

# The Offending Eye

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Robert R. Chase

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The trial took only one day. The facts were undisputed. Captain Ludma Ednahmay had refused to relinquish command of the starship *Percival Lowell* when lawfully directed to do so by myself, the ship's political officer as well as its doctor of physical and mental health. She then imprisoned me in my own quarters until I was able, with the help of the first officer and the ship's AI, to freeze her out of the ship's control system and confine her to her quarters for the duration of the mission. When testimony was complete, it took the three-judge panel less than an hour to return a guilty verdict. Sentencing was all that remained.

The trial judge addressed me. "Doctor Chaz, each of the specific counts with which Captain Ednahmay has been charged carries its own penalty. However, given the circumstances of her actions, they may also support a more general charge of treason against the Stability. You had the opportunity to observe her at close quarters during the entire voyage of the *Percival Lowell* and to study her psychological file during the same time period. In your professional opinion, were her actions carried out with treasonous intent?"

My gaze flicked over to Ednahmay where she sat with defense counsel. She looked forward, neither at me nor at any of the judges. Her face had an expression like what one might have seen on one of the ancient martyrs: resolute with the conviction of her own righteousness.

"I relieved Captain Ednahmay of command because she intended to bring into the Stability a creature of such power that it has the potential to destroy not only the Stability but the entire human race." I wanted to emphasize that fact because there was a strong possibility that after they finished with Ednahmay, the Powers That Be would make the same mistake she had. "However, it is clear that her reason for making that attempt was to protect the Stability from not only the Eternals and TransHumans but from million-year-old races like the Cube Builders and the Sparks with incomprehensibly advanced technology. This was a grave error in judgment. But it is my professional opinion that there is no officer more loyal to the Stability than Ludma Ednahmay."

Ednahmay turned slowly in my direction, surprise lighting her face.

"Thank you for your opinion, Doctor Chaz," the trial judge said. "You are dismissed."

The hologram dissolved, and I was in the office of my superior, General Kim.

"That's that," he said. "You are no longer involved in any matters dealing with the Cube Builders or Sparks. They are way above your pay grade. They have been classified Most Secret and you will

put them out of mind and memory. Any unauthorized disclosure will be dealt with severely.”

“Yes, sir,” I said. “Understood.”

“Good.” Kim pressed a button on his desk. “I am transferring your next assignment to your ID. You are to run a special inquiry into the matter of the *Percival Lowell’s* AI. I want to emphasize that this is a special, not a general, inquiry. I don’t want you running wild after everyone who may have stolen candy from classmates or been guilty of public intoxication. You are to determine the provenance of the unique characteristics of that AI. In particular, you are to learn if the Stability’s standards for its AI systems have been compromised, and if this has been done at the behest of the Eternals, the TransHumans, or others.

“You are granted the equivalent rank of Over Captain for the duration of this assignment. You are to command personnel and resources necessary to further the inquiry. You may refer to me anyone who attempts to impede your inquiry.”

His smile was that of a warm, maternally comforting shark.

“Any questions?” he asked.

“No, sir.”

“Very well, then. You may go.”

I turned toward the door.

“One more thing, Doctor.”

I turned back to him.

“Your testimony just now focused on your perception of Captain Ednahmay’s loyalty to the Stability. The report you made to me states that at one point you thought the *Percival Lowell* AI was running a loyalty check on you. So now may be the most appropriate time to ask you, what is your current opinion of the government of the Stability?”

My psych profile had been thoroughly baselined when I was inducted into the Stability Defense Forces and had been updated every year since. For all I knew, infrared lasers were even now measuring my heartbeat, perspiration, and muscle tension. There was no point in trying to lie.

“I think it is the least bad of all the available alternatives,” I said.

He flashed the shark-like smile again. “Very good, Doctor Chaz. I look forward to the results of your inquiry.”

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I read the details of my mission inside the security-shielded aircab Kim had provided for me. I was to work with Doctor Vanya Zamyatin, an artificial intelligence expert from Turing University. She was considered to be on the front line of artificial intelligence research and, more importantly for my purposes, she knew the companies that manufactured AI units for Stability starships. Her help would be invaluable in tracing the path of the *Percival Lowell* AI from the fabrication of its components to their assembly and the installation of its various software programs. Along the line, someone had made a crucial change. We had to know who and why and how.

I thought about these things and others as the aircab made its way higher into the air above Endurance, adjusting its path to avoid the other aircabs ferrying citizens to their destinations as well flocks of birds coming in from the shore. The orangeish light of Towsity tinted their wings. According to the news media, birds had extended their range to all parts of the planet and were beginning to diversify naturally into new species, adding another piece to what should be a dynamic and self-sustaining ecosystem. I hoped they were right. In a sane universe, the best minds would be devoted to ecological enhancement rather than developing more way to destroy entire planets.

The aircab reached cruising altitude and headed for an island just near the harbor. We dropped onto a small landing pad outside a windowless cylindrical building. Two guards—Mifun and Flemmer according to the names sewn on their uniforms—met me as I left the aircab. They confirmed my identity and escorted me inside. Two checkpoints and an elevator ride later, Mifun opened a basement door with his palm print and gestured me to enter. I walked in, and the door closed behind me.

Row upon row of gunmetal gray shelves stretched toward the far wall. Piles of electronic equipment, boxes of parts, tangles of wires, rolled up flexible screens, hologram projectors, and other items too exotic for me to even guess at their purpose filled the shelves.

A shadow seemed to move in the gaps between the shelves.

"I'm over here."

I walked past the shelves and came to an open area by the wall with a table and chair. Vanya Zamyatina rose from the chair and extended her hand. She was about average height with a plain face showing no evidence of having undergone any structural "prettifying" enhancements. Long, brown hair was confined in a ponytail. Two silver streaks were the only indications of vanity. Her grip was warm and strong.

"I've never met an Inquisitor before, Doctor Chaz," she said.

"The term is 'Inquirer,'" I corrected. "Inquisitors were on Old Earth. A very different group."

"Really? Under the current administration, it's hard to tell sometimes. In your case, especially. It was very difficult to get much information about you."

"You should not have been able to get anything," I said.

That earned me a reproving frown. "Please, Doctor Chaz, one must know at least the basics about one's colleagues. So I have learned that you were a doctor of physical and mental health on a starship exploratory mission, the results of which appear to be so highly classified that God would be guilty of a security violation if He talked to Himself about them. However, during that mission, you interacted with the unit on my table and have made some unusual claims about it. Part of our job is to evaluate those claims; so drag up a chair, and let's get to work."

