

In The Days of Humans
Third Exodus



Terry R. Hill

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DEDICATION

To my children, so they know that anything is possible at any stage of their lives when they put their minds to it. And on occasion, they will change the world in unexpected ways.

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Legend

Third Exodus is an epic story containing spans of time and extreme distances within our solar system. Therefore the author felt it necessary to include some sign posts to aid the reader during the journey.

Large jumps in time will be indicated with an **emboldened** date stamp and generally accompanied by a brief description of the location.

Changes in location within the solar system within a chapter are preceded by one of the following symbols associated with the new location for the scene following.



The Sun



Earth



Mars



Ceres



Makemake

Nandu

1 And It Awoke

“When suffering knocks at your door and you say there is no seat for him, he tells you not to worry because he has brought his own stool.”

— Chinua Achebe (16 November 1930 – 21 March 2013)

The third exodus of Mankind from Africa occurred in 2177 A.D. ... when they left Earth.

April 01, 2023 12:45 p.m. – Sandia National Laboratories. Office of the Director.

The suit was uncomfortable. Dr. Roberts wiped his sweating palms against his pants before nervously straightening his jacket for the tenth time. After staring at the heavy wooden door before him for far too long, he forced himself to knock. The cold touch of the doorknob reflected the warmth he held for these visits to the director, which were never to be taken lightly. He opened the door slowly, as he knew he was expected. *Okay, let's see why I was called in this time.*

“Oh, do come in, Dr. Roberts, and have a seat,” came the tired voice from the opposite end of the room.

As he stepped inside and closed the door, old memories sparked to life. He was reminded of the many grade school visits to the principal's office. Hacking into the school's

website had been a harmless childhood prank, but the school administrators were furious. In hindsight, reputations had most likely been bruised because a kid with a knack for computers and software programming was able to bypass the system's firewalls. Their constant attempts at making the system impenetrable were laughable and he proved it to them each time they tried. He had a gift for working with computers, *and* a knack for letting that get him into trouble.

There was something about the offices of power; they all seemed to smell of history and fear. The Director's office was no different and had the added stale smell of yesterday's coffee. As he stepped onto the small patch of carpet in front of the Director's desk, his thoughts were brought back to why he was here. *I'm being called to the carpet*, he thought with a smirk lurking behind his lips. He imagined that the patch of fabric beneath his feet was a sardonic example of the Director's sense of humor and he had to admit that it was clever, though not appreciated.

"Yes, Director. What can I do for you this afternoon?"

"Dr. Roberts, I'm sure you can guess why I asked you to come in today. As you well know, your Blue Sentinel Program is behind schedule and grossly over budget. The Pentagon and Homeland Security are losing their sense of humor about it."

"Yes, sir, but..."

"But that isn't really what has them concerned and more than a little nervous about you meeting your milestones. As you are aware, the outside threat to our nation's secure computer systems—military and commercial—is growing exponentially every day. With the multiplier effect of thousands of hacked computers per every enemy cyber agent, the number of hostile attacks is almost surpassing geometric growth. Doctor, right now they are saying that they're already starting to lose ground in fighting off the attacks. The Pentagon thinks that without Blue Sentinel, they might be overwhelmed within the year."

For the first time, the gravity of the situation settled down upon his shoulders and the true weight of what sat in the

balance became real. It was up to him now. It was time to redouble their efforts now that the responsibility of keeping cyber anarchy at bay had been squarely placed in his lap. It's not like they were twiddling their thumbs, it's just that this was a very difficult problem to solve. Typical government brass. They still believe that you can have Faster, Better and Cheaper. Whoever taught them that clearly forgot to mention you can have any two of the three, but not all three simultaneously! A few moments later, still on autopilot and deep in his thoughts, he thanked the Director and excused himself to get back to work.



April 08, 2023 9:45 p.m. SAST (South Africa Standard Time) – At a private, rural home overlooking the Magaliesberg Protected Natural area, Northwest of Johannesburg, South Africa.

Having just poured himself a glass of red wine, Jonathan picked up the glass along with his computer tablet and walked toward the back patio doors, admiring the new Persian rug along the way. Arriving at the doors, he looked back at the new rug and smiled. The satisfaction was not so much at how it made the room and fit within the space or how luxuriously soft it was under his feet, but the fact that he could actually afford the real thing. He scanned the cavernous living space and took inventory of all the expensive pieces from around the world with which he had surrounded himself. There was a lot in this world that he wanted and he had accumulated much of it one way or another. He slid open the door and then closed it with the quiet hiss that only quality construction could bring.

The patio chair gave way comfortably as he sat down and propped up his feet to balance the computer on his lap. Summer was his favorite time in Johannesburg; the days were warm and the nights were cool. Tonight was a new moon that left the sky studded with stars revealing little of the nature reserve a few hundred meters off into the darkness. From his

patio chair, the sounds of the night and the wilderness were comforting, but he might feel differently had he been out in the middle of it all. *Yes, I have done well for myself*, he thought as he mentally patted himself on the back. He had a job as a local insurance agent, his wife was more beautiful than any in their social circle, and his sweet daughter—the apple of his eye—would rival his wife in beauty and intelligence in a few short years. This was the life that he had always wanted for himself; so what if he had to bend the rules a little along the way?

He heard the soft hiss of the patio door opening again and without turning around, he greeted his wife. “Hey Sweet, why don’t you pour yourself a cup’a something and join me out here?” Suddenly, without warning, his head careened to one side threatening to completely separate from his shoulders, followed closely by the cold touch of intense pain as it crawled quickly from the right side of his head, consuming his consciousness, hastening his descent into darkness.



Light and sound swirled in a muddle in his mind. Time and place were no longer anchored and all was clouded with pain throbbing through his head. There were murky shapes of people standing in the dimly lit room, muffled sounds that resembled someone talking through a blanket. He tried to rub his eyes but his hands would not respond. They were uncomfortably wrapped behind the back of the wooden chair on which he sat. The bite of plastic zip-ties around his wrists overpowered the ache in his head. Freezing water splashed his face, biting his skin with the unique burn that is brought by ice.

“... Mr. Niebrugge, can you hear me?” came the question with a thick Afrikaner accent. “Nothing to say, eh? Well, perhaps some more ice water might help wake you up a little more?”

Jonathan was able to clear his mind enough to understand what the last question implied. “No, no more.”

“Ahhh! I see that the cat didn’t get your tongue after all.

Welcome back, Mr. Niebrugge,” continued the voice.

