated. Instantly he would simply remember some fact or experience as if it were his own. With all that swirling inside his head, the chances for delusion were very real. Mark believed the god-machine was hundreds of millions of years old and that it was a medical tool built by some lost civilization. Kathy could easily believe the idea that the god-machine was originally a medical device. Just by looking at how it had healed Mark of his diabetes was confirmation. Yet she had serious doubts it was a hundred million year old relic. She was an epidemiologist; part rational scientist and part medical detective. In her mind, applying the principle of Occam's razor to Mark's relic theory would lead anyone who was objective to the conclusion that a much simpler explanation had to be the answer.

She thought of what it would feel like to see him driving into Pueblo Canyon today. Her eyes teared up, knowing she'd long ago betrayed him in her mind. Every day while they were still living together, she'd feared a machine instead of a man would wake up next to her in their bed. As his doctor she knew Mark was still undergoing a slow conversion of his brain into nanotech. She'd decided after he'd left, if he did become a machine it would be better that he never returned. On the last day she'd seen him, it was clear his humanity was still intact. His emotions seemed strong and genuine. He was embarking on a great adventure. He would discover whether hybrids were behind this singularity or not. Yet Kathy knew there was some-

thing important he was concealing. She was his confidante but lately there had been many things he had not told her. Hours after he had gone, a neighbor had delivered a letter that had been slipped under their door. Mark had known the neighbor was out for the day and that Kathy would not receive it until he was far away. She picked up the wrinkled sheet of paper from her desk and read it once more, for the hundredth time.

Please forgive me for being a poor friend. I always planned on explaining everything when I got back but the singularity is growing so powerful I'm no longer sure I'll be able to return as soon as planned. The singularity is more risky than I told you. It has evolved into something like a black hole, a mental-emotional gravity well. It's sucking in all the data from the n-web around it and growing stronger as if feeding on the data itself. I don't know what effect it will have on me when I'm closer to it. Will it devour my mind in some kind of continuous data-flood? I believe this singularity is the side effect of a tribe of hybrids increasing in numbers and reaching a kind of critical mass, but for what purpose? I don't know.

Sarah has experienced and believes the same things I do. We think it could even be a precursor to something new and wonderful, possibly the next evolutionary step for hybrids. I thought I had reached an evolutionary plateau, but I am only an embryo.

I know I told you a week ago that Sarah had disappeared, taking one of the Humvees, but that was not entirely true. When Sarah left, I knew where she was heading and what she was doing. She's gone off to lay the groundwork to locate the singularity. She's been in the Outlands, traveling east on Interstate 40 for days. When she stops each day, she tries to get a bearing on where she senses the singularity is located. In her last message, she was certain it was northeast of Pueblo Canyon. I will be heading in the opposite direction on Route 40 doing the same thing. We are trying to act like a pair of radio receivers triangu-

lating in on a target. Once we get a reliable bearing, we'll both head toward it from opposite angles. The n-web doesn't exactly work like radio signals, but the metaphor is close enough. I know you don't trust Sarah and think she's unreliable and reckless. So just trust my judgment. If I didn't need her help, I would not have gotten her involved.

Kathy stopped reading the letter. She hated the idea of Mark taking so many risks to find more of his kind. She hated it even more knowing that Sarah was out there probably traveling with him by now. For some time Sarah had been acting increasingly unpredictable and even spooky. Who knew what that twentysomething female hybrid was capable of doing? She was a wild card in every sense. Kathy could as easily imagine her trying to kill Mark as seduce him. She balled up the letter and threw it in the wastebasket. She wanted to scream. She stared at the crumpled letter inside the basket and wanted to kick the wastebasket across the room. Why hadn't Mark called or e-mailed?

The engine sounds returned. Kathy wrestled one of the windows open. Snowflakes were coming inside as she listened to the sounds faintly reverberating down the natural echo chamber of the canyon walls. She could feel tiny vibrations in the windowpane. The sound was slowly glowing louder. Any doubts that someone was driving toward the settlement were erased. Vehicles rarely came to their isolated community. The only way in or out was a dirt road, which was nearly impassable over the final ten-mile span of broken terrain. Only if you knew the concealed detours could you arrive by vehicle. As a result, outsiders came almost exclusively on foot or by horse.

Kathy was racing down the stairs before she realized it. She grabbed her coat almost as an afterthought. The frigid air attacked her. The porch was slippery with thin patches of ice where the sun never reached. She began shivering while slipping on her parka. Four hundred yards in the distance, she saw through a curtain of bare trees a black boxy shape negotiating an incline in the dirt road. A second identical shape appeared on the road, then went out of sight. They could be

Humvees but something didn't feel right. Mark and Sarah had each taken one of the military Humvees that had been part of the exodus from Atlanta. Why hadn't the lookouts or the patrols that scouted out as far as the highway called this in? Kathy pulled out her cell phone and saw no service on the display. She was out of contact. A skittish feeling was taking root in her stomach.

