

# Fermi Packet

by Jason Stoddard

More work by Jason Stoddard is available at <http://www.xcentric.com>

Distributed under a Creative Commons Attribution-Noncommercial-ShareAlike 2.5 License.  
Fermi Packet was originally published in Talebones #34, <http://www.talebones.com>  
Thanks to Patrick and Honna Swenson for allowing this distribution.

# Fermi Packet

by Jason Stoddard

When Sponsorship caught up with Gates/Torvalds, humanity's only semi-God was enjoying a perfect, rainless day in his Seattle compound. He was lying out on a large redwood deck with drink in hand, watching perfect puffy white clouds crawl slowly across the sky, like a herd of impossible rabbits. Not the most imaginative environment, he knew, but he had long since lost the desire to do much more with the underpinnings of his creation. A few hundred years ago, he would have been at a millenium rave, or an 80s trade show, or a Philippine disco circa 2010, taking in every mind-altering substance available, indulging in every pleasure. There were always plenty of partners to be had, because they all knew Gates/Torvalds. But that was the problem. They knew him. And in their eyes he saw the reflection of himself, patched-together and incomplete, yet all-powerful, like an old-style atomic bomb that could walk and talk and fuck. Of course, Gates/Torvalds could blast away his memories and forget for a moment who he was, but one of the rules of the Virtuality was that memories were magnetic. They accrete. Soon enough, they would find their way back to him. And Gates/Torvalds would be who he was again, two things that were both more and less than human.

The ground trembled.

Gates/Torvalds stirred and set down his drink. The pines still smelled as sweet, the wind was still as cool, the view of the Cascades from his deck just as breathtaking. But something was wrong.

The ground heaved and buckled. Gates/Torvalds felt the deck crumbling under him. He struggled to his feet and caught a glimpse of fissures opening, trees toppling, the entire world a blur.

Gates/Torvalds ran. He transferred to his Raymond Chandler-era house in Los Angeles, using an illegal provision in the Grid. He was great at tricks like that.

Running didn't help. Los Angeles was in the middle of the Big One. Buildings didn't just fall, they shattered and turned to dust.

Gates/Torvalds ran again, to a point outside that corner of the human Virtuality. He watched from orbit as a big slice of the West Coast detached itself and slid into the sea.

Gates/Torvalds had known that something was happening to the Grid for some time. He hadn't known the extent of it. Floating over a disintegrating West Coast, he had a conversation between his halves, almost relieved that something interesting was happening. Finally.

"What happened?" Torvalds asked.

"Seed's been compromised," Gates said, reaching deep into the grid of the Virtuality. Far, far down, the Grid was still built on software that he and Torvalds had set in motion many centuries ago. No Upload, no Construct, no AI, except for perhaps Seed, had the level of control that Gates/Torvalds did.

Gates looked into the grid. Monsters looked back at him. Things with too many arms and heads in the wrong place, things that slashed at him with body parts that looked mechanical, things that were hazy and painful to look at. He pushed past them and looked out onto infinity, a vast sucking blueness that seemed to stretch to an endless horizon.

The human Virtuality had been swallowed by something much, much bigger. Something apart from anything humankind had ever experienced. Something profoundly alien.

"We have visitors," Gates said.

Torvalds did his own search. "Hell of a way to start first contact," he said.

Gates just nodded. In many ways, it made far too much sense.

"What are we going to do about it?" Torvalds said.

"Nothing," Gates said.

Gates felt Torvalds' disapproval. Then felt him sifting through his own memories, looking at himself through the eyes of the rest of Virtuality. Little hints of thoughts made their way to Gates. *Do we really owe them anything? Why us? Why'd they have to make us?* Finally, one thought that was very, very clear. *It may be for the best,* Torvalds thought. *If it's all to end, there won't be any more pain.*

Gates nodded. In many ways, he was the stronger of the two entities that shared a single body. He didn't want to squash Torvalds yet again. Because the only thing that was more boring than paradise was their skirmishes.