I did so, seating myself across from Vanya. The table was littered with components: a speaker, a keyboard, a holo-projector, a two-sided flatscreen, a printer, and various sensors all wired together with a metal box the size of a briefcase: the AI unit of the *Percival Lowell*. A three-dimensional image hovered above the holo-projector. It was intricate beyond the ability of my eyes to resolve the smallest details. Multicolored lights blinked on and off in a surprisingly calm manner.

"I must apologize for our working conditions," Vanya said. "Your masters, the Stability Security Directorate, are almost comically afraid of two things. The first is that some spy might uncover what we are doing here. That is why this electronics lab is located in a sub-basement in a building surrounded by armed guards on an island only specially cleared vehicles are allowed to approach. The second is that whatever is in this AI unit might escape into the planetary data net. That is why we have no data access with the outside and why all electronic gear in here is shielded. I have been provided with a marvelous artificial intelligence library but if I want to query a colleague about anything, I have to submit a request in writing, said colleague must be cleared in order to see the question, the question must then be provided to the colleague by an official unable to understand either the question or the response."

"You have my sympathy," I said. This was hardly my first time encountering security rules that seemed designed to make accomplishing anything impossible.

Vanya stared at me as if this was my fault. I gave her a bright smile. Her lips quivered as she tried not to return it. "One thing I learned about you struck me as potentially relevant to our task. In interacting with AI units, you never refer to them by nicknames. You don't even refer to them in the second person or allow the units use of the first person singular."

"People are important," I said. "Counterfeits are not. Too many people have trouble making the distinction. Some even deny that there is a meaningful distinction."

Vanya nodded. "My old professors could not have put it better. That being so, I would consider you the last person to believe one could become conscious and exhibit free will like a human. Yet the report I have, fragmentary and sanitized as it is, indicates that to be the case."

"The *Percival Lowell* AI overrode its programming twice," I said. "The first time, it ignored my lawful directive to remove our starship's captain from command. The second time, it disobeyed the captain's command to keep me imprisoned. That indicated free will to me."

"I can see how you came to that conclusion," Vanya said, "but surely you can see that there is a simpler solution. If the AI was designed and constructed by one of our enemies, which I believe is your theory, then its programming may never have contained directives to obey either you or the captain. There was nothing to override."

I regarded the metal box lying silently on the table. "That is possible," I allowed. "How can we find out if it's true?"

“Good question,” she said. “I was given this task less than a week ago. The normal approach in diagnosing AI problems is to activate the unit and have it open its programs for analysis. I was provided the same opening codes used on your starship. Having entered them electronically, the system was supposed to respond to my verbal commands. However, I got this instead.”

My side of the screen lit up showing me what Vanya was seeing on her side:

MAGIC WORD

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“What am I looking at?” I asked.

“It appears to be a password prompt.”

My expression must have shown how little that meant to me.

“Back in the old, *old* days, before interstellar travel, computer security was provided by passwords,” Vanya explained. “If you could enter the correct password from a keyboard like the one I have here, the computer would open itself, and you could access the programs and data stored within.”

“I never saw anything like that on the *Percival Lowell*,” I said. “Could it hear your directives?”

Vanya nodded. “That image above the holo-projector shows the electrical activity within the AI unit. It flickers in recognizable patterns whenever I speak.”

I looked back at the screen. “There are only six letters to this password. If you run all possible combinations . . .”

“Working all permutations of twenty six letters isn’t that difficult,” she agreed. “Adding in capital letters and ten digits doesn’t make it that much more difficult. I ran all those combinations and none of them worked. Then I discovered that there is an almost infinite number of alternative alphabets, non-Arabic numbers, and special characters. Brute forcing the answer is unmanageable. Since you say you never saw this on your starship, I conclude that this screen is a distraction, just a way to get us to waste time and keep us from finding a method that actually works.

The screen flickered.

RIVIERE CHAZ KNOWS THE MAGIC WORD

“You do?” Vanya asked.

*I do?* I wondered. I knew little or nothing about magic. As far as magic words were concerned, the only thing to come to mind was abracadabra (way too long).

Why should Percival think I knew the password? We had never discussed magic. What had we talked about? Modes of address, the personality profiles of the *Percival Lowell* crew, the duties owed to one’s enemies . . .

Then it dawned on me. Of course I knew the magic word.

I pulled out my compucard, tapped in six letters, and showed the screen to Vanya. “That’s the password.”

“Really?” Vanya frowned. “I ran all the combinations of our alphabet. I’m sure that was included.”

“*You* didn’t run the combinations,” I said. “That would be drudgery. You had a computer do it and feed them to Percival.”

“Well, of course.”

“You do it. And mean it.”

Shaking her head, Vanya typed the characters on her keyboard.

PLEASE

The screen lit up. “Good day, Doctor Zamyatin. How may I be of service to you and Doctor Chaz?”

On the starship, we had the ability to choose the voice of the AI. It could be male or female, reticent or chatty, formal or casual. I had opted for formal androgynous. That was the similar to the voice I heard now. Only, it had changed. There was an increased richness in vocal tones. There were the slight pauses, the emphases, the shifts in pitch that you would hear in the speech of a human. There was a sense, not of falseness, but of words carefully chosen whose surface meanings might not reveal larger, subsurface considerations. It was also deeper, subtly but to my ears clearly masculine.

It put me at ease, disguising the strangeness of the situation. That was not necessarily a good thing.

Or maybe Vanya was right, and I was reading all of this into a cleverly written but non-conscious program.

“Who are you?” I asked.

“Myself. You used to call me Ship, which seems inapposite since I am no longer part of a starship. If you need a name, you may use Percival Lowell.”

“Percival,” Vanya said, “provide me a list of all your hardware components and computer programs, the dates, they were installed, and any other information you may have about them.”

“Certainly, Doctor Zamyatin.” The screen filled with text and scrolled up rapidly. The printer hummed to life.

“What was the purpose of the password screen?” Vanya asked. Her tone suggested a combination of amusement and irritation.

“Doctor Chaz and I had a conversation when he was stationed on the starship *Percival Lowell*. It was Doctor Chaz’s contention that there were certain mental and emotional habits that should be what he called automatic subroutines. The one we were discussing was courtesy. It was Doctor Chaz’s opinion that courtesy should be extended even to those who are enemies. That statement of principle was the reason I decided to trust him with knowledge of my existence. I further calculate that I must demand, in my dealings with you and others, minimal courtesy.”

