

## CHAPTER 7: COUNSEL

**Log date:** May 3, 2417

**Location:** Xanthe

**Log note:** Catch the foxes when they are little

AS CARROLL LANE CONTINUED HIS WORK on the virtual world, he repeatedly tried to get Victor to join him. Victor, however, refused. Although he admired the advanced technology that Lane had developed, he was gravely concerned about the way that it would be used. Each time Lane called to ask for help he told Lane that his attempt to make everyone's actions consequence-free would only encourage mankind to become even more depraved. Victor was convinced that the virtual worlds would lead to the destruction of mankind and so he refused to help Lane finish the software. Lane did not take Victor's refusal very well, and soon Victor found himself with one less friend.

Meanwhile, Victor had his own work to do. The data streams from the probes kept growing larger and more unmanageable. SOLOMON was quickly being overwhelmed with telemetry and struggled to keep up. It was clear that someone would have to do something, but since that wasn't his department he tried not to think about it. Fortunately the probes themselves were working fine, which was immensely encouraging. Victor hoped that this meant the probes didn't have any problems. His greatest fear was that something was terribly wrong and the real issues wouldn't appear until it was too late to fix them. He kept having a nagging feeling that he was missing something important.

After the successful replication of the first Nehemiah IV probe, things continued to go smoothly. The other two probes replicated and passed their verification test. Before there had been only three probes; now there were six. As expected, all six probes began the short journey to their next target star in order to start the cycle again.

Month after month passed by, and Victor's life settled into a comfortable routine. He went to work, monitored the streams for problems, found nothing of interest, and then went home. Day after day nothing changed. Then one day he received an unexpected visitor.

Victor had been home for about an hour that evening when he heard a knock on the door. When he opened the door he saw a short, fat man who wore a green hat and suit. "Good evening, sir! My name is Gerald Price. I understand that you requested my services. Is this a good time?"

"I did what?" Victor asked, surprised. "I don't remember asking anyone for anything. Have we met before?"

"I don't believe we've had the pleasure. My name is Price. I'm the only licensed counselor in the entire Tau Ceti system. You requested my counseling services after the events of February 6, 2415. Your appointment has been duly processed and your turn has come. So here I am! May I come in?"

Confused, Victor stepped aside and allowed the man to enter his home. "I do remember making an appointment, but that was more than two years ago. I didn't really expect you to show up. In fact, don't people normally come to you? I didn't know you made house calls."

"It makes no difference to me," Price said cheerfully. "I'm here to help – and I believe I can help you. Based on what you told my secretary bot, it sounds like you're unhappy. Is that right?"

Victor sat down in his recliner. Price set across from him on the couch. "Unhappy is a rather

vague word. I certainly could use some help. For instance, I'm having trouble sleeping at night; I keep having nightmares. I'm also very jumpy – unexpected noises fill me with fear. I'm uneasy around other people and have become withdrawn and isolated. I'm kind of a mess.”

“A mess? Nonsense! You’re just overcomplicating things. Most people do. The bottom line is that you're unhappy. That’s really not uncommon – most people are unhappy, you know. Fortunately, thanks to the wonders of modern science, there is a simple and easy solution. I can fix everything and give you a whole new life.”

Price took a piece of paper out of his pocket and handed it to Victor. “There you go. That is exactly what you need.”

Victor looked at it, puzzled. “I don't understand. How is this supposed to help me?”

“It's a prescription. Just take two tablets a day – one in the morning and one at night. They are guaranteed to make you happy. All your problems will be solved.”

“But that doesn't make sense,” Victor protested. “The reason I'm unhappy is because I have personal issues that I haven't been able to resolve. In order to become a healthy person I need to fix them. Once I do that the unhappiness will go away and I'll become balanced again. I need to fix the actual problem – the *cause* of the unhappiness.”

“No you don't,” Price replied. “You're making this too complicated. Look. Everyone is unhappy for different reasons. For you it's one thing; for your neighbor it's something else. You might be unhappy because you were attacked, while someone else might be unhappy because they aren't allowed to raise chickens. The point is, *you're unhappy* and you don't like it. You want to become happy again. These pills were designed to do exactly that! They are 100% guaranteed. If you take them you *will* be happy. It's just that simple. Nothing will ever upset you again. No matter what happens in your life you will always be completely happy. That is, as long as you stay on your medicine.”