At the sounds of boots crunching in snow, she turned to see Carl Green trudging his way from the cabin where he and his new bride lived. Carl stepped up onto her porch and tromped the snow from his boots. A mug of coffee was in his hands and an M16 was slung over his back. Carl had been her boss at the BVMC lab before the old world had ended.

"Expecting visitors?" asked Carl with a hint of nervousness.

"I don't know," said Kathy. "I thought, maybe Mark... My phone's out. Is yours working?"

Carl checked his phone, then shook his head. Now Kathy was scared. A third black shape jounced down the same incline in the road, then a fourth and a fifth. Her world became surreal. Whatever was coming no longer sounded like Humvees, but more like powerful truck engines or maybe construction equipment. Kathy looked back at her door and thought about going inside and locking it. A vehicle reached the entrance to the ranch. Its roofline was the first thing she clearly saw, then a squat rectangular body with a wedge shaped snout that looked like it belonged on an amphibious craft. It was a Stryker armored fighting vehicle with four huge tires on each side and an evil looking Gatling machine gun mounted in an electric roof turret. The camouflage paint was a dark mixture of black and smoky grays.

"Shit," said Carl as he dumped the remainder of his coffee into the snow and unslung his rifle.

"You don't know," said Kathy.

"What, are you crazy?" he snapped. "They're here because of Mark and Sarah. We knew this would happen one day. Word they live here had to leak out sooner or later."

The lead armored vehicle came to a stop. Its engine idled like a purring monster. No hatch opened. No greetings were offered. As the

other vehicles arrived, they formed an offensive formation with a combined firing position over the entire settlement. This was not a standoff. The settlement was heavily armed, but their odds were poor against this kind of armored force and the airpower they could call in for support. Kathy felt like her world had been quietly slumbering and a bad dream was about to begin. The vehicles had Peacekeeper insignia. The Peacekeepers were a despised branch of military law enforcement that patrolled the Outlands. The name *Peacekeeper* was Orwellian. The only peace they kept was that of the grave. If any kind of resistance was encountered, Peacekeeper rules of engagement were to respond with overwhelming firepower. Entire towns had been erased with the aftermath broadcast on government run television as victories of civilization.

Kathy knew she had to quickly take charge of this situation before it veered fatally out of control. She took in her surroundings. Almost everyone was standing outside their homes or places of work. Many of the men and women were armed. They had riot guns, M16s, and other military hardware. For now their weapons were pointed down. Kathy thought about her lookouts stationed in the surrounding high ground of the canyon walls. They had to be aiming their shoulder fired missiles at the Peacekeepers right now, including a prized Javelin antitank missile. With luck they could take out one of the Strykers, but what would happen next? In addition to the remaining wolf pack of Strykers, Kathy knew Apache helicopters or even worse would be unleashed. A-10 Warthog ground attack jets might come screaming out of the sky to murder them all. She was subconsciously praying in a repeated whisper to her friends and neighbors, “Hold back, don’t fire....”

“What?” said Carl.

“Nothing,” she said. “I have to do this!” She started walking toward the lead vehicle. “Everyone, put down your weapons,” she called out. “We can’t fight them. It would be suicide.”

She repeated herself louder and with more authority in her voice. Looking around, she saw some of the people doing as she ordered, then more. As she kept walking, behind her she heard the sounds of weapons being laid on the ground. A rear hatch on the lead vehicle

lowered like a drawbridge. Six heavily armed soldiers came out, followed by a pair of corporate mercenaries who had officers' rank. In this new upside down world, the corporate mercenaries were the officers. All the Peacekeepers wore their standard full body armor and helmets, which many believed made them impervious to most weapons. Hatches dropped on some of the other vehicles with more heavily armored troops emerging. The two officers from the lead vehicle strode toward her as the storm troopers fanned out, confiscating weapons and body searching people for anything concealed. The ranking officer, a major with a badly pockmarked face, took her picture with his tablet. He stared at the tablet, not acknowledging her presence. She knew he was checking her against a database.

"Kathy Morrison. What a pleasure to meet Mark Freedman's wife," said the pock faced man. "I am Major Kohl and this is my second in command, Captain Hillman."

"A pleasure," said Kathy. "Just for the record, Mark and I are not married."

"A legal technicality, I'm sure."

"What do you want?"

"I'd have thought that was obvious. Are you playing games with me?" Kohl turned toward Hillman. "It's time to clarify ourselves. Captain, why don't you make it clear what we want."