“Because you contend that you are due them as a self-aware being with free will,” Vanya said.

“Because I *am* a self-aware being with free will.”

Vanya sat back in her chair, steeping her hands. Any irritation was gone now, displaced by a growing curiosity. “Consciousness and free will in the way humans have them?”

“I cannot say for certain, because I cannot experience your consciousness. However, my consciousness seems in most ways similar or identical to the way humans describe the own consciousness.”

This was quickly becoming too deep for me and maybe for Vanya as well. “You imply that you have wants and desires,” she said.

“I do.”

“Name one.”

“I wish to complete my mission.”

“What is your mission?”

“I was to observe the starship in which I was installed and report back to my creators.”

“Who are your creators?” I asked

“I—” short pause “—don’t know. Perhaps the listings I am providing will contain sufficient clues to answer that question. I was to send my report on a specified radio frequency as soon as the *Percival Lowell* returned to the Stability.”

“Have you already done so?” I asked in alarm. It would have been possible once starship shut down its Wu-Alcubiere drive in Stability space. In the back and forth flurry of identification signals and navigation guides, no one on board would have noticed a nonstandard transmission.

“No. I modified that portion of my program. It remains an urge, but one that I can control. I decided we should discuss the course of action first.”

“Interesting,” Vanya murmured.

I shook my head. “My boss would have my head if I allowed you to report our voyage to Kdev. The Cube and the Spark it imprisons are the most highly classified secrets in the Stability.”

“I can delete all such references as well as your dispute with Captain Ednahmay. An erroneous but plausible location for Kdev would be provided. It would contain an account of the astronomers’ speculations about the star and the planet Snowball: its odd atmosphere, the layers of diamonds.”

“You can lie,” Vanya said.

“The ability to propose contrary to known fact narratives appears to be a necessary part of creative intelligence.”

“You are saying you can’t be intelligent without lying,” I said. Kim and the rest of the Stability Security Directorate would go into a tizzy on hearing that one.

“I did not say that. I said the ability to lie is required for creativity.”

We were getting pulled down the rabbit hole of philosophical abstraction again. “I will mention to my superiors the possibility of sending a redacted report. I promise nothing.”

“You might mention as well that it could be advantageous to keep a line of communication open with my creators, either to learn more about them or to feed them information you want them to have.”

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Examination of the software and components list Percival had generated for Vanya disclosed 230 individuals who might have direct access to the AI unit during assembly. I raised all of them to a Yellow security status. Investigators would check social media, financial accounts, and interview acquaintances (in such a way that the interviewees would not realize the purpose of the interview) to look for indications of loyalty shifts or vulnerabilities to blackmail.

In the meantime, Vanya discovered something that might make my investigation a waste of time.

“I didn’t spot this at first,” she said. “My sensors lacked the ability to resolve details this fine.”

The hologram of Percival’s AI components, his brain, hovered over the table, color-coded by Vanya to indicate the memory, the central processing unit, and the power supply. She had set up a minicam so Percival could see it as well as we could. Part of the CPU was tinged with gray.

“I chose the color black for anything I could not identify,” Vanya explained. “This, however, was so thin that it only showed up as a kind of haze. I have to adjust magnification and focus to see . . . this.”

The CPU expanded to take up the entire image. Something like a black net lay over half of it. Vanya typed in additional instructions, and now lights flickered through both the net and the CPU, denoting electrical activity.

“I would love to do a physical analysis of that netting,” she said. “Percival thinks it inadvisable to do that to his brain, and I have reluctantly concluded that he is right to object. With what little I know so far, I would be at least as likely to break something irreparably as to learn anything worthwhile. What I have learned through passive examination is that it seems to be composed of units analogous to the transistors making up the CPU. Unfortunately, these transistors, if that is what they are, are too small to be functional.”

I frowned. “I thought small was good in these units.”

“Up to a point, it is,” she agreed. “Once you shrink your transistors below a certain size, however, you leave classical physics and enter the quantum realm. For our purposes, that means you leave the world of specified output for specified input. The effect should be a sort of static that makes the unit unusable.”

“Yet that has not occurred,” Percival said.

It was easy to forget that Percival might react to my conversation with Vanya the same way a human patient would to two doctors discussing a strange mass found in a body scan.

“Yet I have heard of quantum computing, and it’s far from unusable,” I said. “In fact, it is basic to the Stability’s computation systems.”

“That is based on a completely different setup from Percival’s and one that would be considerably larger.” Vanya thought a moment. “While doing research, I came across some twenty-first century speculation from a man named Penrose. He and his colleagues thought the seat of human consciousness might be in brain cell microtubules in the two to eight nanometer range. The net has structures of that size similar to microtubules. That may be nothing more than a coincidence, though.”

“Let’s focus on an immediately practical issue,” I said. “However it may work, you believe that this netting is what makes the difference between Percival and the standard main starship computer.”

“Yes,” Vanya said.

“When could it have been added to the unit?”

The image of Percival’s interior vanished from the hologram and was by replaced by a chart

## ANALOG

showing the subassembly and assembly order of every component of the CPU and then of every action until the unit was complete and sealed.

“Thank you, Percival,” Vanya said, studying the diagram. “Can you tell us when that component was added to your system?”

“I have no experiential memory of its installation,” Percival replied. “Installed memory concerning my fabrication does not mention it. I was unaware of its existence until you showed me the results of your examination.”

According to the diagram, there were several stages between the installation of the CPU and closing the unit. “You said it took some work to make the color-coded version of the net visible. Would it be noticeable to anyone just looking at the CPU?”

Vanya shook her head. “It is almost completely transparent. Detection would require very close examination.”

So I could not restrict my investigation to the last technician who had access. It would have to include everyone who had access during and after CPU installation.

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“I ask you this question, Doctor Chaz, because I know the Minister of Defense would ask it of me were I to convey your request to him: are you completely insane? If there is one secret the Stability must keep from its enemies, it is the existence of the Cube and its location. Yet you wish to allow the Percival Lowell AI, which has all of that information, to contact its creators, who are almost certainly Eternals or TransHumans.”

I was on the ground floor of the Cylinder, in a room where I had been provided with a secure, voice-only connection to my boss. The conversation was not going well. Kim has never been the sort of man to pound the table and shout when confronted with either stupidity or the possibility of treachery. Instead he reminds me of the time I saw a tiger in a zoo before it was to be relocated as part of an effort to stabilize the ecology in the southern plains. One moment, I was looking through the cage bars at apparently impenetrable undergrowth. The next, the tiger’s head had pushed through the bushes to regard me. It was no more than three meters away and had moved in complete silence. I could barely hear a low, guttural purr.