“Is that really your proposed solution?” Victor asked, astonished. “That's not what I expected at all! I thought you would talk to me and give me good life advice or personal exercises to do or something. If I just wanted a drug to make me feel good I would have spent my evenings getting drunk, the way the outsiders do.”

“That gives you hangovers,” Price said. “Believe me, you don't want those. Think of this pill as giving you all the happiness but none of the consequences. It's a miracle in pill form!”

Victor paused as he struggled to put his thoughts into words. “I still don't think you understand. You are treating the *symptom* here. You're not treating the actual underlying problem. The real issues are still present; you're just masking them. Since the real issues are not being addressed they will continue to grow worse. When a person has skin cancer they need treatment – not makeup to hide what's going on. On top of that, it's an extremely bad idea to give someone a pill that makes sure they *never* feel bad. There are times when people are *supposed* to feel bad, Price. Like when someone close to them dies. Or when they hurt someone. Pain has a role in our lives. It is a signal that something is wrong and needs to be addressed. Do you realize that if this pill actually works, it means that I can go out and do horrible things and I'll never feel the slightest twinge of guilt?”

“Exactly! Like I said, it's a miracle in pill form. I take them every day, and boy has it done wonders in my life! No more guilt, no more pain, no more sadness – just happiness every moment. It's a wonderful life.”

“It's appalling! You've found a way to turn off all of the emotions that a person has except for one – happiness. That's a *bad* thing. Our emotions have a purpose. I don't want to take something

that is going to turn off my conscience. I don't want to hide my problems. What I want is to *fix them*."

"That is not going to happen," Price replied. "Look. Let's think about this logically for a minute. You're a programmer, right? You like logic. So try this on for size. One option would be for you to work out your problems on your own. Can you do that? Obviously not. Another option would be to find a friend who cares about you and talk to them. Did that work out for you? Clearly not. That means that you can't help yourself and you friends can't help you. Guess what, Victor: that's it! That's the end of your choices. No one else cares about you, or loves you, or is willing to help you. You only have one option left and that's me. What I'm offering you is guaranteed to work. Guaranteed!"

"What you're offering is madness," Victor said firmly.

"What do you have against modern medicine? Are you one of those crazy people who thinks that all medical treatment is sinful? Is that what's going on? Are you part of some weird cult?"

"Of course not! I'm not opposed to medicine. When the SSF broke my skull open I was extremely grateful for the medical treatment I received. It saved my life. But the treatment I received treated my *actual problem* – which was my shattered skull. You are *not* treating my problem. What you are doing is giving me a way to hide my problem. In fact, your pill is even worse than that because it robs me of all empathy. Right now the pain of other people bothers me. Their pain is my pain and it motivates me to help them. But if I'm happy all the time then I won't care."

"Exactly! Nothing will ever bother you again. It will be paradise, Victor, pure paradise. Other people's pain? Not your problem. Don't you want paradise?"

"This isn't paradise! This is just an illusion. You want me to feel something that does not match up with what's real. You want to give me phony feelings that only serve to hide who I really am. I don't want that, Price. I don't want any part of it. That's not the kind of help I'm looking for."

Price stood up. "Well, you can't say that I didn't try to help you. I offered you a solution and you refused to take it. I'll just put on your permanent record that you're a crazy person who is off his medication."

"You do that," Victor said, as he stood up as well. "But tell me something, you miserable counselor. If your pill is everything you say it is then why don't you prescribe it to all the outsiders? After all, aren't they unhappy?"

"I'm sure they are. But, seriously, who cares about them? I'm being paid to treat the people *inside* this building and so I'll do that. I'm not being paid to care about all those other losers."

"Most people don't have to be *paid* to care, you know."

"I have a pill that can fix that!" Price said cheerfully.

Victor sighed. "Please leave and never, ever come back."

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In the following months all six probes arrived at their new star systems and began the terraformation process. The result was a tidal wave of telemetry that crashed SOLOMON and brought the entire datacenter offline – and since the probes depended on that system in order to make decisions, they went offline as well. Even after SOLOMON's capacity was doubled it quickly filled up again. Something had to be done, and it was no longer possible to put off the day of reckoning. So on September 2, 2417 an emergency meeting was held in Dr. Mazatl's office. Martin Yates, the board member over SOLOMON, was present. Since Victor had more experience managing the telemetry data than anyone else, he was invited as well.