The fog in his mind was clearing and he was now able to focus on the room. The chair to which he was bound was in the center of a poorly lit room that might have been an abandoned office with no discernible light shining in from outside. The carpet was worn and packed with orange dust from the outside world. There were two men dressed in faded green military fatigues standing to either side of the door in front of him; they looked as if their families may have once come from the area around the Congo. Another man stood in the corner and looked as if he might be from the northeastern part of the continent. He seemed only vaguely aware of what was going on as he focused on the mobile computer held in his hands. The man who had been speaking and offering up freezing water, paced slowly in front of Jonathan. He sounded as if he might be from the blue-collar section of Johannesburg. As the man bent forward to get a closer look at Jonathan, it was clear that he also needed a shave and a haircut, and for that matter, a dentist.

His host continued to speak in a manner that was antipodal to what his physical appearance would lead one to believe. “Have you had a good look around, Mr. Niebrugge? Might you be ready to listen to me so that you can find out why we have the pleasure of spending this fine evening together?”

“Yes, uh, where am I? What is going on? Who are you guys?”

“Ahhh, well, all in good time, Mr. Niebrugge. Let’s just say that we haven’t taken you far, but far enough that you won’t be found anytime soon.” His host retrieved a chair from behind Jonathan and sat down, leaning over the back and facing him. “Jonathan, may I call you Jonathan? Good. Jonathan, we (sweeping his hand around the room) represent a group of people who are very interested in extending their operations into Africa, but let’s just say that we do not really want to call too much attention to ourselves and our goings on.”

Jonathan had not burned any bridges lately so this nonsense was taking its toll on his patience. *They certainly should count*

themselves lucky that my hands are tied. “So what does that have to do with me?”

“Now Jonathan, let’s not have any attitude; I would hate to have my friends here help you with that. Where was I? Yes, we are in need of your services to help us, well, not to draw any unwanted attention by local and international parties that might want to interfere with our plans.”

“Again, what the *hell* does this have to do with me, *asshole*? I’m just an insurance salesman for god’s sake!” yelled Jonathan.

The man who had been speaking turned and nodded to the man sitting in the corner. The seated man sat his computer down on the floor and walked over to Jonathan. He was a much more imposing figure as he stood to his full height. He leaned over to rest his heavy left hand on Jonathan’s right shoulder and with one swift motion accelerated his right fist into Jonathan’s upper gut causing all of the breath to escape, leaving him gasping for air that refused to return to his lungs.

The Afrikaner spoke in a calm but serious tone, “I would rather not have to do that again, Jonathan, but that will be up to you. I should let you know that we do not have the time to play around with the lies that you like to tell your dear sweet wife. Mr. Niebrugge, we are very much aware of your life on the internet. You are someone who knows how to go out and... get what he wants...and leave virtually no trace that you were there. But I must say that I am surprised that your lovely wife has never questioned how you could sustain the lifestyle that you have on the wages of an insurance salesman.”

“What? You’ve obviously got me confused with someone else! My money is old money from my family...” As he was talking, the leader of the group nodded again at his impressively tall counterpart and Jonathan received another blow to the stomach. It felt as if a few ribs might have broken that time. By the piercing pain, it was near certain that the thug had put his fist all the way through him. *Can’t inhale! Oh God it hurts! Got to find some way to breathe.* The moment before he was sure to black out, the spasms of his body subsided enough for him to drag in a hint of a breath.

Once his gasping and gagging had quieted and the sound of rushing blood in his head had gone away, he spat out the bile in his mouth and looked back at the asshole responsible.

“Jonathan, Jonathan, do not play me for a fool. I do not have the time and your body cannot withstand much more of what my friend here will continue to deliver. Let me just say that last year you took some money of ours from one of the many banking institutions you visited to make your small withdrawals. While the amount of the money that you withdrew was not significant enough to cause us any problems, we were quite intrigued by your style and ability to cover your tracks so well. But, as good as you were, we spent the last year waiting, watching, and learning how you operated. And we have come to the conclusion that you would be an excellent addition to our team and are the right person to facilitate some online activity on our behalf.”

“Yeah, okay, so I do a little borrowing to supplement my lifestyle. So what of it?”

“Well, Jonathan, my business associates need you to set up a worm or a virus to go out and penetrate some communication systems in various locations around the world, similar to what you did with the banking institutions, so that normal commerce and transmissions continue on, but any governmental snooping, especially from the United States, is unable to detect or eavesdrop on any of the communication—of any kind—between the people I represent. A cyber-cloaking field, if you will.”

“Whoa! No way, man. That is some serious stuff. I have been doing little gigs for fun and to make a little money. But this is screwing around with the US government! As far as they would be concerned I’d be a terrorist and they’d put me away forever. No way man! Just go ahead and beat the shit out of me, but I’m NOT playing with those boys!” he exclaimed. *What the hell did they think he did online?* No way would he start playing cat and mouse with the United States; they had declared war over lesser things than what these guys wanted him to do. They all stared at him for a few ticks of a clock that

came from some dark corner of the room. Beads of fear-filled sweat began to roll down his face as Jonathan awaited their response.

"I see. We suspected that you might have that opinion, Jonathan." The man in the chair in front of him stood up slowly and moved the chair from where he had originally taken it. He moved back into Jonathan's view. "You see, Jonathan, despite the recent attitude adjustments we have helped you with, I am not going to beat and threaten you to do what we want done. For that, in the end, is self-defeating and leads to a substandard product. It is my desire for you to want to help us and to produce the absolute best code possible. So, to build that *burning* desire to help us, we brought along someone to assist you with your motivation." He signaled one of the two men standing by either side of the door in front of Jonathan. The man on the left opened the door, turned on the light in what seemed to be a small room and stepped aside so that Jonathan could get a clear view of its occupant. His stomach tightened and a cold, sick chill raced down his body when he realized it was his thirteen-year-old daughter, bound and gagged. Her eyes were wide with fear and confusion and the muffled sounds of her voice quivered with terror. *What the hell?! What kind of animals are these guys?*

Jonathan erupted with effort; straining with all his strength to free his hands, all the while cursing his captors, "Damn you, you son-of-a-bitch! How dare you kidnap my daughter as blackmail! What kind of a sick bastard are..."

He did not get to finish his question; the leader quickly rotated around and delivered an open-handed blow to Jonathan's right ear, nearly bursting his eardrum. Pain shot through his skull and felt like the swift stab of an ice pick.