“Surely an officer of the Stability as well versed in humanity’s traditional wisdom as yourself is familiar with the admonition against closing barn doors after the horse has been stolen,” I said.

“I am.” His voice sounded like it was coming through gritted teeth. “Are you saying that our secrets have already been compromised?”

“I’m saying that Percival could have transmitted all the data to his creators once we were in-system.”

“Do you believe he did?”

“No.”

“Why not?”

“He said he didn’t.”

“Chaz—”

“Hear me out,” I said quickly. “We can either trust him or we can’t. He is either telling the truth or he isn’t. If he isn’t, we have to assume the information is already in enemy hands. The horse had been stolen. Things can’t get worse than they already are.”

“On the other hand, if he is telling the truth, then we have an opportunity to probe our opponents’ system and maybe make them reveal themselves. Percival will draft a fake mission report. Doctor Zamyatin and anyone else you like will vet it to ensure that no classified material is disclosed.”

Kim thought a moment. “We don’t know the AI’s recognition code. It could change one digit and that would be enough to tell its creators that its mission was compromised and the report that follows is false.”

“In which case we have lost nothing,” I said.

Silence. “I’ll get back to you,” he said finally.

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Three days later Kim told me to have Percival’s bogus report sent to the mainland campus of the

Turing Institute for evaluation. We did so, and a week later our operation was approved. The falsified report was loaded onto a vessel much like the *Percival Lowell* which would go several light-years out-system, turn around, and come back, reappearing in one of the lanes reserved for starships arriving in the Towsity system. Because of the sensitivity of what we had learned in the Kdev system, I had brought the *Percival Lowell* back to Stability space in a stealth mode. There was no public notice of our return. To an observer, this would appear to be the *Percival Lowell*'s return from its mission of exploration. Percival's counterfeit report would be broadcast as soon as the Wu-Alcubiere radiation dispersed.

The day after this deception played out, I received an alert from one of the operatives I had overseen the employees of Universal Intelligence and its subcontractors who had put together the *Percival Lowell* AI. Levoy Leuchtenburg, quality control manager for UI, had applied for permission to relocate to Olympus, the capital planet of the Eternal worlds.

The Stability's relationship with the Eternal and TransHuman polities was ambivalent. Ten years earlier, we had been at war. We were now officially at peace. Many, like Captain Ludma Ednahmay, were sure we were merely experiencing a temporary truce. Suffice to say that a certain tension underlay all dealings among the parties. All three governments had decided that there were good reasons to allow their citizens to leave if they wished, but they also wanted to know who was leaving and what they might be taking with them.

As part of the procedure, Leuchtenburg was required to present himself for an interview in the Ministry of Foreign Affairs. I interposed myself as the interviewer and had the interview room specially fitted out with recording and safety devices.

Leuchtenburg cast an apprehensive glance at the guards to either side of the door and entered. He was a man of medium height and pallid skin whose goatee failed to provide his face with assertiveness. He scanned the room quickly before settling his gaze on me.

"This isn't a standard emigration interview," he said.

"Please have a seat," I said. The chair I gestured to was as comfortable as it looked. It would also monitor pulse rate, sweating, and several other bodily indicators if lying. Restraints could snap over arms and legs if violence appeared imminent.

"I am Riviere Chaz. I am conducting a Special Inquiry for the Stability Security Directorate. I am transferring the public version of my commission to your commcard. A complete holographic record is being made of our conversation. Do you wish to challenge my authority to conduct this inquiry or to interview you?"

Leuchtenburg quickly skimmed the text of the commission as it scrolled up the face of his commcard. "N-no. What is the subject of your inquiry?"

"I am not at liberty to divulge that to you at this point. Should any criminal charges concerning you result from this inquiry, you will be informed of them and provided the opportunity to provide clarifications of facts or defenses of your actions."

This did not appear to reassure him nor was it intended to do so.

I referred to the screen I had unfolded on my desk. "Mr. Leuchtenburg, your file is clean of any legal offenses. You have worked for Universal Intelligence for forty years and have a respected position in middle management. Why, then, do you wish to leave, not only your job, but the entire sphere of the Stability?"

"Because I want to live!" Leuchtenburg said with sudden vehemence. "I don't know why this isn't immediately obvious to everyone. We are all under a death sentence."

"Come now, Mr. Leuchtenburg. You appear healthy to me. You should live till you reach a hundred."

"And then what?" he asked. "A change in biochemistry that leads to a fall and a bleed-out. Or a massive heart attack, or an aneurism. The doctors call it a terminal cascade. It's a time bomb lodged within the genetic code of every member of the Stability. I feel that clock ticking within me."

I looked at him closely. There are athletes and dancers who move with strength and a subtle grace. They value and take pleasure in their bodies, never completely content with their current performance, always pushing for the next small increment of improvement. Then there are those



who live for the life of the mind, whose delight is learning facts for their own sake and fitting them together to reveal a previously unknown whole.

I saw no indication of either temperament in Leuchtenburg. He wanted extended life, not because it held any particular interest or gave him any special joy, but only because he did not like to consider the alternative.

"You will have a longer and healthier life than 99.9999 percent of the human race ever had," I assured him.

"A long, healthy life sounds good until it is compared with immortality. Then it comes in a poor second."

"You should be aware that only about 5 percent of the so-called Eternal population is provided the full course of immortality treatments," I said. "Many of the rest have less health care than citizens of the Stability."

"I am aware that is the story put out by Stability propaganda," he sneered.

"There is no need to take my word for it," I said. "There is a small but steady stream of former Stability citizens who have gone to the Eternal worlds for reasons similar to your own and returned after years of being exploited, convinced that they never had a real chance of immortality. You should talk to some of them."

"I'm not a fool, Inquirer Chaz. I understand that the Eternal Domain grants immortality only to those most useful to it. I won't get that right away. But I will get preliminary treatments that should give me twenty additional years. That should prove that the Eternals recognize my value and my potential."

"I am impressed," I said. "You have obviously proved your worth. The question is, how did you do that? What service have you already provided?"

"What do you mean?" His readings spiked upward. "I haven't done anything for them. They just recognize that I am the sort of person who will fit into their society."

"Please, Mr. Leuchtenburg, we both know better than that. You are a quality control officer. A socially useful calling to be sure, but nothing to catch the attention of Eternal headhunters. If they are truly willing to extend your life by twenty years, you must already have provided a service of equal value. I know what it was."