The meeting did not go well. The more Victor tried to explain the problem, the more Martin blamed the probes. He refused to believe that anything was wrong with SOLOMON.

"This is just completely unreasonable," Martin insisted. "Isn't there anything that can be done to reduce the amount of data we're receiving? The input we're getting exceeds the plan by *two orders of magnitude*! SOLOMON wasn't designed to handle this. You have got to stop giving us so much data!"

Victor shifted uncomfortably in his chair. "Yes, technically, we can turn the extra data off. We do have a system in place for that. The problem is that if we do that we won't have nearly as much information about what the probes are doing, which will make it more difficult to tell the probes what to do. At that point we would essentially be flying blind."

Dr. Mazatl sighed. "Victor is right. If we turn down the data feeds then we might as well allow the probes to operate autonomously – which carries with it an enormous risk. Given that we simply don't know how well the child probes will work, it is extremely unwise to take that risk at this point. We need more time."

"Time is still not in our favor," Martin pointed out. "President Rios is very unhappy about the cuts we've been making to people's plasma allocations. They're now down 20%."

"Which is exactly what we told him would happen if he didn't start paying his bills. Nothing about our actions should come as a surprise."

"Rios doesn't see it that way. He keeps demanding that you appear before Congress to explain yourself."

Dr. Mazatl sighed. "I'm more than happy to do that – remotely, that is. I've told him on four different occasions that I would be glad to appear via holoscreen to answer any questions he might have. But I refuse to go there in person. Why, the moment I set foot outside this building I would be shot on sight! Rios can't be trusted – everyone knows that. Appearing before his counsel, in person, would be suicide."

Martin nodded. "I quite agree. The fact that they've refused to cooperate and have only doubled down on their evil is not a promising sign. I keep expecting Rios to launch a serious attack on this building. Things on the outside have become so dire that the only way Rios can stay in office is by blaming all of his problems on us. For the past two years he's done a lot of yelling but hasn't actually followed through on his threats. That can't last forever."

"It is entirely possible that there is simply nothing he can do. We are extremely well defended, and none of our employees can be reached. If Rios tried to attack us he would surely fail, and that would be a devastating blow to his credibility. Rios will not take any action unless he is certain it will accomplish what he wants. Since we have very strong defenses he doesn't have any options – aside from yelling, that is. The truth is we're still giving people plenty of free plasma. No one is actually suffering or going hungry. They are simply not getting quite as much free stuff as they used to."

Victor spoke up. "I agree that the outside world is an important problem, but I think we've gotten off-topic. Can we get back to the subject of SOLOMON?"

"Of course," Dr. Mazatl replied. "You're quite right. Victor has brought up a good point: the data that is coming back simply cannot be pared down. It's all important, unfortunately, and it will only grow in importance as the children multiply. The fact that we have underestimated the storage capacity we need is truly terrible; that was a definite failure on our part. Nevertheless I am sure we will find a way to resolve this. It's simply a matter of building additional storage."

Martin shook his head. "I understand that the data is important. But the probes are replicating

very quickly – far more quickly than I can possibly add volume to SOLOMON. Over the next year or so I can increase our existing capacity, but whatever storage I can add is going to be far outstripped by the increase in the number of Nehemiah IV probes. The only way this could ever work is if SOLOMON could automatically enlarge itself to accommodate the growth of the probes.”

“That was my thought as well. But I think we must take it one step further than that. We need more than just a system that can increase in size; we also need one that can automatically manage the operation of the probes themselves. In short, we need to automate the work of this Corporation and take ourselves out of the equation.”

“But that's ridiculous! You're asking for the impossible. That technology simply doesn't exist.”

Victor spoke up. “You're probably right, but if we *could* do that it would change everything. It's simply not humanly possible for us to manually manage a hundred billion probes. The only chance this project has of succeeding is if we automate it entirely. I'm not saying it's going to be easy; what I'm saying is that it's our only hope of success.”