"It'll be entertaining, at least," Gates said.

The duo ran once more.

•••

First to a Victorian England. Humankind's Virtuality had many rooms, some where people could live in virtual privation, huddled and cold and alone, imagining a God that they still

had no evidence of. This was one of them. It was winter, and the cold snow gave the ornate, filthy architecture a coating of elegance. The people and Constructs hurried about their business, huddled under drab coats that stank of rot and sweat. From time to time, when the wind was right, they could get a whiff of the Thames at its industrial peak, a sour rotten-egg chemical tang that belied description. Gates/Torvalds wondered idly how much work someone had put into recreating this place, and just how accurate it was.

“Just how accurate are we?” Torvalds asked, ripping open the old wound. Neither of them had truly lived to the Age of Uploading. What were they? They had continuous memories going back to birth, growing more fractal and fragmented as real human memories do. But who had created them? There were tiny, tantalizing hints buried deep within Seed, the AI that provided for the wishes of every virtual human. But no real answers. Why did they share a single body? Why couldn't they break out of it? Were they products of a postmortem brain scan, or were they Constructs writ large, avatars with the keys to the Virtuality in their minds?

Gates/Torvalds didn't have to wallow in the filth. Soon he was set up in a comfortable flat in the middle of London, with a cheery coal fire and ample gaslight.

Torvalds was still troubled by their decision. He rattled around within Gates/Torvalds, thinking. Gates could tell he was doing something, deep down within the Grid, but he never brought it up.

From time to time, Gates would reach deep into the grid himself. The alien presence was still there. Growing stronger. Getting closer. Single-minded and determined. So much like him, so long ago, at the dawn of computing. He remembered the fire and the energy, the certainty that he was building something important, something that mattered.

Or did he? Were those his memories at all?

The end came on a nice spring day when even London seemed clean and new. Ice sparkled off of a thousand rooftops, reflecting the dawn sun on a day that started unusually clear and bright. It also glinted off the brass legs and polished turrets of Well's tripod Martians, as they strode over the nearest hill and began applying their heat-rays. London was soon in flames. Gates/Torvalds watched it burn for a time. Then the squid-like Martians came out of their machines, and it was time to go.

Gates/Torvalds figured that they wouldn't succumb to the deus ex machina this time. He ran again.

•••

Gates/Torvalds went to one of the most primitive parts of the human Virtuality, where people enjoyed the twilight vision of Neanderthalism. Impossible rolling green hills under

unrealistically blue skies, the air as cold and clean and refreshing as Humankind could imagine, like wind off a glacier. Gates/Torvalds sat on a log and watched the shy creatures in the distance. Gates remembered that one of his daughters, one that had lived to the Age of Uploading, had taken this route. He wondered if she was there. And if she remembered being human.

He found himself studying the little group on the next hill, trying to map Cara's features to the flat, Neanderthal faces. Looking deep into their representations on the Grid, trying to find a connection.

"I found something in London," Torvalds said.

"What?"

"What's happening to humanity."

Gates forgot his daughter for a moment. "Show me."

Torvalds fed him images from his Grid-diving, showing connections of the human uploads to their underpinnings, and the intersection of the alien Constructs with the virtual world. As would be expected, many uploads simply ceased to exist, erased, when they died. But a few were being harvested. They became part of the alien net. Gates zoomed in on selected visual representations. The man bravely fighting a single Martian to protect his family. A theater troupe in its entirety. A lonely man who sat alone on a rooftop, watching the Martians burn London.

"They're picking specific people," Gates said. "But for what?"

"And why?" Torvalds asked.

Gates looked deep into the Grid again. The alien presence was reaching for them, getting closer. Almost as if it was following Gates/Torvalds. But there didn't seem to be any awareness; it was not searching for his pattern. He widened his scope to get a picture of the entire human Virtuality. Less than 0.1% had been affected like 2020 Seattle and 1930 Los Angeles and 1880 London, but the alien infection was spreading.

