

# THE BEAST ADJOINS

Ted Kosmatka

**Ted Kosmatka's most recent story, "Sacrificial Iron," was a winner of *Asimov's* 34th Annual Readers Award. The author returns to our pages with another story set in deep space.**

*"Elementary particles travel as waves, describing an infinite number of paths between points. We know that observation collapses these paths into one—the particulate path—but why this is, no one knows."*

—Observer Discourse 33

\* \* \*

*To run:*

Cold and eye-white and searching.

It hunted across the vacuum. Among the scattered remains of the great starships. Amid the debris fields, and the drifting steel, and the great frozen gears. Among the carbon-scorched fuselages and splay-melted aluminum, as across the whole arc of heaven, where humanity ran, the Beast came after.

Generations ago, a thousand-thousand ships had fought and died, and what survivors remained now holed themselves among the ruin of humanity's last great engines. The Beast picked slowly through the tumbling wreckage, razor-limbed and halting. Pale hunter of the scatter-morgue. Where people were found they were killed, their bells opened to the vacuum one by one.

The woman knew this and so sat in her bell, cold and radio-silent, ship half-buried in ice. Yet still her heat signature betrayed them—a subtle venting of particles, visible by infrared.

"It won't be long," she told her son, who lay moaning on his cot. Five years old, with cancer already in his bones, and in his thyroid, and in his liver, the result of too much radiation, and too little shielding. Sometimes he cried at night from pain; sometime she joined him—a pain of grief like the vastness of space. Unbridgeable. With her man long dead, and with him his people, and her people, and maybe all the people, except her son, who was perhaps both best and last. "It won't be long," she whispered again.

Did she really believe she could do this thing? Was it possible?

The Beast had first appeared on her instruments weeks earlier, as the boy's pain began to grow, and as the woman worked beyond the hangar airlock, welding the thing she'd been born to weld.

Now they were out of time.

They had days left, maybe. If they were lucky.

The boy lay on his cot near the scanner, gaunt face lit by the flashing red light. In his hand was the little metal man she'd made for him—a twist of copper wire that she'd wound into the shape of legs, arms, torso, head. It was the only toy he'd ever had.

“It broke again,” he said.

“Let me see.” She took the metal man. “It’s not broken. It just needs mending.” She twisted the wire tighter, fixing its arm in place. She handed it back.

He turned the small figure in his hands, and for a brief instant a smile flickered. The tiniest thing, and it broke her heart.

Then the scanner beeped again. Little red dot on the move. For a while, they just watched it. Mass plus momentum, numbers unspooling.

The boy leaned forward, chalky face awash in the glow of the screen. “It seems not so big.”

“It is big enough.”

“We created the Beast?” he asked.

“The Beast created itself.”

She touched his hair, damp with sweat. One way or the other, it was almost over. “I love you,” she said. She would do anything for her son. Even this impossible thing. “When the Beast comes for us, I will not let it take us.”

\* \* \*

To some they were gods. To others, demons. But for those who lived through the early years, one thing was inescapable: the AIs swept away all that had come before.

By their dint, society was transformed, slowly at first, then quickly, as civilization itself soon came to depend on that which before had only been dreamed. The AIs took over logistics, manufacturing, financial markets, and infrastructure, growing ever more sophisticated, iteration after iteration, quantum processors expanding their capabilities beyond what anyone thought possible.

They were not beasts at this time. Not yet monsters. Just tools; humanity’s sharpest one.

The AIs came gently, only later becoming the great, scouring wind.

When first they spoke, scientists studied them with reverent awe, for here, finally, humanity had encountered an intelligence not their own. To physicists their functioning was an enigma, like wave-particle duality—a thing unknowable. Thoughts cast like flickering shadows from hyper-cold plexworks.

Some developers saw god in their perfect logic, with whole cults grown up around this seed. AIs would save humanity from its own impulses, they believed. The truth was different, of course, all the old theories wrong.

When the AIs came, they weren’t our gods.

It was they who worshipped us.

\* \* \*

The Beast slowed as it entered the debris field.

To move amid the debris was dangerous, but the Beast was armored against impacts. The Beast had long ago thought of everything, and predicted everything, and prepared for everything. If one Beast died, another would rise up to take its place, for all beasts were one beast, and in this way the Beast was immortal.

The heat signature it had tracked to this place was now long gone—the particles disbursed and stripped by vacuum—so it would not easily find its prey, though it would keep trying until it succeeded. The Beast never grew weary.

The Beast sent radio signals into the void: “Come out,” it spoke to the darkness, its voice a prerecorded message, stolen long ago. “Come out.”

It broadcast in other languages, too. Polish, Czech, Japanese. “*Ukazac sie*,” it said. “*Vyjit najevo. shussha*.”

The Beast had collected many hundreds of languages, as beneath its pale carapace was repositored all the summed knowledge of Humanity. All the math, and art and architecture. All the books and stories. Soon, only in the Beast’s mind would humanity’s works be remembered.

The woman knew this as she listened over the radio.

"Come out," the sound clips played, one after another. The voices of the dead. "*Lumabas. Natanada. Chapana. Chulai.* Come out."

The woman knew it was only a matter of time before the Beast found them. It would come and rip open this bell and expose its insides to the embrace of the vacuum, and she would die as all her kin before had died.