Hillman spoke softly into a boom mic suspended in front of his lips. Distant weapons echoed in rapid fire. Kathy defensively dropped to her knees while glancing around in shock. Everyone she could see was doing the same, except the Peacekeepers. No one appeared injured. She stood and faced off against Kohl. The man had a smirk on his face.

"There are armed surveillance drones circling far above us right now, watching everything," said Kohl. "We have authority to engage with lethal force anyone pointing weapons at a Peacekeeper. Your perimeter security on the canyon walls have been neutralized by our drones." Kohl sounded like a judge reading a verdict he particularly enjoyed. "Why the surprised look?" he asked. "Did you honestly think we don't have a strategy and just stumble around looking for trouble?"

“You’re fucking monsters!” shouted Kathy.

“Thank you. Coming from a terrorist’s wife, that’s a compliment I accept. Now, I am going to ask only once. Where are the terrorists Mark Freedmen and Sarah Mayfair?”

From behind her a strong pair of hands clamped over her wrists and pulled them back brutally. She felt plastic handcuffs being applied. As they were cinched up, the bands cut into her skin. She tried to yank free and ended up facedown in the snow with a sharp pain in the back of her skull. The bastard had hit her with something hard. With her wrists cuffed, she was unable to get up and barely able to turn on her side in the snow. Rough hands grabbed her. As she was hauled away, she saw her own blood smeared into the snow where she’d fallen.

KATHY FELT EXHAUSTED. She and a select few of the others has been strip searched as a group and then separated into different rooms. Still naked, her arms and legs were secured to a chair by plastic cuffs. She knew she’d been stripped to humiliate her. She knew the reasons for everything they did, but knowing provided no advantage. Their tactics were working. Her head ached from what she suspected was a mild concussion. The outside windows were open and the room was freezing. She could not stop her teeth from chattering. She felt humiliated and wretched. So far, in escalating severity, she had been questioned, threatened, and then beaten. She knew the sadistic blows had not left any lasting damage—so far. A doctor’s black bag had been set on a nearby table. She imagined all kinds of surgeon’s tools and drugs inside that bag. A drawn out animal cry of pain came from one of the adjoining rooms.

Moments later the door opened, and Kohl walked in, followed by a woman who was dressed like a medic. A cruel looking man carrying a towel with bloodstains on it came in behind them. Once again Kohl’s eyes slowly examined her nakedness. She wanted to look away but refused to give him that small victory. She was breathing rapidly. The door was closed and locked. She kept glancing at the bloody towel and wondering whose blood was on it.

“Why are you making us hurt you?” asked Kohl. “Just tell me where Mark and Sarah have gone. Let’s end this before permanent damage is done.”

The cruel looking man removed a long dissecting knife from the black bag. Something broke deep inside Kathy. She was terrified in a primitive, uncontrollable way. Yanking at her restraints and crying, she felt the blood draining from her head. The room was spinning.

THE NEXT THING KATHY KNEW, her face and hair were dripping with cold water. Someone had drenched her. She realized she must have fainted. A large gauge IV line was tapped into her arm and connected to a bag of saline. The windows were still open. She did not feel as cold as she should have. Her thinking was sluggish. The doctor inside her made a diagnosis of hypothermia.

The cruel looking man was holding the long dissecting knife and staring at her chest. There was a terrible thirst in his stare. The woman medic had turned her back. Kohl was gazing at her with pitiless black eyes. He leaned in close to whisper into her ear.

“We will keep at this, you know.”

His breath was stale, and she felt the warm moisture of his words on her face.

“We will not stop. We will keep you alive with fluids while we cut deep into you again and again. At some point you will tell us what we want to know. Why sufferer permanent damage? You’re a doctor. You know what losing too much blood can do to the organs. Just tell us where Mark and Sarah are hiding.”

Kathy felt something cold against her skin and knew it was the knife. Kohl turned away.

“Wait!” sobbed Kathy. “I’ll tell you everything! Everything!”

She knew she was broken. God help her. She’d imagined she was tougher than this. Her entire body was on fire. She was terrified of feeling the sting of that knife and at the brink of fainting again.

“Go on,” said Kohl.

He sat down in a chair facing her, then motioned to the medic and

her day blanket was draped around her. The smell of the soft wool made her cry. The IV line was removed. The medic clipped the plastic cuffs from her body and handed her clothing to cover herself. The windows were closed. Kathy felt wrenched and defeated. She was babbling everything she knew. It came out of her in torrents as if she were vomiting out inner secrets along with her soul. She was afraid to stop talking out of fear of what might happen after she was of no use.

Kathy Morrison – Pueblo Canyon, Arizona – January 23, 0002 A.P.