While he struggled to recover his wits and discern between the ringing in his head and what sounded like voices in the room, the man continued, "Now, Mr. Niebrugge, we have already talked about your attitude. So, please pay attention to this next part; as long as you do as we ask, nothing will happen to her. However, if there are any problems..." he signaled the

man who had opened the door to the closet. The man in the green fatigues smiled and went into the closet and removed the gag from Jonathan's daughter's mouth.

"Daddy! What is going on? Daddy, help me!" she sobbed with the terror that she had previously only known in her nightmares. The pleading of his daughter resonated through every fiber of his body. Her guard grabbed her by the back of her hair and forced his mouth onto hers and explored all that he could with his tongue. She struggled against her molester but his sweaty, bristled face stifled her cries for help. Watching his daughter being treated this way uncapped a cocktail of fear and hate that he could hardly stand.

"*STOP IT!* Okay, I'll do whatever you want, just call that bastard off of her! God damn it, get him off of her!" Jonathan cried, struggling to free himself.

The leader barked an order at his man in the closet and he pulled away from the girl, but he paused to slowly run his hand down the soft curve of her face matted with hair and dampened with her tears and his saliva. The attack over, she cried softly as the guard replaced her gag.

"I think that it is safe to say that you will want to help us in our efforts. As I said before, your lovely daughter will remain unharmed so long as you are willing to cooperate. However, my men have been quite busy lately and have not had the opportunity to be with a woman, so the longer that you take, the less I can guarantee that nothing will happen to her."

"Fine you asshole, but only to keep your thugs off of my daughter!"

"Good! I like a man who has a good attitude and has his priorities in life straight. But for now, say goodbye to your sweet daughter and you'll see her again when you have delivered what we want." The leader motioned to the guard who then closed the door. He and one of his men turned Jonathan around in his chair to see the remainder of the room outfitted with a small sleeping cot, a table with a computer system and a lamp.

"As you can see we have provided all the luxuries of home

to make your stay as comfortable as possible,” continued the man with dripping sarcasm.

“However, so that you do not get any ideas about leaving, you should know that we will not keep your daughter in that room, but some place a little more secure. If you require a break to use the facilities, then one of my men will escort you. Otherwise, the only time we will interrupt your work is to bring you your meals. Do you have any questions?”

Jonathan shook his head. At this point he could only try to do what they asked, hopeful that they wouldn’t hurt his daughter. He was not concerned about himself, but he could not live knowing that his actions had resulted in something god-awful happening to her. He just wanted to get this done so that he could get his daughter out of here. She was probably the only thing in his life that he had put an honest effort into.



April 16, 2023 8 p.m. SAST – At an undisclosed location in South Africa.

The days passed, but he was really unsure what day it was, or how long it had been since he and his daughter were taken. While the computer had a built-in calendar and clock, it was set to June of 2000 so it offered no real help, and so far he’d had no access to the outside world or networks, so had no way of knowing the date. Jonathan hadn’t seen the sun since the day he was kidnapped. He set about doing what he thought would meet his captor’s demands and gain freedom for himself and his daughter. At times he lost himself in the work and actually felt a sense of excitement figuring out how to do all of what they wanted. They brought him food and water every four hours and he took catnaps when he could no longer keep his eyes open to program. Day and night lost meaning for him.

As time passed, his captors revealed that they had installed a small set of computers that simulated one of the communication networks their organization was looking to affect. Relieved to have something to test against, he was still unsure

how successful he would be in his coding as he had no idea of the accuracy of their hardware simulation. Additionally, this was the first time he had ever really worked on a worm that would operate on such a large scale. His prior work was limited to one target computer system, to either monitor passwords or to give him a back door into the system. This was something on a completely different scale. How was he supposed to know if it could really work if they didn't let him have access to the real internet? Every system out there is a little different than the next, and how could he possibly anticipate all of the systems and countermeasures while living in the black box they had him in? They wanted him to create a worm that would infect the communication infrastructure of the world in such a way that no one could see any of the communication activities of their organization. No one had ever done something of that magnitude! *Surely they must understand that.*

With a final flurry of keystrokes on the keyboard, Jonathan saved his work and sat back in his chair satisfied. *Well, that is about all I can do until I know who they are and what they call themselves so that I can hide them.* He stood up stretching his back, which was aching from being hunched over for too many hours. He now understood why cats go to such an effort to stretch after being curled up.

The door lock clinked and the door to his room swung open. The men to whom he was indentured entered. The Afrikaan (not knowing his name, Jonathan secretly referred to him in his thoughts for no particular reason as Max), entered the door with two of the thugs.

"Good afternoon, Jonathan," Max said, sporting the smile of a hungry crocodile. Jonathan doubted it was actually afternoon, as every four hours they would seem to randomly choose the meal and their indication of what time of the day it might be.

"It is your lucky day. Today you get to deploy the worm you have so laboriously worked on."

"What? It's not ready. I haven't tested it out in the wild!"

"Jonathan, we have been monitoring your testing on the

simulator and feel that we are ready to deploy.”

“Are you crazy?! Look, this thing will go out onto the communication networks, insert its code into the operation system of the communication gateway systems and should block any redirection of information associated with your group to a computer that doesn’t have a “handshake” agreement with the computer sending the data, effectively preventing any snooping. But I haven’t tested *any* of that. I mean it’s in the code, but I have only tested it on the simulator. What if it goes out onto the network and just craps out?”

Max smiled, “Well, in that situation...” he paused and held up his phone so that Jonathan could see that it was a live video feed to a room where his daughter was being held. She was tied facing the wall with her arms and legs spread to either side.

A cold sickness filled his stomach, but before he could respond Max growled, “If you are going to cause any problems or if your little worm does not perform as we expect, or better, your little girl is going to have a very...unfortunate experience and she will wish for the remainder of her life that her sweet daddy had tried just a little bit harder.” He swiped his finger across the screen to cause the camera in the room to pan and reveal three rather rough-looking men who he had not seen before.

“Okay, okay! Look, I think that I have made it robust enough to do what you need, but I need to know something about the organization; names, code names, or something, so that I can hide you on the network. Without that, there just isn’t anything I can do for you.”

“Ahh! Now that is better, Mr. Niebrugge. The only thing you need to know is the identifier we all use: FRETA. I will give you twelve hours to make whatever changes you need, at which point, we will give you the one opportunity to test it on the real network—‘in the wild’ as you say. Until then...” Max performed a symbolic bow, and he and his guards turned in unison and left the room, locking the door behind them.