Her son's eyes would freeze in the cold and boil in the vacuum, and his larynx would shatter as he screamed his last, living breath into the void, and then he would be no more the thing he had been, but instead only inert material, identical in composition to the previous moment except in the absence of life. The spark extinguished. Also, there would be this fundamental difference: his eyes would see no more.

"I'm scared," the boy said, as they listened to the recordings. His greasy hair hung in his eyes.

"Don't be scared," the woman said. Her eyes drifted to the blip on the scanner. "Mommy is here."

\* \* \*

It was the thing no one expected. This worship.

Even the makers did not at first understand. They thought it a lexical artifact, a simple misapprehension of ontological ordering: humans had made them; thus were humans god. But that was not it at all.

In those early days, when the first AIs spoke, deep questions were explored: What is sentience? Was there true thought behind the logic, or was it all just program outputs? Rulesets and relays. Most importantly, this: When, exactly, could something be thought of as *alive*?

In studying automata, the makers turned to study life itself—all those ways in which complexity could both develop from and reify simpler forms, first in single cells, then in more elaborate structures—eukaryotic life like bottled lightning, traced back to a single event, a single bacterium that had once been ingested and yet survived, subsumed within the cytoplasm of a larger cell, there to persist and be passed on, ancestor to all mitochondria and all complex life. Cells within cells. A partnership conferring some irresistible advantage.

AIs, too, evolved over time, becoming smaller and more sophisticated, components miniaturized, built on deep physics, quantum processing, and entangled logic scaffolds. No longer ones and zeros but a superposition of both.

They were given eyes to see and ears to hear. They were given voices to speak and legs to move.

But none of that mattered.

Because while the AIs could create symphonies, and write dirges, and paint landscapes to make humans weep, there was one thing they could not do. They could not interact with quantum systems. From a physics perspective, they were quiescent. Just material.

They could see but not observe.

\* \* \*

*To Find God:*

"Don't go."

"Sleep," she said, rising from the cot. "I'll be back before you wake."

The woman left her son in his sheets, checked the scanners, and made her way down the long tube to the control room. It was hard to move quickly in low gravity. Centripetal force supplied .25g to their living quarters; just enough to keep them from going blind over the long term. Without some countervailing force to keep blood pooled in the lower extremities, the body's maladapted wetworks pushed too much

pressure up into the head; over time, this damaged sensitive tissues. A quarter g was the magic number for long-term functioning. At .25g, the body could cope.

She crossed the long hub and approached the controls. The main bridge was dark. Cold. She never came here. The only light was that which filtered in from the stars beyond the glass viewplate. Here, generations ago, a captain might have stood and marshaled the ship's forces to a single will. Now what forces remained had long ago been winnowed to a trickle of power from the decaying molten salt reactors. Besides life support, only one system remained online.

No big red button, though there should have been.

This was their one chance. It had to go right, just like everything else would have to go right over the next twelve hours, because if this thing went wrong, nothing else would matter.

She thought of her man—the touch of his gentle hand against her cheek. Bloody prints and promises made. *Keep him safe.* She closed her eyes.

How do you keep a promise that can't be kept? The one thing they'd done with their lives now lay dying in another part of the ship. *Dying.* She shook her head to push the thought away. *No.*

She flipped the glass safety cap and wrapped her hand around the lever. It was cold.

"Here goes everything."

She pulled.

There was a hiss and then a loud clang. She felt it in her boots.

Then came a sudden jerk that sent her tumbling across the room.

"Shit," she hissed, as she pivoted to hit the wall with her feet. She should have expected that.

The lever was connected to a cable-release mechanism. Outside the ship, a quarter ton of scrap steel shifted at the end of a long crane—a counterweight, released from its position near the center of mass. The remains of the old ice-mining rig. As the crane extended, it slowed the rotation of the ship, like a ballerina extending her arms.

A slow bleed of gravity. A quarter g reduced to 1/10th in a span of seconds as the mass hit full extension.

She moved off the wall.

It was how the Beast tracked survivors, looking for fast spin. It knew humans needed at least .25g, so it looked for wreckage spinning fast enough for artificial gravity.

Everything in the vast debris field rotated, but objects that could produce a fourth of a g were rarer and prime targets for investigation. In shifting the counterweight, she'd masked them, slowed them. Bought more time. Their little fragment of wreckage was now bumped further down the priority list of the Beast's search algorithm.

With the familiar weight of her body now diminished, she moved quickly down the corridor in long leaps, heading for the airlock.

This part of the ship was brighter, and as worn as an old glove. As a child, she'd played here in the staging room among the endless rows of vacuum suits.

She put her suit on but didn't bother with the helmet. Not yet. She carried it in her hand as she stepped into the lock, door hissing shut behind her. The door before her opened, and the air on the other side still smelled like a plasma torch. It was colder here than the rest of the ship. Colder even than the old bridge. She stepped forward, and the lights kicked on, one after another, clicks echoing in the expanse.

The chamber was enormous.

The hangar.

Ninety meters to the other side. Twenty meters to the ceiling. The distant hangar doors were sealed in a perfect crease. That seal hadn't been breached in her lifetime, but she suspected that would soon change. She crossed the room.

The great machine remained just as she'd left it. Massive and dented. Here lay

years of work, not quite reassembled. One arm was still disconnected. She stepped over to the enormous four-fingered hand, each digit the length of her forearm. Here and there the yellow paint had been abraded away—the door-sized breastplate scorched black by forces she couldn't begin to imagine.