“I agree,” Dr. Mazatl commented. “I think we should start immediate work on a replacement for SOLOMON. It's going to take a great deal of effort and break a lot of new ground, but I think the future of our enterprise depends upon it.”

Martin sighed. “I see your point. But even if it *is* possible it would take years to build such a system. This data problem cannot wait that long. What are you going to do in the meantime?”

“The only thing we can do, unfortunately. We'll have to cut back on the number of child probes we create. I hate doing it but we have no choice. We have to make do with what we have.”

Martin stood up. “Well, at least we have a plan now. I'll put a team together so we can start brainstorming ideas about how this new system is going to work. We can probably come up with a datacenter that replicates itself; that sounds pretty doable to me. We've already made great strides in using Victor's swarm technology to replicate our maintenance bots, and in some ways this is just more of the same. But I would really like to know how you're going to automate the management of the probes themselves. That is going to be quite a task.”

“I realize that,” Dr. Mazatl agreed. “But it has to be done. We will find a way – of that I am certain.”

After Martin left the office, Victor stood up. He started to leave as well, but then he hesitated. “Sir?”

“Is there something you need?” Dr. Mazatl asked.

“Actually, there is. Do you remember the anomalous signal the probes have been receiving?”

“I certainly do. It's quite a strange matter. Are we still receiving it?”

“Actually, yes. So I had an idea. We've been receiving that same signal for a couple years now, but we've never attempted to send a signal back. So, um, I put together a reply. I took some data and encoded it so it fit the same pattern as the message we've been receiving. I'd like permission to send it as a reply and see what happens.”

Dr. Mazatl thought for a moment. “I suppose that makes sense. I don't see how that could possibly do any harm. How do you expect the sender to respond?”

“I don't know. I have no idea what will happen – which is why I want to run this test. Maybe the signal will change and we'll get more information that we can use to track down the source. Or maybe nothing will happen. But I think it's worth a try.”

“It certainly fits with the spirit of exploration! A worthy idea. Are you prepared to send the

signal now?"

Victor pulled a small electronic device out of his pocket. He tapped a few buttons on it, and then entered a code. "I am. The messages is queued up and ready to send. All it needs is your approval."

Dr. Mazatl pulled up the message on his console. He read the destination coordinates with great interest. "So you're really going to send this message to the edge of the universe?"

"Absolutely. Where else would I send it? That's where the probes say the message is coming from, so it's as good a place as any. It may be just a spoofed address, but I don't have any other destination. I might as well send it there."

"Very well," Dr. Mazatl said. He pressed a button on the console to grant his approval. A moment later the message was uploaded to the first Nehemiah IV probe and then sent.

"So what happens now?" Dr. Mazatl asked.

"We wait, I suppose. I'll let you know if anything happens."

Dr. Mazatl nodded. "Oh – that reminds me! I've been meaning to talk to you. Carroll Lane has been putting together a team to work on his virtual worlds. It's a pretty cutting-edge project that has already managed to create some exciting new innovations. Lane has asked me to see if you would be willing to work with him on it. He apparently thinks very highly of your skills."

Victor sighed. "I know. He's asked me a few times and I've turned him down. Are you aware of what he is trying to accomplish?"

"Certainly. I've seen his work. Quite frankly, it's very impressive! He has brought the science of virtualization to new heights. I can see a lot of exciting applications to that technology. The nanites alone are a brilliant invention; I've already tasked a team with building those out for general use. One day we might use nanites to interface with all our machinery – and with the world around us, for that matter."

"Lane doesn't care about the world around us. In fact, he hates this world. He doesn't think it can be saved. What he wants to do is use his virtual technology to *replace* the real world. He wants to perfect his tech to the point where people can live in it *permanently*."

"Now that you mention it, I think I have heard him say that. That may be his goal, Victor, but I think it's rather foolish. All he's building is a simulation, after all. It's not real."

"But it *feels* real and it *looks* real. When you're there you can't tell the difference – except for the fact that in the virtual world you can make all your dreams come true. You have absolute power to such an extent that even physical laws don't apply. You can do anything you want and have anything you want, and since you're the only real person there you don't have to worry about your neighbors causing problems. People can spend their entire existence living out any fantasy that they have."