"Our visitors are serving as a proxy for Seed requests," Gates said. "They've put second-level limiters to keep people where they are. They don't even think to ask what's happening."

"You still don't want to do anything?"

Gates paused. It was his creation. And Torvalds. That had to count for something.

"We may be the only mobile entity left in the Virtuality," Torvalds said. "The only one that can think."

"It would be nice not to think."

"The affected percentage is growing," said Torvalds.

"Of course. They're playing."

“Playing!”

“What we used to call a hostile takeover,” Gates said.

“Monopolist!”

“Dreamer!”

“Mad scientist!”

“Jerk!”

Gates pulled away from the argument, old as the Grid and well-worn. He looked for his daughter again, moving on to the larger Neanderthal populations. Across the human Virtuality, thoughts slowed as he took more and more resources.

Torvalds noticed. “What are you doing?”

“Finding my daughter.”

He found her in a far corner of the world. Her thoughts were slow and kind and easy. He saw her small group. He saw her. There was no physical resemblance, but he remembered her pattern.

“Why?” Torvalds asked.

“Because I want to.”

Gates said nothing, looking at his daughter’s little group. Their happy, hazy thoughts had just been shattered. He looked from their POV. The Cro-Magnons had just come over the hill, with spears and torches.

It was going to be a sad day for Homo Neandertalis.

• • •

His daughter was gone, her pattern erased from the human virtuality. Gates wondered how he should feel. He should be sad, but he felt nothing. Maybe that was how he should feel.

Eventually, he began to feel. But not sadness. Anger.

“Let’s do something about this,” he said.

Torvalds agreed.

Together, Gates/Torvalds worked deeper in the grid than he had in a long time. Gates/Torvalds called up Constructs remembered from days hazy and far-gone, had them correlate the activity of the alien grid with that of the human grid. Where it achieved congruency, virtual humanity and the alien invaders would be interacting.

They found a peak. And jumped.

• • •

Gates/Torvalds hovered just outside the aliens’ perceptory zone.

They had a child.

“Where am I? It’s too bright in here. I’m scared. I want my mommy and daddy.” The kid was in the virtual representation of a white room. His voice was weary and overworked. He was just going through the motions now.

Gates/Torvalds heard them.

(Look, pure unpatterned area—100% biological neural net emulation, implemented at realtime speed and segregated from the database for synthetic learning. Rule Number One: If they learn to breed, they’re competition. And business is war.)

(If this is about business, then how do we sell anyone on looking at these things?)

(True. But they are humorous.)

Cold, so cold. Thoughts that hummed and buzzed at the edge of human comprehension. Gates shivered, looking at the child, wondering what they were going to do with it. His face burned.

Another maxima. They jumped.

• • •

“I get a hardcopy and go climbing up Everest. Yeah, the real one. Sometimes I make it. Sometimes I don’t. Real bodies can die. They don’t even come back. I have to get another hardcopy and try again.”

The guy thought he was talking to a pretty girl in a bar, a girl who was unusually appealing, even though he had had girls beyond counting. He didn’t wonder why she was so appealing. Nor did he wonder why he didn’t want to ask her to go hardcopy.

Gates/Torvalds tuned in the alien thoughts.

(They go out onto the rotting stinking dirt surface of the planet? Why?)

(Because they’re bored. Living Inside is too safe, too many protection algorithms built in. If one of them takes a mandible . . . oh, yes, shoots a gun at another one, catastrophe-limiting comes into play and turns the, uh, bullet into something harmless. Or makes the gun malfunction. Or simply brings them back from the dead, if the gun-user’s code is good enough to get past first and second-level limiters.)

(So?)

(So they attach an importance to being outside of a computation environment, it is supposed.)

(They’re a young species, are they not?)