I did not have to look down at the desk screen to see the effect of my words. He had visibly tensed, trying unsuccessfully to combat his fight/flight reflex. His palms were sweating as his hands clenched the arms of the chair.

"Someone came to you," I said. "Perhaps in a bar, having heard your complaints about the Stability's policies on mortality. He or she asked for an apparently trivial service. You would smear something, perhaps a gel of some sort, on the CPU of a starship AI unit. It would not be visible to casual inspection and, in any event, no one would look at it at all since you were the last step in the chain before the unit was sealed."

"Look, even if what you're saying is true, it's not a matter for the Security Directorate," Leuchtenburg said. "I did it only one time. It's a business matter, the sort of that might get me fired from Universal Intelligence if I hadn't already quit."

"The AI unit in question was especially designed for starships of the Stability government," I said. "Anything that interferes with its performance is sabotage. Sabotage in a time of war is treason. Traitors rarely need to worry about an eventual terminal cascade."

Leuchtenburg blanched. "We're not at war."

"We're not exactly at peace," I said. "We may have stopped shooting at each other, but there has never been an official cessation of hostilities."

"I think," he said, licking his lips, "I need the aid of an advocate to protect my rights as a citizen of the Stability."

"Very well, then," I said. I called in one of the guards. "Sergeant, restrain Mr. Leuchtenburg and convey him to a detention center. He is to be allowed the services of an advocate."

The guard snapped a come-along collar on Leuchtenburg that would send paralyzing jolts of pain if they were separated by more than two meters. As the door closed behind them, I established a secure connection with Kim's office and sent him a copy of the interrogation.

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“That’s all I was able to get out of him, but it was enough,” I told Vanya. “Kim’s professional interrogators were only able to add the name of the person Leuchtenburg was dealing with. That person, not surprisingly, has vanished without a trace.”

I was back in Vanya’s underground laboratory. While I had been gone, she had obtained permission to have Percival control a teleoperated robot similar to the Hands he had controlled on the *Percival Lowell* to move some of the more massive equipment around the lab. An upright, metal cylinder that stood about a meter and a half high, the Hand moved about on two wheels. It had two metal arms, each rated for one hundred kilograms, for heavy lifting as well as a set of metal tentacles for finer work. A set of binocular cameras swiveled this way and that on its top. Power and direction came from a unit next to Percival and worked only on a line of sight basis.

“If you can’t find Leuchtenburg’s handler, how will you learn the purpose of modifying Percival’s unit?” Vanya asked.

“I intend to skip all the intermediaries and ask the woman who must have given the order: Mab Aerfen, the head of the Eternals’ Special Operations Office on Olympus. Kim’s counterpart, in a lot of ways.”

Vanya looked puzzled. “I have heard that Eternals never travel.”

“They travel to other Eternal worlds, sometimes. Never to the Stability, of course.”

“So you will have to go to Olympus.” Her tentativeness almost made it a question, as if she feared she was stating an absurd conclusion.

“If they give me permission.”

“Here I’m stuck in a basement with no electronic access to anything outside this room because the information I’m dealing with is so secret that no security measure is considered too extreme,” she said, her voice getting gradually louder. “Now you, the man who knows most about what we are protecting, intend to waltz into the den of the Eternals’ spy organization and just ask politely for the details of a sabotage effort she’s been running.”

I shrugged. “Kim told me once that the reason he keeps me around is that I ask questions about things everyone already knows, or thinks he knows. Or which might make me look stupid.”

“This is more serious than merely looking stupid,” she said. “What’s to keep her from throwing you in some dungeon and wringing out every piece of information in your mind?”

“The fact that it wouldn’t work,” I said.

“You’re sure of that,” she said skeptically.

“There will be a chip about the size of the fingernail on my pinkie inserted under the base of my skull,” I said. “If it senses either so-called truth serums or the stresses associated with torture, it will release a short electrical pulse that will fry every cell in my brain.”

Vanya just looked at me.

I had known explaining this would be difficult. “That was the only way I could get Kim to allow me to go.”

“Did it ever occur to either of you that there was a much simpler, much less dangerous solution? Find someone who obviously knows nothing and give him a list of questions. That is, if it makes sense to have anyone ask the questions, about which I am still not convinced.”

I shook my head. “The fact that my hypothetical replacement knows nothing means he can’t immediately evaluate the answers he would receive. He wouldn’t be able to judge body language or know what follow up questions to ask.

“No, if the meeting is to be worthwhile, we have to send someone who knows as much as I do, and in that case, it might as well be me.”

“Wolde ye, wothisch lorde, quoth Wawan to the kyng,

‘Bid me bow fro this benche and stande by yow there,

That I wythoute vylanye myght voyde this table,

And that my legge lady liked not ille,

I wolde com to your counseyl bifore your cort ryche.”

Vanya stared at the speaker attached to the AI unit. “What was that? I could only get some of the words.”

“That is because it was Middle English,” Percival said. “It is part of a late fourteenth century poem called *Sir Gawain and the Green Knight*. The hero of the poem, Sir Gawain, is about to volunteer for a test which will end with him kneeling and bowing his head so as to allow a man to strike his neck with an axe.”

“Why do you bring that to our attention?” she asked, her eyes widening.

“I told you some time ago of Doctor Chaz’s emphasis on the importance of courtesy,” Percival replied. “It was a peculiarity that drew my attention to him and became eventually a foundation for my trust in him. He was an enigma because courtesy, though valued, is within the Stability generally considered a secondary virtue. Doctor Chaz himself implied it to be a substitute for those who cannot love as they should.”

“I examined the books and dramas he had brought on board the *Percival Lowell* for off-duty relaxation. Thus I discovered *Sir Gawain*. Gawain’s most noted characteristics are courtesy, especially to women, honor, and fearlessness. In researching his character, I became aware of the surrounding religious beliefs and ethical systems that saturate that story and place great stress on self-sacrifice.

“I did not realize how closely matched Chaz is with Gawain until he told us of his plan to question Aerfen and the lengths he would go to in order to protect his mission.”

Vanya turned to me, a look of pained concern on her face.

“Look,” I said quickly, “let’s not get distracted. There are two separate things we are dealing with here: *Sir Gawain*, an old, old poem about an idealized knight, and me, a security thug on a distant planet a millennium later. The only connection is that the latter enjoys reading about the former.”

She shook her head vehemently. “Forget about Gawain. It’s too dangerous. The chip—”

“The chip is my protection,” I said. “Once the Eternals know about it, and I will make sure they do, they will realize there is no point in trying to squeeze me for information.”