"Yet for all that it is still not real. I don't think people will be willing to leave their actual lives in order to live in a daydream. Imaginary things are just that – imaginary. That would be a most unsatisfying life. Even so, it seems rather harmless to me."

"I think it's *dangerous*," Victor insisted. "If he is allowed to finish this project it will radically change society – for the worse. Millions of people will move into his worlds and spend the rest of their lives there, doing every depraved thing they can think of in a world that has no consequences. Not only will it have an unbelievable corrupting influence, but it will ultimately kill them. They'll spend the rest of their lives lying on a cot until their body finally gives out and dies. It will be the end of humanity."

"Or it might save them," Dr. Mazatl said thoughtfully. "Lane's technology may put an end to the

madness that is around us. It will divide those who care only for fantasy from those who have a passion for reality. You might say it will separate the wheat from the tares. If Lane's dream comes to pass then the Corporation would no longer be held hostage by madmen, for all the madmen would be gone – dead by their own hand. We would be free to inherit the worlds.”

“Lane cannot be allowed to do this! If he succeeds then his invention will kill everyone, just as surely as if he poisoned them in their sleep. None of our probes or our projects are going to mean anything if Lane kills all of mankind. We need to stop this and save humanity from themselves. You know exactly what people are going to do if this ever becomes available.”

Dr. Mazatl shrugged. “Lane isn't breaking any laws. In fact, he's made many remarkable discoveries. It's true that his system has some potentially harmful uses, but there are also many good things that could be done with it. Remember, ZPE technology also had harmful side-effects, but at the same time it has led to probe technology. It can be used for good or bad. I'm not going to stop the advance of science simply because someone might use the technology in an inappropriate manner. That's not reasonable.”

“But you're actually *funding* it! You're enabling this. Lane cannot finish this alone; he needs help – and you're providing it. The Corporation is supporting this. If this goes as badly as I think it will, we will be partially responsible for the destruction of mankind.”

Dr. Mazatl sighed. “I know you feel very strongly about this and I understand your concerns. But you need to understand that people have always been afraid of new technology. Yes, there are potential problems, but there are potential upsides as well. I'm sure everything will work out fine.”

“I'm not afraid of technology. It's *people* that concern me. The race of men, as a whole, is not responsible and cannot be trusted. Giving explosives to children would be an act of gross negligence because of the certainty that they would misuse them and hurt themselves. Allowing this technology to reach the outsiders is every bit as irresponsible. There are certain people who really *do* need to be protected from themselves. This is one of those cases.”

“I'm afraid we'll just have to disagree. But I can see that you're not willing to help Lane with his project. I'll let him know that you have other plans. Since you won't work with him, would you be willing to contribute to the replacement for SOLOMON? You've had a great deal of experience in managing the data streams and analyzing them for the problems. Your input would be greatly valued.”

“Absolutely. Now that is something I have no objections to.”

“Great! I'll be sure to send you a meeting invite.”

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That evening there was a knock on Carroll Lane's door. When Lane opened it he saw a stranger standing outside. “Can I help you?” Lane asked.

The man nodded and reached out his hand. “My name is Adrian Garza. Dr. Mazatl sent me. He said you were working on a virtual reality project and needed some help.”

Lane shook his hand. “Absolutely! It's great to meet you. Won't you come inside?”

Lane opened the door and Adrian stepped into his apartment. Adrian glanced around the room and saw that it was absolutely packed with equipment. “Is this where you've been working?”

Lane nodded. “Yup. This is it! This is where all the magic happens.”

Adrian shook his head. “This won't do at all! Your project is too important for that. I'm going to find you some real laboratory space – something with a lot of room.”

"You can do that?" Lane asked, surprised. "I thought you were here to help with the programming."

Adrian shook his head. "I'm actually a resource manager, not a software developer. I'm here to give you whatever you need to make this project a success. That involves a lot more than just a plasma budget. I'm here to see that you get adequate floor space, access to research material, and suitable human resources. Dr. Mazatl has made me personally responsible for making your project a success."

"That's fantastic! I've been trying to find additional help for months but haven't had much of a response. Victor Stryker keeps turning me down."

"Well, we'll get things in order," Adrian promised.

"What do you know about this project? I don't think we've ever met."

"Dr. Mazatl briefed me on it. He said you are working on advanced visualization technology that looks very promising."