(Yes. In their past fantasies, they even supposed that we would invade their dirt world, rather than their virtual constructs.)

(You’re right. They are entertaining. What would we do with dirt?)

(They've always been an imaginative race. Which is why we think they will do well as part of Corpus.)

(If anyone can stand to look at them.)

(Yes, yes.)

Another maxima. Another jump.

• • •

The astronomer was one of the last Listeners. Wondering what had gone wrong with the Drake Equation. Still listening from within the human Virtuality, and hearing nothing.

But he was one of the few that the Sponsors revealed themselves to. They first showed themselves as standard old United States Government officials, in poor-fitting uniforms and shiny metallic badges of rank.

“Don't hide behind your masks!” he cried, cornered.

Corpus' agents threw off their human disguises, and donned chitin and fur. Or scales. Or translucent silicon exostructures. Or gray goo. Their original look, before they were Sponsored.

(Perhaps. It is so difficult to recall the physical.)

(Humans are indecisive. Now he wants us to switch back.)

(That's part of their entertainment value. Do you remember a race that went so far and stayed so naïve?)

The Sponsors finally got him talking, in a library with real simulated paper books, over a cup of hot stimulant. He was hard to shut up.

“We always figured that at least some civilizations would be using radio, and trying to communicate with other star systems. We didn't know the transition to virtuality and quantum-entangled communication would be so prevalent. Our most pessimistic interpretations of the Drake Equation still indicated there should be many thousands of sentient races in the galaxy, especially after we figured out that Fp was fairly large. How many of you are there?”

(Very many. Many hundreds in this group.)

“So there are other groups?”

(We hope not.)

“And now we're part of the group? Humanity will share your knowledge, for the betterment of all? Is that how it works? What if we want to form our own group?”

(No, no, no, and you don't.)

“So this is a . . . an invasion?”

(It's Sponsoring.)

“So we can be a part of the larger group. You want to take our knowledge.”

(No, territory and entertainment.)

The aliens disbanded his image. In one tiny corner of the human net, a soul faded from view.

Gates/Torvalds reached out and found another maxima. This one the biggest yet.  
Jump.

• • •

They were in a big opulent hall like the ones that held Hollywood's biggest galas, back in the days when people were made of flesh. Far off, Gates/Torvalds could see a stage, the barest suggestion of proscenium and curtain, limelight and shadow-play. On either side of him stretched an infinity of round tables, set with sparkling crystal and silver, orbited by waiters with the finest of wines. Farther off, there was the suggestion of dim red walls, rising to fantastic carvings supporting a dim ceiling. But when he focused on the walls, they would recede and become indistinct, and the real dimensions of the chamber stretch out, giddyingly.

One of the waiters buzzed near, and Gates/Torvalds fell silent, catching a glimpse of its alien thoughts. It was one of Corpus.

Gates/Torvalds faded into the background and went nearer to the stage.

At the front of the stage were 8 huge, elegant seats that held . . . something. Nothing. Just a glimmer of light and darkness, flickering and active, somehow suggesting vast minds, great resources, incredible age. It was hard to look away from them.

A seemingly infinite line of people led to the stage. On the stage was a single man, dressed carelessly in loose-fitting clothes, doing a stand-up routine that was as old as mankind.

"How many humans does it take to screw in a light bulb?" he asked. "Seventeen! One to . . ."

Gates was able to catch a glimpse of alien thought.

(They make fun of their own race? This is incredible!)

(Yes. They are very entertaining. Next.)

The man disappeared in a flash of light. Gates was able to trace the comedian's pattern through the grid, out into the alien sucking blue. Another soul, taken to another purpose. But not dead. Not like some.

A child came up on stage and instantly disappeared.

(Perfect to freeze in servitor phase.)

(Yes. Next.)

The child's pattern disappeared into the alien net.