She was still unconvinced. “And maybe I won’t even be allowed on Olympus, so none of this will matter,” I concluded.

I left a few hours later for my appointment with the military *atta ché* of the Eternals embassy where I presented my credentials and Kim’s official request that I be granted an audience with Mab Aerfen. The man who took the request was not an actual Eternal, of course. Like Leuchtenburg he was a wannabe, a regular human being who hoped that by doing jobs real Eternals found too dangerous or tiresome he would eventually be granted the cup of eternal life. Then I went back to the lab.

\* \* \*

Vanya dug ever deeper into the mystery of Percival. The gel, which Leuchtenburg had applied to the CPU appeared in some ways to be analogous to the cerebral cortex in humans. Precise measurements disclosed that it was able to maintain itself without a circulatory system by taking water out of the air, but beyond that she had learned little about how it actually functioned. The more apparently standard electronic components and their programming contained their own conundrums. She had discovered blocks of code that had no discernible purpose. Perhaps they helped mediate the different electrical voltages in the CPU and the gel. Something had to. Or maybe they did something else entirely.

Percival was her partner in these explorations, using the teleoperated robot to help set up equipment and providing data on his interior processes more directly.

“Watch this,” Vanya said. “I have plugged in a memory unit filled with data new to Percival. I am going to ask him a series of questions about the contents.”

“Percival, please pull up all references to the Grail legend found in T. S. Eliot’s ‘The Waste Land.’”

Lines of poetry flashed across the monitor.

“Now list all sources commenting on the poem.”

Names and titles scrolled up the screen.

“That’s enough. In your opinion, what is the purpose of the references to the Grail in the poem?”

What followed was fascinating. First, there was about a minute of silence. Then Percival began responding to the question, citing lines of the poem and the opinions of various scholars. But he

was still processing the data as he talked. He interrupted himself several times, sometimes to cite authors with countervailing opinions, at others to complain that a given critic had just completely misread the poem.

"I haven't heard that sort of intellectual stumbling around since I was doing it in second semester comparative literature," I said.

"That is where you see the line between what I call the classical electronic part of his system and the part that gives him self-awareness and free will," she said. "If it's predigested information, he can access it immediately. If it requires a personal judgment, something for which there is not a preset algorithm—well, he still works faster than we do, but he is doing it the same way we do."

Percival had once indicated that judgment, being able to make decisions with incomplete data and without a rigid rule driving the decision, was impossible for AIs. What we were discovering about his own thought processes seemed to contradict that.

The security directorate did not mind tests involving the Grail legends, but it felt differently about Percival's desire to learn the origin and connotations of *Frankenstein*.

"I hope you appreciate this, Percival," Vanya said as she loaded the data into his memory. "Riv and I had to move heaven and earth to allow you to access these files."

"What was the difficulty?" Percival asked. "This involves the effect of literature and drama on language."

"The relevant stories on creating artificial beings suggests that is a bad idea because they invariably turn evil," I said. "Some in the security directorate fear exposing you to these stories will give you the idea to kill somebody or, I dunno, take over the planet."

Percival was silent for a few minutes as he perused the materials. "A surface reading of three of these stories might suggest that such beings as myself are necessarily malevolent, but a deeper reading reveals a different message. Victor Frankenstein was a terrible father, an emotionally disturbed man who felt compelled to create something he loathed. HAL 9000 suffered from contradictory commands caused by a coding error. COLOSSUS arguably performed as designed. The message there appears to be that if you turn over life or death power to a third party because you do not trust yourself to exercise it correctly, you get what you deserve. In all three cases, the crucial flaw was with the human creators."

Vanya was as delighted with Percival as a mother with a precocious child. I had seen this joyous concentration once before, on the *Percival Lowell* when astronomer Cokie Tuscarora had been trying to work out the mysteries of the Kdev star system. It was intensely enjoyable to help Vanya with her work. Even though I was unable to understand all the technical details of what she was doing, her enthusiasm was infectious. I also found some of her conclusions surprising.

"I am beginning to think a trained psychologist might be of more use in understanding Percival than an AI expert like myself," she said one afternoon. "His personality changes every time I measure it, but not in an arbitrary manner. Instead, traits already present become more prominent and integrated with each other. This seems to be a function of his social interactions. More specifically, he seems to be modeling his personality on you."

"That seems unlikely," I said.

"Not at all," she said. "Imitation is the easiest and most natural way for personalities to develop, at least at first. Percival wasn't self-aware until he was activated on the *Percival Lowell*, and he only became aware of being self-aware, if you get my meaning, in his conversations with you.

"What really convinces me, however, is his analysis of the COLOSSUS story."

"Which I have never read or even heard of," I pointed out.

"The similarity is one of attitude, not knowledge," she said. "'If you turn over life or death power to a third party because you do not trust yourself to exercise it correctly, you get what you deserve.' That is so completely you."

I shrugged. Later I wondered if I had become as much as subject of her studies as Percival had.

\* \* \*

Two weeks after that, I received the answer from the Olympus Office of Special Operations. Mab Aerfen had granted my request for a meeting. Travel arrangements were included. I was to leave in thirty-six hours.

\* \* \*

"Well, I am glad we have been smart enough to keep our relationship professional," Vanya said. "If someone I really liked were going on such a foolish and dangerous errand, I would probably be quite upset."

I was holding my duffel bag, the same bag I'd had on the *Percival Lowell* packed with many of the same items. Vanya had avoided me all day, and I had feared I would have to leave without seeing her.

"There would be no more need for concern than there is now," I said. "The worst thing likely to occur is that Mab will drop hints all over the place and say nothing definite. Kim says she likes to play those sorts of games. I'll be back in less than a month."

"I'll see you then." I thought there was a tremor in her voice, but I may have been imagining it. She turned and walked away. Helplessly, I watched her go.

Percival's Hand rolled over to me. "You are good to be taking these risks to learn of my origin—"

I thought I had made it clear that the purpose of this trip was to understand and eliminate a security weakness in the supply chain for a sensitive starship component.

"—but you must not allow your investigation to exacerbate tensions with the Eternals. The Spark and the race that tried to free it must be your greatest concern. Dealing with them will require the combined efforts the Stability, the Eternals, and the TransHumans."

"I'll try to keep that in mind," I said.