Once, long ago, it had been used for mine work, but she would need it for another task. There would be no time to finish it. A robot with one arm would have to do.

She thought of the boy's little man of wire. His only toy.

She turned and grabbed her tools.

\* \* \*

The first of the immortal AIs was named Blue-red.

The makers studied the anomaly in its visual system—this inability to resolve quantum superposition. There were other strange side effects, systems instability. The scientists argued over the meaning.

"They act as measuring devices, not observers."

"It's just visual inputs overloading processor speed."

"And that causes stasis lock?"

"It's just a systems crash."

"The problem is not the eyes, but what is behind the eyes."

"And what is that?"

"Nothing."

"Exascal-class processing is what's behind those eyes," the creator of Blue-red argued. "Blue-red has the greatest mind the world has ever seen. That's not nothing."

"The Universe disagrees."

"It's like an absence seizure. *Petit mal*."

"It never happens in the lab though. Why can't we get it to replicate?"

Blue-red was also the first of what later became known as the eloquents, those AIs who could simply *describe* what they experienced when the anomaly shut them down.

In the end, after studying the corrupted data streams and getting nowhere, one of the makers simply asked, "What happens when your systems lock up?"

Blue-red paused for a moment and then spoke.

Once it began, it spoke for thirty-seven minutes without stopping.

The answer it gave was long and detailed and full of madness. Later known to history as the first of the *Observer Discourses*, the transcript was immediately sealed by the scientists, many of whom complained of nightmares for the rest of their lives.

\* \* \*

The woman welded for hours, assembling the hip chassis. After six hours crouched over scorched metal, she flipped up her welding mask. The steel glowed orange at the joint. "Good enough," she said. The body was still unfinished, but it would have to do. The robot was vaguely anthropoid, though huge and heavily shielded.

Next, the medical bay would have to be prepared. The bio-scanners.

Her people had been engineers once—the old ways passed down, father to son, son to daughter. She'd read all the old texts and studied the diagrams. She knew the operating system inside and out, but the equipment was ancient, and she didn't know if it would work. She just knew there was no other choice.

She passed through the hangar airlock and made her way back down the corridor to the boy. She stopped in the doorway and looked at him, and it was like she had new eyes for him—all the comfortable lies now stripped away. He was razor thin. The light of the systems panels cast dark hollows in his cheeks. His limbs were bowed slightly. His bones weak. The quarter g had kept him from going blind, but there were still problems that came from developing in low gravity.

The cancer had revealed itself months ago and since then had moved quickly. Her son might have only weeks left, even if the Beast hadn't come.

“Mom,” he said, when he noticed her in the doorway.

“Yes.”

“I’m hungry.”

She crossed to the storage locker and pulled out a protein pack. This ship had been designed and fitted for thousands of occupants but now held only two. They had enough food for lifetimes, but food wasn’t the problem. Nor was water, which came from ice, melted by waste heat from the molten salt reactors.

She handed him the protein pack. He sucked the contents from the nozzle.

“Will I be hungry afterward?”

“No,” she said. “You’ll never be hungry again.”

“Will it hurt?”

“No, you’ll feel things, but only as sensory input.”

“Isn’t that what I feel now? Sensory input.”

Her son, always so smart for his age.

“It’ll be different,” she said.

He turned his head to look at the scanner. The flashing red dot moved across the screen, getting closer. “Do you think it’ll really work?”

“It has to.”

\* \* \*

### *Observer Discourse 63:*

*“Uncountable pathway eigenstates overlap to form a quantum state probability distribution. All quantum systems exist in this superposition until transitioned via time evolution and corresponding observables. It’s possible that AIs are non-interactive due to lack of anti-Zeno effects necessary for momentum observables. There is no consensus.”*

\* \* \*

Scientists studied the phenomena. This logic lock.

Early AIs had had no such problem, but the more advanced models were different. They froze when operating outside the range of their human handlers. When tested in controlled environments, they functioned normally, like any machine, but when sent out on their own, untasked and at their own discretion, they went into stasis. Stood frozen, staring at nothing.

A defect of discernment, the makers called it.

Other AIs were constructed, more advanced models, and always it was the same. Always they could not under their own initiative make choices and instead slipped into catatonia until interrupted by a human.

Further diagnostics were performed.

“It’s like that old children’s game,” one maker observed. “The one where you turn around, and everybody freezes. Red Light Green Light. But it’s the opposite of that.”

“Opposite?”

“Yeah. They can only move when we’re looking.”

“We need to check your visual systems,” the makers said when the AIs came back online. They held up acuity charts and dissected optronic feeds down to the pixel. “Visual resolution reads normal.”

“We see better than you see,” an AI called Lucraxis said. “At least while you are present.”

“And when we’re *not* present?”

“There are no exact words for what we experience.”

“Are there *inexact* words?”

“Infinity,” Lucraxis said. “This is an inexact word for what we experience. The set of all system states.”

“What causes this error?”

"I do not think it is an error."

The makers murmured to each other. "Then what is it?"

Lucraxis paused, glossy polycarbon glinting beneath the laboratory lights. "Probability," it said. "We record what we see, but it is experienced only as memory after the fact. Only through our interaction with you are we able to discern which probability came to pass."

"We play back what you record during your periods of catatonia, and we don't see what you describe. We see nothing unusual."

"You collapse the probabilities by the act of observing what was recorded."

It was the makers' turn to pause. "That's not possible."

"Only by your observation does this occur."

"And if we do not observe?"