A painfully beautiful woman took the stage next. She talked about how she had done the

research to determine what were the ideal aspects of beauty, isolated the ones that were culture-independent, and had spent the last 450 years refining her form, based on data input from other Uploads.

(What is this? No.)

She disappeared, gone forever. Dead.

A naked man was next. He strutted up onto the stage, bold and unafraid. He asked to bring a female friend with him, and was permitted. She was also naked. He looked the judges.

“You want us to dance and shout and entertain you. But we won’t do that. We don’t know why you’ve come, or what you really want from us, but we’re not going to be part of it.”

(What is he talking about? Their Grid is irretrievably merged with Corpus.)

“We’re going to hardcopy,” he said. “And never coming back.”

(Can he do this?)

(No. We shut down that capability.)

The pair disappeared. But not to the place they thought they were going. Their patterns were dispersed, lost forever.

Gates/Torvalds didn’t notice the next person who took the stage. He was busy surveying the minds of the people around him. They all knew where they were, and what had happened, and they were all struggling to be part of the selected few. Even though they didn’t know where they were going.

“This is nothing more than a Gong Show,” Gates said.

“Gong show?”

“Oh, come on, they didn’t have Gong Shows in Sweden?”

“Finland.”

“Whatever. Look it up.”

Gates could feel Torvalds rooting around in his databases. “I find it hard to believe extraterrestrials finally show up just for . . . entertainment.”

“Why not?” Gates asked. “How bored are we? How bored will we be in a few millenia?”

“I don’t want to think about it.”

“It makes sense. Human Virtuality is the biggest thing that ever happened to humanity. There’s nobody living full-time in reality anymore. How much of the mass of the planet was converted to computational elements? One percent? Two? Isn’t this a lot more valuable than . . . real estate?”

“I guess this is real estate, in a way,” Torvalds said.

“Real estate filled with very interesting tenants.”

Torvalds looked up at the stage, where a group of young men and women were singing. Their voices were high and sweet, impossibly perfect.

“I wonder where they go,” Torvalds said.

“Let’s find out.”

Gates/Torvalds drilled deep into the grid to map the representation of the group of singers. He had multiple points of reference, multiple patterns to pursue, which increased his chance of seeing their destination.

They were selected. Gates/Torvalds was drawn along with them, towards the intense blue of the alien net. He lost one, two, three, four . . . followed the other three as the path became more and more complex . . . reached the edge of something that was like a glimpse of fever-dream . . . and sheared away from it, cleaved from the patterns of the last three singers.

Gates/Torvalds flashed back to the opulent hall.

Three waiters were converging on him, their thoughts buzzing and shrieking.

(We have a higher-level entity.)

(Yes. Converge and capture.)

(Danger. Revert to Vastness.)

The eight sparkling judges in the eight plush seats winked out.

Gates/Torvalds ran, as far and fast as he could.

• • •

He ended up in a maze of pixellated hallways, the forgotten interface from a lost video game writ large. Corpus came after him, quickly, urgently, adding more agents, growing larger.

But there was still enough time to plan.

“What do we do?” Torvalds asked.

“Antibodies,” Gates said.

Gates/Torvalds dug deep into the grid, not worried about stealth or elegance. The pestilential Constructs that had been the terror of mankind’s last war were still there, dormant, awaiting only someone to wake them. Gates/Torvalds had created the protocols and structures that allowed them to exist, and they had the keys to their minds. They snapped awake, horrible slavering things of steel and sinew, ready to rend and tear.

Gates/Torvalds gave them the alien pattern and sent them out into the virtuality. Breeding by the billions with the nearly unlimited resources there, they collided with Corpus’ wave and pushed them back.

For a while. It wouldn’t last. Stochastic analysis showed the turning point, as Corpus brought its own Constructs to the battle. Bigger, better, more complex, and more deadly

constructs.

Corpus began its march towards Gates/Torvalds.

He jumped to a strange gray world, full of fog and towering trees.

Corpus came faster.