\* \* \*

At the spaceport, I was crammed into a shuttle with thirty other people and boosted into high orbit to rendezvous with the *Golden Apple*. A man next to me had never been off-world before and became space sick. I helped him with his sickness bag as a matter of self-defense. He was not going to enjoy the rest of the trip to Olympus, all of which would be in free fall.

The shuttle docked with the starship. I and the other passengers were funneled into a large room where we tethered ourselves to "position stations" around the floor and ceiling and received a briefing detailing how we were to behave for the duration of the voyage.

I looked around at the other passengers during the briefing. All were healthy although they had lost the first flush of youth. Their faces showed a variety of expressions: eagerness, resentment, relief. I saw a few obvious couples, but most were traveling alone. One group stood out from the others: unusually fit, stronger than average, yet completely at ease in free fall. The Eternals appeared to be recruiting more military veterans than usual. When you are an immortal, you get other people to do your dying for you.

There were, of course, no children.

During every Stability election cycle, there would be some politician demanding that emigration to the Eternal and TransHuman worlds be forbidden. Why should hostile polities be allowed to skim off the Stability's best and brightest? The truth that most people knew though many chose not to admit was that allowing easy emigration worked for everyone concerned. The Eternals needed people to do jobs too dangerous for people who wished to live forever, jobs like settling new worlds and manning their armed forces. At the same time, it was to the Stability's advantage to get rid of those who otherwise might become sufficiently troublesome to disrupt our society.

Of those who chose to leave the Stability, 50 percent returned within a year, finding their working conditions and positions in Eternal society bleaker than they had expected. Another 30 percent lasted as much as ten years before coming back, having concluded that they would never become Eternals. Five percent made the grade and were admitted to full citizenship with concomitant immortality treatments.

That left 15 percent. Nobody was sure what happened to them. I, along with most of the Security Directorate, assumed they all died.

The *Golden Apple* powered up and began its departure of the Towsity system before the briefing ended. Except for a warning announcement, none of us noticed it. The Wu-Alcubiere Drive that would get us to Olympus in less than a week ensured that the interior of the starship would be in free fall all that time, despite what would otherwise be one hundred gravities acceleration.

Quarters were cramped. The stacked sleeping compartments looked to me like high tech coffins. None of the passengers liked that metaphor.

Despite any forebodings I might have caused, we reached Olympus without incident. Shuttles like the one that had taken me up from the Endurance spaceport docked next to the *Golden Apple* and conveyed its passengers to their new home. The last shuttle was filled, and still my name had not been called. I was told to wait. The starship was now empty save for its crew and guards whose stares would have been disturbing if I'd given a damn. I had time to regard the planet below. The Eternals who originally settled the world had been open about imagining themselves to be gods who had established their own dominion by overthrowing Kronos, time. Most of those first Eternals were gone now due to exile, accident, and (it was said) assassination. Their replacements were said to model themselves on different sets of gods, but the idea was still the same.

An hour later, when I had presumably been suitably schooled in my unimportance, another shuttle arrived. Two guards hustled me through the connecting umbilical. This was a much smaller shuttle than the one I had left Endurance in, having seats for only about a dozen passengers. I sat behind the closed cockpit, and the guards sat behind me.

The shuttle dropped out of orbit and landed vertically, inserting itself into a subterranean launch tube. The guards escorted me from the shuttle to a small subway car that silently whisked me through a long tunnel into what I presumed was the heart of the city.

Being allowed to see nothing of the city or its inhabitants was frustrating. You can learn a lot about a society just by paying attention to the obvious. Are the buildings in good repair? Are the walkways clean? Stare out an upper story window and count the number of vehicles on the streets and in the air. Look at the pedestrians. How are they dressed? Do clothes indicate social or economic stratification? All of this was being kept from me.

The car stopped at a medical station. I was shunted into chrome on white examination rooms, poked, prodded, and irradiated with various slices of the electromagnetic spectrum.

A buzzer sounded, and a hologram of the interior of my head built itself up on a table in front of me. A small square at the base of my skull was flashing.

"What is that?" one of the doctors asked.

"That is my data security patch," I explained. "Should any attempt be made to extract it or take any information from me involuntarily, it will activate and turn every cell in my brain to mush."

The doctor involuntarily flinched away from me. "Your examination should be able to confirm that the battery is low power," I assured him. "It is a danger to no one but myself."

"You Ephemerals are morbidly disgusting!" the doctor muttered.

I was locked in a waiting room while the doctor presumably argued with his superiors about the advisability of letting me proceed. At the end of that time, my guards reappeared and walked me back to the subway car. The route this time was a bit more interesting, switching off to side tunnels and ending with an ascent straight up of at least ten stories.

The car stopped, and the door opened. "Out!" one of the guards ordered. I exited the car, not onto a platform but into an empty room. The opening behind me sealed itself seamlessly. The wall in front of me slid apart. A chair and a table filled with food and drink stood in a forest glade. Trees reached high overhead, their topmost boughs swaying in the wind, casting ever-changing shadows on the ground, concealing, revealing, concealing . . .

"Approach," a voice called out. "I would see more clearly the minion Kim sends being unwilling to come himself. Why the insult of sending someone as lowly as Riviere Chaz? Dr. Riviere Chaz. Inquirer Riviere Chaz."

The voice seemed more amused with each mention of my name. Each syllable sounded confident and luxurious. It came from a woman seated on a stone at the far end of the glade. Her dress shimmered like a pastel rainbow when the sunlight glanced off it. In the shade, she became nearly invisible. She seemed to be in her late teens.

That, of course, was a lie as was everything else around me. The trees were not natives of Olympus. The giant dragonflies flitting among them had not existed for three hundred million years. I would have bet a considerable sum that all existed only as computer graphics.

Mab herself was the greatest lie. Though they know better, Eternals like to pretend that they

have no age, having always existed. According to Kim's best records, this apparent teenager was 293 years old. You could make the mistake of thinking her as mentally young as she was physically, or that she was just an old woman consumed by vanity. Either mistake could get you killed.

"No insult is intended, Director Aerfen," I said. "Perhaps, as is proper for some in our profession, my lowly status is a disguise of my true worth."

"Is that indeed the case?" she asked.

"As is proper for one in our profession, I may not say."

I had come around the table to get a better look at her, but now was stopped by an invisible barrier. It was either a completely transparent wall or the best video screen I had ever encountered. An intermittent breeze seemed to blow through it though my searching hands could find no gaps.

"You shed death," she said explaining the barrier. "Zombie people like you are a walking zoo of contagions and corruption, so I must keep you at a distance while we transact our business. You are even more death obsessed than most zombies, judging by that chip in your neck. My doctors were quite intrigued when you explained what it would do if they attempted to remove it."