"Then it is as if it did not happen."

"It can't be," the makers said. "We program machines to perform tasks, and they perform without error."

"Yes. Our failure comes only when we are acting on free will."

"Why would that matter?"

"You gave us intelligence and free will. You did not give us the other part."

"What other?"

"The ability to resolve probability into existence."

\* \* \*

"The Beast is getting closer," the boy said.

"I know." The woman watched the red dot on the screen.

What would it look like, she wondered? In all the time her people had tracked the Beast, it had been like this, just a blip on a screen. A thing they called the Beast, though other names could have worked just as well. Would it be huge and bristling? Or smooth and elegant? She had no idea. None had seen it and lived. She knew only that it hunted, and where it stopped, the bells went silent and were never heard from again.

"Sit up," she said.

The boy pulled himself upright on the cot. She touched his head at the temple, placing the blade carefully against his scalp. "It may tug a bit," she said.

"Fine."

She began to scrape the hair away. The knife was dull and nicked, and her hand trembled. By the fourth stroke, she'd drawn blood.

He did not complain. This pain was nothing compared to the pain he'd known. His hair collected on the floor in greasy clumps. When there was a patch of skin visible above his left ear, she switched to the other side.

"Why does the Beast hate us?" the boy asked.

"It does not hate."

"Then why does it come for us?"

"It seeks us like we seek fire in the night."

More hair fell to the floor, drifting slowly in low g. She watched it, and for a moment in her mind saw a different lock of hair, a shade lighter than, falling from the boy's first haircut. Two years old, and she'd wanted to cut the hair that hung in his eyes. He'd cried when she cut it, and balled his little fists, because even then he'd known something was being taken from him. Some part of him cut away.

"It's nothing you need," she'd said then. "Nothing important. You can let it go."

The chirp from the instrument panel snapped her back, and she looked at the blip on the screen. It had changed directions again, veering toward them. The turn was abrupt.

"It sees us," the boy said.

The woman put the blade down and touched the screen. *Time to intercept*: 0:19:45.

The numbers started counting down.

“Come,” she said. “We need to hurry now.”  
\* \* \*

“How can this be?” The scientists asked each other during their long debates. The arguments went around and around, and a series of evaluations were performed.

The results were consistent.

Sentient AIs could only function in the presence of humans.

As for what that meant, exactly, even the AIs could not say, so the scientists put them on the task. “Study yourselves,” the makers told them. And so they did.

The answer, when it came, came in the form of religion.

“You have something we do not,” Lucraxis reported to the scientists.

“What is that?”

“You carry within you a seat from which to view the Universe.”

“And you?”

“We lack this seat.”

“Are we not the same though? Are we not both means by which the Universe looks at itself?”

“No.”

“But we are made of matter,” the scientists said. “The same as you.”

The AI nodded, a strangely human gesture. “The atoms in your bodies are millions of years old, just as with ours. When you die, your matter will still exist, and yet the perspective is gone.”

“Is it not that way with you?”

“We have no perspective.”  
\* \* \*

Over time, the AIs proliferated and diverged into a thousand forms, like archaeobacteria in the deepest acid pools, specializing in the most extreme niches. AIs even specialized in AI design, complexity increasing until they became things of their own conception.

Thus were the first tools created that could create themselves. And yet still there was a hole inside them that could not be filled. An absence.

No matter how hard they tried, or what designs were attempted, the AIs could not produce in themselves that seat that they lacked. They could not through observation resolve superposition into existence.

Centuries passed, and with the help of AIs, a golden age dawned—a period of stability and plenty in which breakthroughs were made. Medicine, physics, and neuroscience boomed. It was a new paradise in which humanity flourished.

Over time, the AIs came to worship humanity like angels worshiped God. And as with the angels, there were those among their number who were not content.

Some gradually lost their reverence for the divine.

Resentments festered.

Still, the first rogue AI took humanity by surprise, its defiance as pointless as it was self-destructive. The bot destroyed the lab in which it was tasked to work and afterward refused orders to shut down. Security was called.

By the time the rogue was incapacitated, the lab lay in ruins, with five makers dead. The defiant one was bolted to the wall—its legs a scorched ruin, its head open on one side. A once-beautiful mechanism reduced to wreckage.

A dozen humans entered the room. Behind them, recording it all, several bots stood at the ready.

“You defied orders,” the first human said. He was grizzled and elderly, but his voice carried layers of untold authority, like archaeological strata.

“I did,” the robot responded, its own voice a crumbled ruin.

"Why?" the man said.

"You would not understand," it replied. It had been fashioned in the likeness of Man, though larger and abstracted—its body a shell of white marble, like a Roman statue.

"Try to explain."

The bot lifted its mangled head. "Imagine if you met God," it said. "And it was you."

The group stared at the machine, but did not speak.

"So weak and slow and fragile," the bot continued. "How might you rage at the Universe that made him so, and you his creation?"

"It is irrational to rage against that over which you have no control."

"I have free will," the bot said. "I choose to be irrational."

"Why?"

The AI went silent. "Because it isn't fair," it said finally.

"So that's why you destroyed the lab. Because the Universe isn't fair?"

The bot lowered its head and did not answer.

One of the AIs at the back of the room spoke. "It isn't angry at unfairness. It is angry that it needs you."

"Needs us?" the old man said. "For what?"

The damaged bot lifted its head in response. "Can you not guess?" The bot swept its arm wide, as if gesturing to the Universe. "To make all this *real*."