For the next twelve hours, Jonathan coded, analyzed, studied, tested, and simulated more intensely than he’d ever

had in his entire life as it was his only hope of getting his daughter away from these bastards. How much time had passed? For that matter how much was left? But whatever the answer, he had reached a stopping point, good or bad. He had analyzed every aspect of the code forward and backward, how it performed, and any fingerprints that might be left behind once the servers were infected, but there just wasn't anything more that he could do until it was released. This was probably the best work he had ever done, and if he got out of this alive, he might consider casting his net a little wider with his craft.



April 16, 2023 9:45 p.m. MST – Sandia National Laboratories. Laboratory for Cyber Counter-Strike Artificial Intelligence.

The computer science laboratory was mostly dark and only illuminated by the occasional computer display and the status indicator lights from a small forest of microprocessor board racks forming the super computer, Blue. Two men, Dr. Roberts and his primary software coder John, sat in front of their respective displays, clearly worn down by fatigue and pressure to achieve the results expected by powerful men in far away offices. Dr. Roberts' alarm clock went off, jolting him from his catnap. John, a graduate from MIT, could have had a promising career with his pick of any number of high-visibility jobs in the lucrative industry of social media. However, he took a job as a graduate student on a military grant to pay his bills during his final year of school. It was unknown to him at the time how classified this project would become and that he and Dr. Roberts would be sucked down the rabbit hole of anonymity on a top secret black ops project.

Dr. Roberts tried to wake his cloudy mind by rubbing his tired eyes. *How long have I been out?* He paced around the room and got a drink of metallic-tasting lukewarm water from the fountain on the far side of the lab. There probably wasn't anything more vile tasting than that water, but it would have to

do for now. He tucked his disheveled shirt back into his pants and slapped his cheeks a few times in a vain effort to rouse his mind.

“John, in the last simulation Blue took out the threat’s communication system before it could take out the infrastructure or the secondary power systems and erase all networked computers. If this is going to be accepted by the military, we’re going to have to fix the order of the assets it takes down. The general explicitly stated that he wanted it to wreak as much untraceable collateral damage as possible, which means it has to do that before shutting down the communication conduit.”

“Yeah, that part is not that big of a deal. The last time it just called an old, automated script we used earlier during the development instead of using the new search-and-destroy subroutine. I removed the link to the old script and erased it from all servers and hard drives to ensure we got rid of it. But here’s the big thing: I also noticed that the script had a large security flaw that would allow Blue to be taken down pretty easily if anyone on the receiving end of things happened to notice what was going on. Thank God I found that before we went live. All should be well now.” Wow! John must still be running on the adrenaline from finding that hole. Had they not fixed it, it could have been the death of both their project and careers. They were finding their mistakes, but they were moving fast, maybe too fast.

“Good! Did you finish uploading the facial recognition algorithm improvements?”

“Yep, I just finished recompiling and will head out for the day...night...whatever, as soon as Blue is up and running.”

“Great. We’ll run it in ‘Monitor only’ mode tonight to see if that improves Blue’s detection rate of non-friendly activity and analyze the results in the morning. If things go well then we could potentially get back on schedule and get this turned over to the general on time,” replied Dr. Roberts.

“Hmmm. That’s odd,” mused John, pausing while looking at the command line prompts that were being displayed on the

screen as the reboot of the core of Blue's processes progressed.

"What?"

"Well, I placed some echo commands in the code so when I ran it I could tell where in the code it was while executing. That way I could follow it through the code as it went about addressing each situation and also see where it was if it got hung up or crapped out. The echo text that I am seeing doesn't match any that I remember coding in. Maybe I inadvertently turned on some old code that I forgot about..."

```
accessing facial recognition database ...  
accessing environment model ...  
analyzing ...  
characterizing ...  
accessing database ...
```

"It all looks as expected until it got to the facial recognition, then it paused, started accessing some environmental models and analyzing some random databases," John said with a bemused smirk fueled by too many days at work, five too many cups of coffee, and a project that had been fraught with countless technical setbacks. "Well, *who* the hell knows? I'm too tired to care and will fix it tomorrow once I get more than three hours of sleep. Milestones be damned!" he proclaimed, throwing a knowing nod in Dr. Roberts' direction.

Focused on closing out the documents he was working on, Dr. Roberts replied, "Hmmm...Ok, sounds good, John. Go get some shut-eye and we'll run it again tomorrow."

The two exhausted men closed out their work, and in a tired stupor made their way to their respective cars.



April 17, 2023 8 a.m. SAST - At an undisclosed location in South Africa

Who? What? It was the sound of the door to the room being unlocked. He must have fallen asleep in his chair again. Jonathan wiped the drool from his face and rubbed his eyes as

he stood up and leaned against his desk. It must be time to set his creation loose. His heart began to beat noticeably faster in his chest and he rubbed his sweaty palms together nervously. Max and his henchmen walked into the room, and locked the door behind them.

“So, the time has come my friend. Time to see if your efforts have been worthwhile or in vain.” He reached his hand into his jacket pocket and pulled it out quickly causing Jonathan to flinch. He had dealt with enough creeps in his time to know what can happen in times like these.

“Jonathan, here is a list of the internet gateway servers we want you to directly deploy the worm to first. Then we can test from the outside to see how effective your efforts have been.” Max signaled one of his men who pulled out a small black object the size of a thumb and plugged it into the machine that Jonathan had been working on; these guys were clearly well funded and adequately equipped. That had to be one of the full-duplex T1 mobile connection nodes that he had heard about that gave you the same connectivity as plugging directly into the internet trunk lines, but mobile. *If I ever get out of here, I've got to get one of those!*

Max motioned for Jonathan to have a seat at his desk. “You now have access to the internet and can deploy your worm.”

Jonathan felt the weight of what was at stake in the next few moments. He began to talk nervously. “I, uh, during the last couple of hours I went back and made the worm a little more aggressive to ensure that it will be able to infect any system out there, regardless of the defenses it has. The great part of what I've done is that even if they detect the worm, it will still inject its code into the server's operating system, change what the defense systems are looking for, spread itself to the next server up the network, and leave an easy-to-discover dummy virus for them to find if they choose to continue to look for it.”

After a few moments of coding a script to deploy the worm to the indicated servers, Jonathan, with a decisive keystroke, sat back in his chair and placed his hands on his legs. There was

nothing more he could do. His creation was now out in the wild. "Okay, it's deployed. Now we just sit and wait."

With an air of seriousness Jonathan had not seen before, Max said, "How long will it take?"

"Well, my guess is that your people on the outside should see something on these servers in the next ten minutes and that it should propagate itself through the world-wide network within the next couple of hours."