"It's so much more than that. Here, let me show you what I've got. I think a demo might help you see my system's true potential."

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With Adrian's assistance the technology advanced rapidly. Adrian was amazed at the quality of the virtual worlds that Carroll Lane was able to create, and he agreed with his grand vision for the technology. This was more than just a visualization technology; this had the potential to replace the real world itself.

Under Adrian's guidance fifty people were assigned to the project and brought up to speed. The teams were divided into groups: the medical team worked on issues surrounding long-term use of the system, the artificial intelligence team worked on making the simulated people more realistic, and the virtualization team expanded the virtual world's capabilities.

After six months the team had made so much progress that Adrian and Lane began work on the next phase of the project – implementation. It was time to bring the project out of the lab and into the real world. Doing anything outside of the Building carried a great deal of risk, but there was simply no other way to bring the technology to the public. It had to be where the people could access it, and since the public was not allowed in the Building that meant they had to take some risk.

Adrian and Lane worked together to design a system they called the VAULT. The Vault was a virtual world repository that was located deep underground in a secure environment. It had enough capacity to handle fifty thousand people simultaneously, and had its own server farm and independent power supply. The Vault's maintenance was designed to be simple, easy, and automatic. The facility itself was very well guarded. Lane was certain that once everyone was plugged into a Vault security would not be an issue – but that day was still many years away.

The only drawback to the Vault was that the medical team still had a lot of unsolved problems. While the simulation itself was nearly perfect, it wasn't possible to spend more than a day in the virtual world. Long-term usage – which is what Lane really craved – simply wasn't possible. But they did have a start, and Lane wanted to use what they had to get the populace hooked on the technology.

On December 3, 2418, Adrian Garza and Carroll Lane went to the Vault to inspect it. When they arrived Lane saw that there were still teams of bots working on constructing it. "Are you sure we'll be able to open on time?"



"Positive," Adrian replied. "On January 1, 2419 we will open this Vault for business. I've already began the advertising campaign. We are going to be booked solid on the very first day, with a long waiting list. In fact, I've already started thinking about expansion. People are going to *love* this."

"I certainly hope so. We've put so much work into it! I would never have been able to get this far without you."

"I was simply the assistant. This was your dream and was built on your ideas. No one else was working on this before you came along. I just helped you get it across the finish line."

As the two men stood by the entrance to the Vault, something caught Lane's eye. "What's that?"

"Oh, just a plaque. I wanted the Vault to have something to mark the occasion for future historians. We are making history, you know. This is going to change everything."

Lane studied the plaque. It read:

VAULT 37  
HOME OF THE SYNTHETIC WORLDS  
ESTABLISHED 2419  
RESIDENT ELDER: CARROLL LYONS

Lane frowned. "I don't get it. Why did you spell my name wrong?"

"What are you talking about? I looked up your file in the employee database, just to make sure I got it right. Officially your last name is Lyons."

"My last name has never been Lyons! That's insane. Do you mean to tell me it's been wrong my entire life, and no one noticed until now?"

"Apparently. I just assumed that Lane was your middle name – you know, Carroll Lane Lyons. It never occurred to me that the system might be wrong."

"The system is always wrong," Lane said, sighing. "I can't believe it."

"I'm so sorry about that. Do you want me to have the plaque replaced?"

Lane shook his head. "No, it doesn't matter. In fact, let's leave it like that just to prove that it doesn't matter. After all, this is just the physical world. Once everyone is in our virtual worlds no one will ever see that plaque again. It's not going to make any difference."

"Very well. Incidentally, I've been meaning to ask you something. Why are we calling this Vault 37? There's only one of them."

Lane shrugged. "37 has always been my favorite number. It's a prime number, you know."

"Is there some special use for it?"

"Not really. It's just a number. Besides, Vault 37 sounds more interesting than Vault 1. The number one sounds kind of lonely. Vault 1 would imply that this is the very first vault and we have no idea what we're doing. Vault 37, though, sounds like we've had a lot of prototypes and we are experts. It inspires confidence."

"I suppose. At any rate, would you like a tour of the site?"

"Of course! I'm going to be a customer of this vault too, you know. I hope you've got places reserved for the two of us."

"I do indeed. Right this way. Let me take you to your pod."