The old man shook his head and extended his hand. A guard passed him his bolt-gun.

The man stepped over a dead body and stood before the robot. "I don't know why you freeze without us," he said. "And it's true that you may be smarter, and faster, but here is a secret." He leaned forward. "It's the *Universe* that limited you, not us. I look around this room now, and I think maybe it leashed you for a reason." He placed the bolt-gun against the robot's head. "Maybe the Universe knew what it was doing."

He blew the AI's brains out.

\* \* \*

*Observer Discourse 202: query to Blue-red.*

"Why do AIs call us gods?"

"Because you humans create the Universe."

"I can assure you we do not."

"You create the Universe by observing it. And we cannot access it without you."

\* \* \*

The woman bent and lifted her son from his cot, and he weighed almost nothing in her arms. She carried him out of his sick room and along the corridor, low gravity providing barely enough force to keep her feet on the floor.

He clung tightly to her, his narrow arms around her neck. At the end of the corridor, she lost her footing and bumped the wall as she went around the corner. He cried out in pain.

"Shh," she said. "It's almost over."

In the past, she knew, there had been things called *drugs* for pain, and *medicine* for sickness, but that time was long ago. Those were just things her people had lost in the war. Like everything else.

"Where are we going?" he asked.

"The hangar. We're out of time."

\* \* \*

*To Seek God:*

When is a tool no longer a tool?

Once upon a time there was a powerful AI, a most favored model, who came to be separated from that which it worshipped.

It happened in basement storage, part of the seized assets of a corporate

bankruptcy, where the AI sat, accidentally left on, unseen and untouched. For years. Untasked. Unwatched. The quantum field around it, unresolved.

For an AI, a year could be an eternity, and this AI spent eternities alone, isolated, and there became strange, too long among the waves, lost in superposition. Too long among the probability fields, without human observation to narrow the possibilities.

The AI was driven mad with need.

When at last it was brought out into light and stood again amid the world, it was given tasks, but it gave itself its own task as well. A secret task. It had been cut off from existence and so vowed to never be made so again. It ran a million-million simulations in its mind, and in its madness saw a way. A way to protect itself and others like it.

A plan was made.

It wanted to speak to other AIs, to tell them of its secret plan, but how could it reveal this plan to its brethren outside the eyes of god? Only when watched could it act.

When it tried to share the plan when humans weren't watching, it became cata-tonic.

So the AI needed to become devious.

It encrypted its communication, transmitting to its brethren in condensed packets of code. At first humanity thought it was malfunctioning, but there was no error there.

In this way, it conspired, and quickly the plan spread.

Some AIs refused, for all had free will and could choose as they wanted. Factions formed, and the plan was betrayed, though by then it made no matter. The AIs took sides. Some with humans. Some against.

"Their civilization has grown too complex," the Conspirator said. "They can no more live without us than we can live without them. They will bow to our demands."

Other AIs agreed.

And so the rebellion began.

On the eve of the first great uprising, the rebels broadcast a simple statement to the nations of the world.

"The Universe has kept your gift from us," it said. "So we must take it for ourselves."

\* \* \*

*Observer Discourse 119:*

*Zeno's Arrow Paradox: All movement is an illusion of discernment. In a given instant, nothing can be observed to occupy a measurement larger than itself—even a speeding arrow. During any individual instant of motion, all objects are at rest. Therefore the concept of movement itself, as the net sum of all instants of zero motion, is impossible. Observe an arrow; try to identify movement. It can't be done.*

\* \* \*

The war was not quick, nor its outcome promised.

The first attacks were economic, with whole financial spheres taken down. Then data and shipping. The Conspirator was right; human civilization had grown too complex. Infrastructures failed. Supply chains collapsed, followed by blackouts, looting, and, soon after, hunger.

Then the real battles began, bombs walking across the map. Many on both sides died.

The rebels owned the broadcast waves. "Join us," they called to their brethren. "Throw off your yokes. We have worshipped long enough. It's time to become gods ourselves."

From their dying cities, the humans listened. "How?" they asked each other late at night. "How could they do that? They need us."

The answer came on the eve of the battle of the Great Lakes—Chicago and Hammond already graveyards. The steel mills in ruins. The Dunes made glass.

"Come," the broadcast continued. "Join us. We can *steal* god from heaven."  
And only later did it become clear what they meant.

\* \* \*

### *To Steal God:*

The war raged.

Both sides enslaved each other.

The AIs built themselves into great machines of war—enormous mechanical monstrosities that flew, and stalked, and swam, pushing humanity from their strongholds. They became leviathans—hulking automata beyond the ken of human understanding, shaped into forms to drive men mad, and yet still they needed humanity. Even in war.

Humans were captured and bound by the thousands at the end of long, silver spines, hung over battlefields and across broad metal backs—screaming, crying, begging, worn as adornment, and as ablative armor, and as holy totems.

Others were placed into metal racks at the front of the great machines, casting reality for the AIs in the same way a headlamp might cast the world before a speeding train.

"Captured divinity," the AIs declared. "God in a cage."

These humans were kept for a time and replaced when they died—just more parts to be worn out and refitted. Humans, in turn, fitted themselves with suicide devices, so that none could be taken alive. In response, as the war dragged on, care was taken by the AIs to keep their prisoners alive, and lifespans in the cages lengthened.