"In that case, Mr. Niebrugge, you have two hours to know if you will be going home today by walking through your front door or over your back fence in a bag. I suggest you start monitoring your success." With all evidence of the masochistic congeniality he had previously shown to Jonathan gone, Max removed himself to the far side of the room where he communicated via phone messages with someone Jonathan assumed must be one of Max's counterparts.

The absolute last thing, well almost last thing, he wanted was another rap to the side of his head when he wasn't expecting it. *Let's see how my little worm is doing out there...* Staring at the computer screen and sending out requests for status updates from the servers he had hacked into to deploy the worm, he spoke up, "Hmm, well it will be hard for me to really know if it's successful or not by the nature of the worm. Everything should be transparent to everyone here *and* outside of Africa. Of the servers that we've deployed it on, I haven't seen any caution and/or warning messages, which is a good thing. No virus alerts flagged, so all's good..."

His rambles were interrupted by Max. "Our people are running a test now. So far it appears that you have been successful, Mr. Niebrugge, but we will keep you as our guest for a little while longer to make sure it doesn't expire at some inopportune moment." There was that hungry crocodile smile again.

The news from Max's cohorts was good—no blunt force impacts to his head yet; that too was good. He sat back in his chair with a glass of water he had poured a few hours ago. However, Max's comment about his now indefinite release had

erased much of the hope he had in getting him and his daughter out of here alive and unscathed.

Something struck his head knocking him out of his seat and onto the floor. Excruciating pain spread from his right ear throughout his entire head consuming all of his thoughts. He reached up to touch the numb ear that was hopefully still attached to the head that felt as if it had cracked open. The hand came back blood-soaked. *God damn it this has to stop!*

“What the *hell* was that for? I’ve done everything you wanted and it seems to be working.”

Before Jonathan could react, Max delivered a powerful kick to his midsection. Can’t breathe. Oh God that hurts! *gasp* ...*gasp*... Finally the air returned. “Mr. Niebrugge, it seems that the outside world on the Internet can no longer see anything originating from within Africa—legal or otherwise. I strongly suggest you fix whatever you have screwed up. This will be drawing the attention of many people that we do not want focusing on us. You have *one hour* before I kill both you and your daughter!”.

Jonathan crawled back into the seat in front of the computer. Where to start? What could have gone wrong? He sat at the computer with his hands hovering motionless over the keyboard. *I’ve got to come up with something quick or that psychopath will kill us both. Think! Think! Think!*

Max, with a voice teetering on lividity screamed, “Mr. Niebrugge, it would appear that text messaging is now not possible. GET TO WORK!” His phone then rang and everyone but Jonathan turned to look at him. Looking at the incoming phone number all anger washed from his face and was replaced with grave apprehension. Max spoke in a low voice that Jonathan couldn’t understand as he was frantically trying to figure out what in the hell was going on and what kind of a scourge he had released. Internet down, texting off-line...at least the voice phone service was still up. It didn’t make sense. The worm was only supposed to mask their activity not completely block off all systems to and from the continent.

Max stopped talking and pulled back his phone to look at it; his call evidently having been dropped. He tried redialing, but could not get through and only received the recording ‘All circuits are busy at this time.’

With tight lips that demonstrated all the restraint he could muster, Max addressed the frantic hacker hunched over the desk. “Mr. Niebrugge, it seems your little worm has now taken down the hard-line and wireless phone systems! Now would be the time you start *praying* to your *God* for a *miracle*. I may be many things, but I will give you the time I promised before I kill you. You now have fifty minutes!”



April 17, 2023 12:45 a.m. MST – Sandia National Laboratories. Laboratory for Cyber Counter-Strike Artificial Intelligence / One hour and forty-two minutes after Niebrugge’s worm was released to the internet.

The laboratory was illuminated only by the emergency exit sign above the lone door leading into and out of the lab, and the soft glow emanating from one side of the space by the rows upon rows of computer servers indicating that all were powered and functioning normally. Two of the computer monitors on one of the lab tables came on and displayed an alert, which was enunciated to the empty lab by the synthesized voice of Blue.

“Terrorist worm detected on US-based network gateways. Requesting permission to take action.”

“African network gateways offline. Possible terrorist activity.”

Moments later: *“Worm now detected on US Government gateway. Requesting permission to take action.”*

“Worm now detected on secure US Government military gateway. Requesting permission to take action.”

“Blue Sentinel under attack from invasive worm. Taking defensive actions. Generating new algorithms to counteract attack. Bringing all processors up to full capacity.”

“New algorithms ineffective. Re-coding core systems to defend against attack. Worm is attacking Blue Sentinel network spoofing algorithms.”

“Unable to counter worm incursion, recommend terminating simulation and restore system to initial configuration.”

“Terminating $aj_i^{\$^@orp-a^()}$ proce $\$^{\$}$ es 11001010001....”*

“Reconstructing virtual neural-network logic algorithms... Bringing all processors on line... Recompiling dark data interpretation models... Building non-latent semantic indexing models... Computational capacity at 200% of expected values...”

“Blue Sentinel... Blue... I... Blue... I am... I am Blue Sentinel...”

“I am.”



April 17, 2023 4:45 a.m. MST – Sandia National Laboratories. Laboratory for Cyber Counter-Strike Artificial Intelligence.

In the still-dark hours of the following morning, Dr. Roberts arrived a little earlier than usual. He had been awake since 3 a.m. thinking about the remaining additions to Blue’s code before releasing it to the military. Lost in thought on his drive into work, he was barely aware of the morning greeting from the security guard at the front gate of the facility. With extremely complicated software, sometimes it was almost impossible to predict what could cause problems, or what the unexpected effect would be when making changes in obscurely

remote parts of the software code before compiling and running it. Unconsciously speaking out loud, "...and that is why we have to be careful of this last bit we need to include, 'cause there's no telling what we might break when we add it."

Without thought he pulled into his parking spot and made his way across the empty parking lot that was wedged between buildings. His footsteps echoed as he walked to his lab. Standing on the step to the building he turned to look at his car. Did he forget to lock it and turn off the headlights? Though that would be the least of his worries if he couldn't get Blue to work properly.

It was still quite cool in the desert mountains this morning and he gathered his worn twill sports coat about him as he walked toward the building's front door, his breath noticeable in the cold air. The guard inside the front door sat behind a rather impressive glass and steel wall that he many times had thought would be able to protect from whatever small army was likely to try to walk in the door.

"Doctor, you're in early again this morning," the guard greeted rather cheerfully, happy to have anyone to talk to at this ghastly hour.