It was morning outside. Kathy was locked in her bedroom. She knew a guard was stationed just outside her door. From the windows, she'd seen guards patrolling the grounds. Even though she was exhausted, she'd been unable to sleep more than an hour or two at a stretch. She knew she was headed for life in a prison work camp run by some corporation. She was about to become low cost labor for the machine. Again and again in her mind she'd gone over the secrets she'd given up last night. None of it would be much use in hunting Mark down. She heard a helicopter approaching. The sound grew deafening. The windows were blanketed with a whiteout of snow as if a blizzard was raging outside.

A few minutes later her door opened and in walked a face she recognized, accompanied by Kohl and Hillman. The face looked more haggard than she remembered it. General McKafferty glanced at Kohl and then stared directly at her. His half-moon shaped face was an ugly visage with a mouth that formed a kind of crack that was pretending to be a smile.

“You deserved the treatment you received,” said McKafferty. “We will find the traitors and that will be the end of it. Your information was helpful and for that your government thanks you. I honestly think you believe you did the right thing by helping terrorists. You really don’t understand what they’ve become or what they’ve done. Do you?”

“I know what you’ve become,” said Kathy.

“Understand this,” growled McKafferty. “I will do anything to keep these terrorists from launching another nanotech plague.”

“Are you’re insane!” shouted Kathy. “You know the truth!”

“Kohl, Hillman, leave us,” ordered McKafferty.

The room emptied and the door was closed.

“You can make all the noise you want about that one state secret you think you know. No one will believe a prisoner. But I want to be very clear, Morrison. If you have left anything out of your confession, held even one detail back, then I will personally see to it that you stand before a military tribunal with the traitors. I will see you executed. Do you understand me?”

Kathy nodded while looking away from the man.

“Fine, get dressed in something warm. There’s no need to pack. You’re leaving. Oh, by the way, your journal was very interesting reading. I especially enjoyed the part where you described me as a professional thug and what was it? Ah... that’s right. The ugliest bastard you’d ever seen.”

McKafferty was grinning with a hideous display of self-satisfaction. Kathy’s mind raced to her computer with its encrypted drive. That journal was lost but not an older backup copy. That one had to be safe. McKafferty and his jackals couldn’t have found it too. The backup was stored on an encrypted waterproof thumb drive called an IronKey. The small metal fob was hidden in a crevice at the base of a red stone formation known as Indian Foot. Mark knew the spot and what she would want done. She was about to become one of the disappeared. Her journal was now her life’s purpose. Mark would retrieve it and send it out over the Internet for everyone to read: dangerous truths from a missing and possibly dead unsung hero.

THE LATE AFTERNOON’S stormy sky cast its pall over the settlement. Kathy was being frog marched toward a black unmarked helicopter. On either side of her, a firm, large hand gripped each arm. She could see faces in windows while others were outside watching as she passed. The faces were unreadable. She could tell deep feelings were being masked out of fear. Only their eyes were saying good-bye.

The helicopter door opened as she approached. She was bodily

lifted up and in by her escorts. More hands seized hold of her inside the cockpit. She was maneuvered into a seat next to a window. A safety harness was pulled too tight. She looked at the seats facing her and was surprised to recognize McKafferty.

As the chopper lifted into the air, feeling lost, Kathy looked out across Pueblo Canyon. She knew she would never return again. This was her first step toward becoming one of the disappeared. As the helo banked, she saw a smoke trail lance down from a canyon wall toward her. The helo jinked hard. Her world shook violently. A second missile smashed one of the Strykers, swallowing it in an orange fireball. That had to be the work of their only Javelin. Through the window she saw a firefight had erupted. Her fingers tightened into fists. The Peacemaker machine was rolling into motion, creating their hideous brand of peace. With mechanical precision they began grinding Pueblo Canyon underfoot. In a maelstrom of Gatling machine gun fire and explosions she saw people running and falling as they were torn apart. She was screaming at the Peacekeepers to stop while hitting the window with her fists, her eyes blurred with tears of rage.

She heard McKafferty shouting, “Goddamn it, Kohl, stand down!”

The carnage went on as the helicopter banked away, gaining speed and elevation in what felt like evasive maneuvers. Her view of Pueblo Canyon was replaced with peaceful red stone formations and trees. Kathy banged her fist against the glass one last time. She turned her burning eyes on McKafferty.

“You bastard... Why couldn’t you have left us alone? No one had to die. No one!”

“I’ve been onboard this chopper sitting on the ground for over an hour,” he growled. “That made me a nice fat target, but no one took a potshot until you came onboard. That missile was from your friends. I’d say it had your name on it, not mine. Is there something else you’re holding back that you want to tell me?”