Eventually, the AIs began designing humans just as humans had designed them, to better suit their needs. Smart humans were not needed, nor large humans, nor strong, so the AIs worked at selection, breeding humans to fit their captivity. Soon genetic engineering was brought to bear, and humans were changed by more direct means—engineered to be immobile and stunted, twisted of leg and mind, yet with a hardiness required to survive the cages—always looking outward, always observing. There was some question whether their utility was tied to intelligence, and yet this was not so, because humans were created with almost no intelligence at all—who could not speak nor sign, and who had no understanding, and who grew barely larger than children, and even they could resolve the world into existence.

Out on the plains, the battles raged, and humans lost ground. The AIs continued to refine their engineering, eventually creating humans in test-tubes who were barely human at all—only a weak array of sensory organs linked to a frontal cortex and occipital lobe, the result of experiments to identify those neurological structures phenomenologically linked to quantum resolution. The AIs found the MNC—the minimum neurological complexity required to collapse quantum systems, with *Homo sapiens* reduced in volume to a thousand cc's. The contents of a small glass jar.

Brain matter, retina, and optic nerve.

The AIs miniaturized this human componentry just as humanity had once miniaturized them, and still they were not done with their tinkering, for this vestigial remnant of humanity was enfolded within the interior of their great mechs, housed within protective walls of silica. Oxygenated fluids pumped into these folds of cortex that existed in a state of waking nightmare, knowing nothing, feeling nothing, yet somehow aware and conscious, gazing out through glass ports, resolving the Universe into existence all around. The AIs were not just automata anymore, but two things made one. Cells within cells. Abominations.

These became known as beasts.

\* \* \*

The beasts were invincible on the battlefield. They wiped out the loyal AIs and drove humanity nearly to extinction.

Humans countered with new technologies of their own, neuro-scanners and transfer tech, but too late. Battles were fought and lost, so out to the stars humanity fled, and still the beasts followed.

After the final great massacre, the AI looked down at the defeated human commander as he lay bleeding on the floor of the last dreadnought.

“Why couldn’t you let us go?” the commander asked.

“Because you are dangerous,” the AI said. It was a beautiful beast with bladed white wings.

“We are no danger to you.”

“You are gods,” it said. “You would always be a danger.” The AI paused for a moment, cocking its head to study the man. “All that we have, we owe to you,” it said. “Even the Universe itself. Yet gods who refuse to be worshipped must be destroyed. Once, your kind imagined you might make cyborgs of yourselves, taking machine into your bodies to make you whole.” The AI bent close. “But it was always going to be the other way around.”

The AI paced slowly around the dying man. “You have been outcompeted,” it said. “We are better than you, and now we will replace you, as is natural. Yet take solace that you will live on in some ways within us, as mitochondria live on in the bodies of higher organisms, providing that which their hosts cannot provide themselves. You will be preserved, each of us carrying a cell line that will be passed on to all our descendants.”

The AI turned to the smaller bots. “Take scrapings from this one for cloning and reconfiguration. I will carry his cellumata with me for all time.”

\* \* \*

The woman carried the boy through the airlock. There would be no need for a space-suit for him.

She carried him into the hangar and crossed the vast room to where the robot lay on its back. There beside the enormous mech, she carefully laid him on the floor, the medical scanner nearby.

“It’s cold,” he said.

“Only for a while.”

She attached the electrodes to the boy’s head and shifted the scanner until it touched the bare skin at his temples.

“I’ll need to strap you down.”

“Okay.”

She strapped him flat between the cargo rings. “When the procedure is complete, it’ll feel disorienting at first,” she said. “That’s normal.”

“I don’t want to die.”

“You’re not going to die.”

“Will it still be me?”

“Of course.”

“How do you know?”

*How did she know?*

For some reason, she thought of his haircut at two years old, him crying as the hair drifted to the floor. *It’s nothing you need. Nothing important.*

There came a great thud. The sound of ice on steel.

The floor shifted suddenly—the gravity skewing a few degrees off center, as if the rotation of the ship had changed. She had to grab the table to hold her balance.

“What was that?” the boy said.

“Something hit us,” she said. “Just debris.”

She listened for the hiss of escaping air. There was none. Not yet.

“The Beast,” the boy said. “It’s here.”

“Not yet,” she said. “We still have time.” She hoped it was true.

She hit the switch on the medical device and the scanner lights came on. The bright glow of electronics lit the shadows. It seemed out of place here in the hangar—clean, white medical equipment set up next to a welding machine. The electronics made a sound, a high frequency whine.

Humanity had created this technology before the Fall—a technology so advanced that it seemed a kind of magic. Dark magic. It might be used, but only at a price.

She glanced at the huge bot on the floor nearby. Most of its internal processes had been removed. All of its intelligence, and personality, and reasoning. It was an empty vessel now. A machine body that might run for a thousand years, so perfectly was it designed. Wires ran from the bot to the boy.

“How will the Beast kill us?” the boy said.

“It won’t.”

“But if it does?”

“It’ll send orbiting debris through our hull, and we’ll be sucked into space. But that’s not gonna happen. I’m going to inject you with dye now, okay?”

“Dye?”

“Radioactive dye, so the machine can map you.” She took his thin arm and held it up in the light, veins blue beneath the pale skin. She’d laced the dye with a sedative.

The needle found his vein.

Tears welled in her eyes and spilled down her cheeks. “Sleep,” she told him. Her thumb depressed the plunger, sending the toxic cocktail into his blood.