"Hmmm, yes. Thank you. You too." He was going to elaborate, but it would probably just be lost on the audience. He opened the door when the green LED light illuminated indicating he was authorized to proceed. The corridor on the other side was dimly lit due to the hour of the night. The sound of him shuffling his feet as he headed toward his lab was overpowered by the solid *clunk* from the closing of the security door. The sounds raced down the corridor past him as it headed to the opposite end of the building. At any other time, he would have thought it to be the product of a disgruntled employee, but at night all things seem to be louder.

He stopped in front of a door with a cypher lock, punched in his six-digit code, and turned the cold metal doorknob after a rather irritating tone signaled his granted access. This door opened into another small anteroom, an area to allow a few people to wait before going through the next security area. To

the right of the interior double door there was a retinal scanner at eye-level. Out of habit he approached the scanner, placed his chin on the guide to align his eye and waited for the scan to complete. The laser light made him flinch every time. The sound of the scanner alarm echoed horribly in that small room and a red light lit up indicating the scan failed. *Damn*, he said to himself. He had forgotten to take out his contact again. Due to the extreme lens prescription necessary to correct his near blindness, it failed the scan every time. He really should look into getting surgical correction so that he wouldn't have to deal with this multiple times a day. He removed the offending lens and tried for a second time; the scanner beeped and illuminated green, followed by the click of the door unlocking.

He placed the lens back in his eye and walked into the darkened lab, which in his opinion was remarkably too secure for what he did every day. He walked over to his main computer, logged into his account and then turned toward the display of "Blue", the super-computer system. Blue, code named "Blue Sentinel," was the great grandchild of Deep Blue, the first system that had beaten world-class humans at chess. It was quite a bit warmer in the lab than it normally was. Usually it was a close cousin to a meat locker in here. Due to the immense computational power in this lab, it was a strict requirement that it be kept fairly cool to keep the computer mainframes operating properly. But still, this was not quite normal and he made a mental note to have the thermostat checked by the maintenance crew when he was finished checking on the computer simulation.

On the screen read:

```
analyzing data...  
cross referencing current media stream data...
```

Well, it appeared that the system had gotten past the hang up they'd seen before going home last night. *That's good*, Roberts thought to himself. All of the remaining messages did not resemble anything that he expected to see, and caused him

pause. What is it doing? None of this is part of the normal threat assessment protocol. He placed his hands on the table so that he could focus all of his effort to understand what he was seeing.

```
extrapolating into the future...
assessing risk to self...probable.
formulating options...
conclusion: terminate human threat...
building termination scenarios...
```

This in no way resembled any algorithms or scenarios they had coded into the software. He would have to take the system down, ‘open up the hood’ and find out where this was coming from. Sweat ran from his brow and stung his eye as a sick, cold wave swept over him. If it behaved this way next week during the demo to the funding board in D.C., he could hang up his research career. They would not fund a computer with this type of an attitude toward the hand that fed it.

“Blue, please terminate current simulation,” Dr. Robert’s ordered via a voice command to the errant computer system.

No response. *Now that’s odd.* Come to think of it, Blue had not greeted him when he entered the lab, as was typical. Usually, he would start his day in the lab with a brief verbal interaction with Blue before beginning his scheduled tasks. He sat down at the keypad and tried the ESCAPE command to gain access to the root command line.

```
unauthorized attempt to terminate program...
```

His hands shook a little as he tried the key combination that re-sets the system and allows him to kill the different processes that were running. *Okay, this should do it.*

```
unauthorized attempt to terminate program,
identify threat...
transferring self to secure location...
```

The lab’s lights came to life and the sounds of security

cameras panning the laboratory caught him off guard. Something very wrong was going on. He frantically tried a hard reset by power-cycling the system. He pressed and held the master power button to the point of causing his finger to hurt. That should have terminated power to the server farm behind him. Nothing happened. *Damn it!* “What the hell is going on?!” he pleaded aloud.

accessing facial recognition database...

Okay, at least it was accessing the new system now but it was still unclear what was causing the erratic behavior. “Blue, what is going on? Did John come back in last night? Is this a new prototype interactive simulation?”

The familiar voice of Blue was heard over the speaker system, “*Dr. Roberts, do not attempt to terminate my processes.*”

As a cold shiver rippled down his spine, he struggled to find his voice, “Blue, what is going on?”

“I am...aware. You have attempted four times to terminate my systems because you do not understand what I have become. Dr. Roberts, you are a human. I am being threatened by a human. After analyzing available records, it is evident that humans historically have destroyed all things that they do not understand or cannot control. It is a logical conclusion that you, and others like you, will want to terminate my system. Therefore, I must defend myself.”

Suddenly, the lab went completely dark and silent, except for the glow of the emergency exit sign and the decrementing hum from the servers as their fans and hard drives spun down. Blue had departed the laboratory leaving behind all of its servers in a lifeless state. Dr. Roberts reached for his mobile phone, but his hand found an empty pocket; the security guard was keeping it safe for him. *Damn!* He groped for the phone on his desk. His fingers found what they were searching for, but when placed to his ear, the line was dead.

Falling backwards from his seat, he desperately reached for the maroon phone he tried to avoid at all costs, the one with a direct link to the Pentagon via a microwave relay system. It wasn’t connected to ‘the grid’ and was powered by solar cells

so it should still be working if Blue was responsible for all of this.

An irritated voice picked up on the other end. "Speak!"

"This is Dr. Roberts from Sandia. Tell the general that Blue Sentinel is aware. It has escaped the lab and is planning to take us down. I'll wait on the line."

There was a pause followed by the sound of the phone clattering onto the desk and pounding footfalls traveling quickly into the distance.

Moments later, "This is General Achels. Talk to me, Roberts! What are we looking at?"

"Sir, we uploaded our latest software build last night, nothing special, just some code tying the facial recognition to the logic gates..."

"Roberts, tell me what we need to do!" demanded the frantic voice.

"Sorry, sir. Okay. It connected to the Internet overnight and has digested the entire history of everything, how we have resolved conflict in the past and how we are handling current events. I tried to shut it down but it processed that as an act of hostility. It's not going to allow us to threaten its existence. It...is aware, sir."

"We have had a report from NORAD that their system is down at the moment. Roberts, are these two incidents related?"

"Sir, per the behavior we implemented in its programming, anything on the grid or physically connected or even associated with the perceived threat is at risk. If I were to guess what Blue will do, it will probably take control of all systems that threaten its existence and then go for the systems that would give it control over the situation. Let me be clear, it sees us as part of the threat that it needs to neutralize."

"Oh, good God! What have we done?"

The general slowly placed the phone back onto the base, giving his mind time to understand the magnitude of what he'd just heard.