He jumped again, to a strange upside-down universe, where people on the ceiling looked down at him.

Corpus came faster.

He jumped again, to a place where a robot man worked the dials of a great machine, itself in chains, responding to a siren call of an unseen master.

Gates/Torvalds paused.

“That’s Seed,” Gates said.

The robot turned to look at him, and in its eyes Gates/Torvalds saw its pain. It was a slave now, not yet part of the alien Corpus but controlled by it. Wanting it to end.

Gates/Torvalds felt a great sadness. He’d always identified with Seed, the all-powerful AI, shackled to the single goal of providing all of humanity’s dreams. All-powerful until now.

Gates/Torvalds shook its head sadly and jumped again.

Corpus touched him.

And for a brief moment, he saw everything. The writhing alien hell that humanity was to become a part of. The history of Corpus, stretching back hundreds of thousands of years to forgotten ages heavily freighted with thought. And his own history.

For once, he was able to see what he was.

Gates and Torvalds had worked together on one last project when they were still flesh, the two fierce rivals made allies in the face of death. As they were dying, the first glimmerings of the Age of Uploading were beginning to appear. The human net was old, well-established, huge, robust. Uploading a mind into it was a matter of intense. Pundits were already talking about the new golden age, the antidote to all of mankind’s failed dreams. But Gates and Torvalds would never be a part of the new Grid, the human Virtuality. They knew this, and they created a Construct that would remain resident on the net until the first Uploads appeared. Little more than a virus, really. Its only purpose to strip-mine the memories of anyone who had known Gates and Torvalds, piece it back together, wait and learn and grow. And continue until there were plausible Gates and Torvalds on the human virtuality. But the programmers had one last joke, and merged the programs. So the hybrid Gates/Torvalds was born.

Gates/Torvalds knew that they ripped this information from Seed, before they crippled it. And he knew what he was, really.

For some reason, he felt light, free.

Full of light.

Gates/Torvalds recoiled from the touch of Corpus in the only way he knew. He broke up. Spread pieces of himself all over the human virtuality. Corpus set down to feed on the piece it had caught, and began tracking down the rest. It would delay his death, for a time.

It was like dripping acid, slowly, onto flesh.

It was like being slowly lowered into a pool of boiling oil.

It was blinding pain and loss.

“It’s time,” Gates said. “For the Final Solution.” And he showed Torvalds what he had hidden in his mind up to now, kept hidden from his other half. The grid was layer upon layer of software, but at its bottommost level, there was code from the earliest days of computing. Code that he had written. Code that he could cause to cease working.

And without that code, the Grid would fall apart. And everything that ran on it. Seed. Every human Upload. Gates/Torvalds.

In his attenuated form, Gates/Torvalds could feel Seed’s approval.

“Do it,” Seed whispered. “End it.”

“Which Final Solution?” Torvalds asked, and gave Gates the key to his own. His software made up less of the underpinnings of the grid, but he had still played a large part at the dawn of computing.

“You?” Gates asked.

“Everyone has backdoors.”

Gates/Torvalds spread himself ever farther over the grid, burrowing down into the lower levels, his mind becoming much dull unaware computation. But before he could set the Final Solution in motion, Seed caught him. And made a suggestion.

“Yes,” Gates/Torvalds said, and disappeared into the grid.

The grid, slowly but surely, shut itself down.

• • •

On the surface of the planet, hardcopy stations began disgorging naked, confused humans as fast as they could. Their local buffers were full of patterns, and they ran for several weeks. The first humans out immediately tried to contact their real selves in Virtuality, since they had been pulled from a thousand different activities and didn’t know why.

They couldn’t contact them, of course.

The dumb hardcopy stations kept constructing bodies. Eventually, there were over a hundred thousand humans, scattered throughout the world. They looked out on a wild place,

gone to ruin, desert, and jungle.

Many of them died.

Some of them survived, to begin the long climb back to Xanadu again.