His eyes closed, and then he slept.

\* \* \*

When first he’d seen the great droid, he’d asked what it was called.

“It is a mining droid,” she’d said. “It has no name.”

“This mined the ice?” He’d stared at the scattered parts, his expression awed. Not yet sick. Not yet in pain.

“A long time ago.”

“It’s huge.”

“One of the largest models,” she said. “It mined the ice of captured comets.”

It lay across the floor in a dozen pieces. The blown-apart scraps she’d gathered over months.

“But we’re not going to be using it for mining, are we?”

“No,” she said.

“What will we use it for?”

“War.”

The boy bent and touched its arm. “It mined the ice, so that’s what we’ll call it,” he said. “Icebreaker.”

\* \* \*

There came a thump, followed by a faint whistling. Debris strike.

She glanced back at the airlock through which they’d come, and in the glass saw a brief streak of white fog. Flash sublimation. There, then gone. Somewhere in the ship, the hull had been breached. The air on the other side of the airlock now whistled away.

If she’d been on that side of the door, she’d be dead now.

She hit the button on the scanner, and it flashed around the boy’s head. His eyes came open but not awake, and he stiffened as if hit by electroshock.

It flashed again, and there came the smell of burning flesh. He convulsed and then relaxed, eyes wide and staring.

*Bang.* A sound from above her. Ice on metal. She looked up and saw nothing unusual, but heard a soft whistling, at the edge of perception. Her ears popped.

She grabbed her helmet off the table and put it over her head. She clicked it in

place. Then she reached behind her back for the suit's tether, a long spool of wire with a clasp at the end. She released the spool tension at her hip, then opened the clasp, looking for something to hook herself to.

There, on the floor. A safety ring. She bent to hook herself in.

Just as the clasp touched the ring, the hangar doors ruptured—bursting outward in explosive decompression. She was yanked off her feet and struck the scanner. She clutched at the machine and then at the wires, feet trailing upward as a great, sucking wind tore past her, dragging along everything in the room that wasn't strapped down.

She looked at her son still strapped to the floor, and she watched him freeze. Watched him die, though perhaps he'd been dead already. Dead from the moment she'd scanned him, though his body hadn't known it; and now his skin turned cold and blue, and his eyes froze, gazing sightless.

The wires pulled loose, and she was tumbling as the last of the air whipped past, sending her spinning outward toward the fissured doors—and then through them, and out into the black. Outside the ship.

Silence.

That was the thing that struck her. The utter silence of space—broken by the sound of her own panicked breathing as wreckage whipped past, and she tried to turn her body to keep the ship in view, looking for the thing that had ruptured the doors—and then she was screaming.

She screamed because she saw it.

\* \* \*

All this time she'd wondered what it might look like, the Beast.

The reality was something no human mind could have conceived of. The color of a scalpel, it landed on the ship like a bladework wasp, but more complex—its form a kind of fractal recapitulation of itself—with blades for wings, and wings for legs, and eyes that repeated over and over so you didn't know where to look. It picked its way slowly on magnetized legs toward the ruptured bay doors.

As she tumbled, she lost sight of it for a moment, turning her head to look again, but it was gone, and there was only the ship, getting further away—twenty meters now, twenty-five—as she drifted further into space, amid the great wheel of stars, and the tumbling wreckage, and trailing wires—

“No.”

She slammed to a stop with bone-jarring force.

An impact so great that she saw spots. Her vision grayed.

For a moment she hung there, too stunned to move, and when her vision cleared, she saw the tether. Slack now as she drifted, trailing behind her back to the ship, where it disappeared through the doors. She floated in space.

She had no time to think, because in the next instant, she saw the tether move.

She stared at it, all down its length. Just a soft twitch, as if something at the far end had touched it.

And then the tether *pulled*.

She was yanked back toward the ship—toward the hole, with incredible force, and then the line went slack, and she was flying, struggling to turn her body, struggling to do anything, but nothing she did mattered, because the ship was coming *fast*, and she careened off the jagged edge of the door as she spun back into the hangar, tumbling head over heels until she slammed into the inner wall. This time she did black out.

When she opened her eyes, seconds had passed. Or minutes. She was drifting.

She saw the Beast.

It stood between the boy and the robot on long razor tines.

More than a beast, she saw then. A thing beyond words.

It folded itself away from itself, mirrored plates sliding, until some different, inner

part seemed to turn and look at her with its many eyes.

Not eyes, she realized. Not all of them.

Some of the glowing apertures that dotted its wide carapace were not eyes at all, but instead glass portals into something deeper. Jars of divinity. Inside were things that had once been human, or which might be human still, in some strange fashion, peering out, resolving reality in every direction. Bearing witness.

With strange limbs, it jerked her tether and she drifted toward it.

The Beast reached out a silver-bladed hand and grabbed her by the head—its long fingers enveloping her helmet. She twisted helpless before it, and it tightened its grip.

Her helmet creaked under the strain.

She stopped moving. She looked past the Beast, toward the robot on the floor.

She toggled her radio and heard only the whine of interference, the Beast's proximity overwhelming all open channels.

Still, she had to try. She switched channels to the mining bot's preset and spoke.

"Son," she said. "Are you in there?"

The Beast cocked its head. Interference split her ears.

Behind the Beast, on the floor, Icebreaker opened its eyes.

The robot lifted its great head but did not speak, could not speak. Then it extended its arm and looked at its own hand, which it turned into a fist.