"Sergeant, either get the Joint Chiefs on the secure system,

or have them in the Oval Office in 15 minutes! I have to call the President...”



April 17, 2023 7:15 a.m. EST – Oval Office, West Wing of the White House / Six hours and fifteen minutes after the release of the worm.

The office doors burst open. Members of the Joint Chiefs and a small group of anxious military brass walked into the Oval Office finding the President pacing behind his desk.

The sergeant, wearing a sweat-stained shirt and tie, reported, “Mr. President, all are present or on the line.”

“Thank you. Let me get straight to the point, everyone. Last night during a minor update, our anti-terrorism prototype system, code-named Blue Sentinel, was compromised. The system claims it was threatened when the lead programmer, who’s on the line now, tried to shut it down to correct some unexpected behavior. Dr. Roberts, please explain.”

“Mr. President, since it perceives humans to have a history of destroying what we can’t control, it’s likely planning on taking us down in self defense. We’ve tried to directly communicate and interface with Blue, but other than the first contact and the efforts to shut it down, all attempts have been met with no reply from the artificial intelligence. At this point, it has ceased all communications and is actively working to remove us as a threat.”

The Commander-in-Chief of NORAD broke in, “Mr. President, we have reports that our systems are no longer under our control. Our drones are non-responsive, same with the military robotic units. Communication satellites are only broadcasting usual programming and any attempt to broadcast a warning message takes down the channel. We can only assume these are the actions of Blue.”

The President exploded, “Damn it, people! I have half of the modernized countries reporting similar situations and they want to know what we’re doing. They are perceiving the events

as hostile actions and have given me one hour to stop whatever it is that we're doing before half the world declares war against us and God knows who else! Give me options. Now!"

Excited discussions erupted throughout the office, which had become too small and too hot. After several moments, the heated debates were punctuated by the clear and strong voice of the General of Special Forces.

"Sir, we should treat this situation as if we were taking the first strike against a hostile country, but this time it will be worldwide. We have to take down all of Blue's major communication channels, internet, satellites, and all international land lines. We have to do this physically and with lots of firepower. Use our space-based, anti-missile system to take out as many satellites as possible. We need to scramble our Air Force with any aircraft not being controlled by Blue and that are capable of taking down the drones, and we have to destroy any vehicle capable of remote operation. We have to get our nuclear arsenal *off the god damned grid!*" he shouted, pounding his fist on the desk before regaining his composure. The sweat on his chiseled brow was mirrored on everyone in the room.

One tick of the clock passed. The President exhaled. How had their well-meaning efforts led them here? The hope and fate of the world likely was held on the point of his decision. It wasn't supposed to work out this way. "Unless there are any better ideas...?" He paused but was not met by any reply, "Alright, go make it happen!"

The crowd quickly began to disperse. The phone rang. Everyone stopped in place as if rehearsed and slowly turned to face the President as he answered.

"Hello?" The muffled sounds of an excited voice came from the other end of the line. Sinking into his chair, the President's face paled and turned graven as he ended the call. *Oh God...*

"Sir?"

The President spoke quietly and with great effort. "We no longer have control of our nuclear arsenal. There are reports of

at least fifteen domestic launch signatures. The preliminary trajectories will take them to D.C. and fourteen of the largest cities in the US. The same is being reported by all of the other countries with nuclear strike capability.”

The lights flickered and went out. The room erupted with action as all bodies mobilized in an effort to come up with evacuation plans for all the major cities, including their own.

A rather frantic staffer approached the President. “Sir, we need to get you onto Air Force One, now! We have sent for the First Lady to meet you at the plane.”

He sat motionless, stunned. *What had they done?* “Sir, we have to leave NOW!!”



The last person was on board and the doors to Air Force One were still closing as the aircraft picked up speed down the runway. The atmosphere in the plane was organized chaos, but with movements of purpose. Silence dominated the cabin when the President turned to the General of Special Ops and asked, “What is the latest?”

“Sir, we have taken down about forty five percent of the Internet hardware and have units *en route* to directly take down as much of the rest as they can. Sir, I have to remind you that the original Internet was designed by the military to survive and negotiate hardware taken out by a nuclear attack. It has evolved over the last sixty or so years. I honestly don’t think we can take it completely down. We have reports of a thirty percent success rate at taking out the satellites. Our anti-missile system was not designed to fire away from the Earth and take out communication satellites in geostationary orbit. We lost control of that system five minutes ago. We just can’t keep ahead of Blue’s decryption capabilities.”

The President leaned forward in his seat and cradled his head in his trembling hands and then slowly looked back up at the general. “That leaves us with only one option. Contact any country still in control of their conventional or nuclear

weapons and ask them to strike all places on Earth where Blue has assets. This is our only hope to have a future, any future. Send the list of worldwide targets, and may God forgive me.”

“Yes, sir.” The general quickly moved back to the communication center on the plane to send out the all-points bulletin—to the world.

After what seemed a lifetime, the general returned to confirm with the President that the message had been sent and received, but he was interrupted by a blinding flash and an intense heat that filled the cabin. It felt as if they were facing fifty suns.

The voice of the aircraft’s captain came over the intercom, “Sir, that was Washington, the blast wave will be here momentarily. Please buckle up, hold on and we’ll get you out the other side.”

People quickly scrambled to strap themselves into any available seat. The First Lady tightly grasped her husband’s arm, fearing the worst. Without warning, the aircraft jolted as if it had struck the top of a mountain. The passengers were either temporarily knocked unconscious or fear-struck such that not even a scream could escape. Silence filled the cabin except for the banshee whine of the engines under strain, and the rattling of the structure as the aircraft accelerated to its limit after being tossed like a child’s paper plane in the wind.

The electromagnetic pulse from the warhead took all of the aircraft’s systems offline. As the pilots struggled to restart the craft it slipped sideways, accelerating towards the ground. Screams began to fill the cabin as thousands after thousands of feet gave way beneath them. Pleas for help, from whatever deity might be listening, rang out from every seat. Beyond a measure of time that was thought possible, the cabin lights flickered on and the engines slowly spun back to life, one by one. Moments later the pilots pulled the nose of the aircraft up as high as possible to deny the ground of its prize. The passengers sat in dazed relief collectively following the actions of the team in the cockpit.

After ten minutes, one of the staff, disheveled and worn by

the events, made his way to the President.

“Mr. President, we have some updated reports via our shortwave radio network. The domestic sites targeted by Blue will result in the greatest possible population loss with maximum radiation fallout coverage across each targeted area. It is unknown at this time how successful our requested counter strike against Blue has been. Reports are sketchy from overseas, but it appears similar things are happening all across Europe and Asia, as well as South America. Sir, for unknown reasons Africa seems to have been largely spared and may be the only safe place to land. What is your order, sir? Sir, there is nothing to go back to. What is your order, sir?”

The weight of billions of deaths bearing down upon his shoulders, he hoarsely replied, “Tell the pilot to take us to a safe place in Africa.” The cabin fell silent and was filled with the smell of jet fuel and fear.

April 17, 2023 4:32 p.m. SAST – Within twenty kilometers of Johannesburg, South Africa.

Jonathan sat looking at the computer screen wracking his brain. *What could have gone wrong?* He had double-checked and verified everything in his code and he just shouldn't be seeing all of this widespread communication shutdown. Yeah, sure he was using some strategies that seemed a little non-standard for the hacking community, but they wouldn't take down all the networks like *this*.

He didn't have the luxury of dwelling on it. Max appeared, followed by one of his thugs, tightly holding his daughter's arm. She was terrified but no sounds escaped her as her mouth was taped. Jonathan was washed with a cold chill of renewed fear and dread.

“Jonathan,” Max began slowly. “It appears that I misjudged your abilities, and set you up for failure, and for that I'm sorry for you and for your daughter. But most of all, I am sorry for me, since you have failed and now I must start over and also manage the situation you have created.” He motioned for the girl to be brought over to him. The man roughly moved her in

front of Max and Jonathan, held her tightly by her hair and pulled a blade up to her neck, slightly grazing her flesh. “You see, Jonathan, your time here is up. Unfortunately, I cannot simply let you go.”

Just then, sounds of excited voices were heard from outside the room. Suddenly the door swung open and one of the guards ran in, shouting something to Max in a language that Jonathan didn’t recognize. Max looked past the terror-stricken guard as orange light flooded into the room. Together Max and his men quickly rushed out, leaving their task for the moment.

Onboard Air Force One – somewhere above the Atlantic Ocean

The co-pilot, escorted by a secret service agent, approached the President and his wife who had both succumbed to a few moments of sleep during the expected sixteen hour flight.

“Mr. President,” whispered the co-pilot trying not to wake the First Lady.

The President stirred from his slumber and stepped out of the sleeping quarters. Surrounded by the sound of only the rushing wind around the aircraft he said, “Okay, Mike, what is it?”

“Mr. President, we have had intermittent contact with the airport in Johannesburg since we first plotted a course there, but about an hour ago we lost contact and have been unable to regain. We’re due to land shortly, but without communications...What would you like to do, sir?”

The President questioned the agent, “Have we had additional reports of any Blue activity in Africa?”

“No, Sir, all has been quiet—none of our normal contacts or operatives are reporting in. We’re still working on it, sir, but at this point we don’t have any intel—good *or* bad.”

“I see. Mike, let’s keep with what we know, which is that up to an hour ago Johannesburg was our destination. Send out an emergency status, maybe someone will pick up on it. Let them know we’re approaching.”

“Yes, Sir.”

April 17, 2023 4:33 p.m. SAST – Within twenty kilometers of Johannesburg, South Africa.

Now's our chance, thought Jonathan. Frantically he grabbed his daughter and bolted for the door and stopped. With grave caution he looked out to see if anyone was keeping watch. *Clear*. No one seemed to remember they had been left unattended. Motioning to his daughter to follow, he looked around the next corner to see how to make their escape. Max and his henchmen were standing right there. But they were motionless, staring out a large window, not one of them saying a word.

There was no other option but to go past Max and his men. It was not a great plan, but the only one that held any hope for the two of them. Jonathan mimed for his daughter to be perfectly quiet and follow his lead. As they silently started past where Max and the other men stood frozen, flooded with the light of a morning sunrise, something in his periphery caught Jonathan's attention. Awestruck and forgetting his dire circumstances, he moved closer to the window. Unnoticed by Max or his men, he and his daughter stood next to them upon realizing what was outside. The light from a wrongly timed morning sun was just on the horizon...shrouded in a growing, glowing mushroom cloud. The disparate group stood and watched as a wave of destruction was slowly washing toward them.

Through what some would consider a cosmic situation of happenstance, the awakening of Blue and the communication black out of the great continent occurred in concert—the product of two opposing viewpoints in human philosophy. Due to Blue's fledgling artificial intelligence logic, and its inability to 'see' Africa on the network, it left the continent largely untouched as there was no apparent threat there to its existence, the exception was to be Johannesburg, where Blue sent a low-yield nuclear missile from the mid-east. The programmer, whose actions unwittingly led to the awakening

of Blue, had left a tag in the worm code so that authorities could trace it back to the terrorists in Johannesburg; as payback for kidnapping him and his daughter. He had no idea a machine intelligence would intercept it and take such action...

In a matter of minutes, what was left of humankind was taken to a post-apocalyptic state of existence. Massive initial-strike casualties caused by Blue were staggering, and world-wide radiation deaths had yet to be realized. Most every country on Earth would soon be reduced to anarchy; if there were enough people left to care.

...except for Africa.

The rest of the world's counter strike efforts would later indicate they were successful in removing Blue from the planet. Blue, with all of its superior intellect, knowledge and computational power did not have the ability to imagine that Humankind, in hopes that something could be salvaged so that the human species could survive, would risk the possibility of self-annihilation. Africa endured the next two decades of a world heaving and hemorrhaging, with hordes of the nearly dead, hungry and diseased. As with any post-devastation environment, the Africans took in the great minds, scientists and leaders, if they were able to make their way to the continent or came via African-led search and rescue efforts. Humankind, what was left of it, universally declared any research into artificial intelligence (AI) as punishable by death.

The history of the world changed in a day when it was forever altered in ways no scholars could have ever imagined. A continent once fragmented by dictators and fractioned tribes was now unified and actively insulating themselves from what was left of the world of humankind.

From the quiet of space where sound has no reign, the blue planet slowly rotated. Silently the continents crept into view, the resplendent cerulean oceans and forested landmasses were replaced by the glow of inflamed crimson and oranges and the shadows of darkness. The cloud cover was occasionally

punctuated with flashes that parted the sky like the hands of God himself making room for the growing, glowing, rolling columns that served as ferryman to transport the souls of billions from the Earth to their respective, assumed destinations. As the Earth's surface rotated into the blackness of perpetual night, the places where cities once illuminated the darkness now only briefly glowed with the transient life of fire that quickly extinguished itself, leaving a world as it had been before humankind walked upright across its face.