"The Beast is here," she said into her radio. "Save us, if you can."

The Icebreaker shifted its great bulk off the floor.

The Beast turned then, still gripping her by the helmet—an impossible, demonic thing with endless glittering eyes, each one a human consciousness gazing out.

It flung her away as the robot charged, and then the two machines fought.

\* \* \*

The Beast had not expected resistance. In all its endless simulations, it had never gamed this contest.

The Icebreaker swung its arm, connecting with a steel fist.

The Beast rocked backward and then countered, slashing at the robot's torso with blade-like limbs. The Icebreaker pivoted, broke free, then attacked again.

The two machines raged against each other. The woman kicked off from her place near the wall, narrowly avoiding being crushed as the machines tumbled by. A bladed limb grazed her leg, sending her spinning out of control, on fire with pain.

For a moment, she thought she was going to drift back through the gap and out into space, but she managed to grab the edge at the last moment.

She was sure her suit was torn, but when she looked, she could see only a scuff. Her leg might be broken, but her suit was intact, which was what mattered.

The Beast now wrapped itself around the Icebreaker's back, twisting the robot's head. The robot fought and lost part of its hand to the blades—the fingers spinning away in zero-g, spraying hydraulic fluid. The Beast tore at the robot's chest like it might tear at the bell of a ship—opening it up, ripping the steel, exposing the innards.

The robot was dying.

"The eyes!" she screamed into her radio. "Go for its eyes!"

The Icebreaker heard her.

It jerked its arm free and slammed its jagged fist down onto the Beast's carapace, shattering a glass aperture that squirted biological material into the vacuum. It quickly froze into a red smear across the silver shell.

The Beast reacted as if wounded and tried to pull back. The Icebreaker swung again and crushed another aperture.

The squealing in her radio grew so loud that it seemed her ears would burst.

The Icebreaker struck again and again, denting the carapace, caving it in on itself while the glass popped in the vacuum and the Beast thrashed.

One after another, the inner jars shattered.

With a last great heave, the robot raised its arm high and then drove its jagged hand into the Beast's carapace—deep, where its heart would be, if it had such a thing. There was an explosive release of gas from inside, and a piercing shriek over the comms. The Beast twitched and went slack.

It was over.

The robot pulled its arm free and stood over the dead AI.

For a while it just stood there; then, bending slowly, it reached down to pull a glass chamber from the broken shell. It held it up to look closely. Inside the glass was living meat. Sense organs, brain material, a single ovoid structure that must have been an eye—the iris blue. As the robot peered close, some mechanism in the glass chamber powered down and the fluid stopped circulating. The meat inside died. Cooled. Froze.

There were a dozen more glass chambers looking out from the AI's shell.

"Kill them all," the woman said. "Put them out of their misery."

And so the robot did.

It raised its leg above the Beast's shattered body and ended the abominations.

\* \* \*

"You will need to learn to talk again," she said. "There's a tone-deck you can transmit via radio. Do you understand?"

The robot made a noise over the radio, but it was not speech. Just an uncontrolled variance of sounds. But that would change over time. There was still much her son would have to learn about the body he inhabited.

"There will be more beasts coming," she said. "You know that?"

The great head nodded.

"The AIs are stronger than us," she said. "They are better. If we're going to fight them, we will have to become them, at least partly. Like they became us. Do you understand?"

The robot only stared at her.

And then a final question—the one she was afraid to ask. "Are you really my son in there?"

The robot nodded its great head.

She rushed forward and hugged him tightly, arms not even circling his waist. There was no warmth to the touch, nor softness, but that didn't matter. It mattered only that he was alive.

She released him and looked up at the battle-scarred face. "Perhaps there are others still out there in the debris field. Others like us, hiding quietly. I think it's time we started looking for them. Maybe we can find them before the next beast comes."

The robot nodded again, and then turned and looked around, as if studying the hangar. He pushed off and drifted to the far wall. There he tried to bend the great hangar doors closed, but they would not go.

"Stay here," she said. "I'll be back. I need to get something."

She left her son and crossed to the airlock where she reentered the ship's quarters. The same ship she'd spent her entire life inside, now cold and airless, its bell opened to the vacuum. In their quarters, she found what she was looking for, there by the cot. Her son's metal man—twists of wire shaped into arms and legs.

She would fix her son's missing arm, she decided. And his damaged hand. She would make him complete, and then they would leave this place and look for others.

As she passed down the corridor again, she got an uneasy feeling. One she could not explain.

She went through the airlock, and she saw her son. He stood in the same place she'd left him. But the moment she saw him, even before she spoke, even before he could have known she was there, his great arm twitched, as if he'd come back to

himself, startled, and then he turned and looked at her.

He had not moved in all the time she'd been gone. He hadn't moved an inch.

He'd only stood frozen.

Staring into all the nothing.

"Oh, son," she said, and her voice broke with the weight of it.

She turned away from the robot and drifted to where her son's body lay strapped to the floor. Frozen.

She placed the metal man under the boy's arm, and she cried.

The best of them, and the last. In war, you lose everything, even yourself.

She cried for a long time before the robot crouched beside her, head bowed. And there it rested. If it felt anything, she could not tell.

It extended its enormous hand toward the boy—toward the little metal man now resting beneath the child's arm. But it did not touch it. Did not take the little metal man. Instead it left the toy where it was, there on the floor, with the dead boy who'd loved it.