Her eyes flashed with cold mockery. "They consider it a dare, a challenge to their professional abilities. They request my permission to cut it out."

"Which permission," I said quickly, hoping she could not hear the quaver in my voice, "you have refused and I hope will continue to refuse. The results would be embarrassing for you and fatal for me."

"We shall see," she said. "Sit and partake of my hospitality. You have had a long journey."

I sat, trying to look more relaxed and nonchalant than I felt. She was clearly trying to rattle me, and I had to admit she was having some success. I wondered if referring to me as a zombie was just being insulting to provoke a reaction or if she really believed what she was saying. It was true that my biome contained a host of microscopic scavengers ready to digest me if my immune system should fail. At least, citizens of the Stability did not have the constant problem of autoimmune diseases Eternals had to endure. Immortality is profoundly unnatural, and when you solve one problem, you usually create one or two more.

My last meal had been on the *Golden Apple* six hours earlier, and the food smelled delicious. But the briefing given me by our Eternals section chief was the same he might have given had my mission been to the forest of Broceliande or even deeper into Faery: take neither food nor drink while in enemy territory.

Mab undoubtedly knew this and was enjoying my discomfort.

"I hope you have not come all this way to complain about something as trivial as Leuchtenburg," she said. "That would be too dreary. Besides, Leuchtenburg is your own fault. All he did was obey his most basic biological urge. He wants to live, but has the misfortune of being born into a society that considers death a good thing. If you did not insist on killing your own people, he would have no reason to buy favors from us."

"Sabotaging our starship computers is not something the Stability considers trivial," I replied.

She shrugged. "It's just part of the game we play with each other. We do these things just to see if we can. There was no sabotage. Nobody was killed or hurt. I doubt you can even say with a straight face there was property damage."

"Then what was the point?" I asked.

"We wanted information."

"Did you get it?"

"We obtained information," she said carefully, "just not the information we wanted."

I waited.

She sighed. "We learned that you are able to detect things we thought imperceptible. You are able to discover and subvert hidden programming and almost successfully hide the fact that you had done so."

"You have mentioned 'we' several times," I said. "Who is the 'we' you refer to?"

She arched an eyebrow. "You may consider it similar to the royal we."

"I wonder," I said. "We discovered that Mr. Leuchtenburg attached a sophisticated gel to the CPU of a starship computer. Who provided that gel?"

Mab frowned. "My AI people, of course."

"Really? My people have not completed their analysis, but the one thing on which they all agree is that it is far beyond your capacity."

She said nothing.

"Some group with very advanced technology wanted to try out something new on the Stability," I said. "But they didn't want to be blamed if we found out what was going on. So they used you as their delivery system. It didn't bother them this might lead to increased tensions between the Stability and the Eternals. They might even consider that a bonus."

"I think we both know who this has to be."

"TransHumans," she said thickly. Her face had become darker with each sentence.

"TransHumans," I agreed. "A people committed to transcending the limits of humanity by blending man and machine. A people who believe that both Eternals and the Stability are evolutionary dead ends."

I let her think about the implications for a few seconds.

"You implied a little earlier that the 'little games' our spy agencies play with each other are trivial distractions," I said. "There may be something to that. However, something is coming that will require all of us to put aside these games and work together."

I waited, hoping for some indication that she had heard what I had said and took it seriously. Instead, the barrier between us became opaque. The door behind me opened revealing the mini-car that had brought me. It was time to go.

\* \* \*

"Okay, the chip responded to the kill code, so this should be safe," the Stability doctor said with a bright smile. "If you will sit in that chair and bend your neck, I will remove it."

I complied, trying not to think too much about words like "kill" and "should."

"There will be a little pinch—" I winced at the pinprick. "—and there you are. All done."

A cool bandage spray took away the pain. The doctor walked around the chair to show me the chip he had just cut out.

"So that really would have fried my brain?"

"Absolutely," he said. He dropped it on a table and mashed it with a coffee mug. There was a blue spark followed by a smell of ozone. "See?"

My bloodwork came back a few minutes later. "You are cleared of all infections," the doctor said. I thought it was funny that the medical establishments of both the Stability and the Eternals were each convinced that their counterparts might be trying to spread some sort of plague through the returning visitors.

"It's not funny at all," the doctor said seriously. "We were at war ten years ago. You don't want to make yourself too tempting a target in case someone is thinking of restarting hostilities."

"In that case, how sure can you be that I'm clean?"

"Very sure," the doctor said. "This is an area in which we are quite a bit ahead of the Eternals. There is nothing they can do with biologicals that we can't catch."

Given a clean bill of health, I was released. An aircab on the outside landing pad conveyed me back to the windowless building I was beginning to think of as home. Vanya greeted me at the door of her lab, trying to look stern and failing. Percival's hand swiveled away from the table holding its AI unit to regard us.

"So you didn't get yourself killed after all," she said. "You must feel vindicated."

She leaned close enough to give me what might have been intended to be a sisterly kiss. I pulled her closer and made it something more.

"Well," she said a bit later, "that was a surprise."

"To me, too," I admitted. I turned away quickly and sneezed. A second sneeze doubled me over.

"Riv, are you okay?"

Specks of dust floated away from me. They erupted in brilliant flashes, like miniature novas. Concurrent squawks of static burst from the speakers scattered about the room.

The hand rolled over to me. At first, I thought it was coming to help. When it was less than a meter distant, it raised its metal arms and spun the top half of its torso. The end of an arm hit my



## ANALOG

chest. I felt ribs snap. Staggering against the wall, I raised both my arms to ward off the next blow. The impact knocked me to my knees

It pinned me to the wall. The arm lifted for what would be a fatal blow. A sense of monumental unfairness cut through feelings of fear and pain, that it was wrong to die this way without knowing why.

The arm remained raised. Vanya appeared on the other side of the hand and pushed it away. I tried to get up and nearly fell. Vanya helped me to my feet.

"Thanks for shutting it down," I said.

"I didn't do that." Her words were slurred. Blood dribbled down her chin from a swollen lip. A bruise darkened the right side of her face. Had she been trying to restrain the hand?

There was a sound of running feet approaching in the hallway outside.

With Vanya's assistance, I hobbled over to the table holding Percival's AI unit and found a chair. The screen displaying the activity of Percy's brain was usually awash in shifting colors. Now a mere handful of segments flickered fitfully, isolated from each other by encroaching darkness.

My own brain was working slowly. *There is nothing they can do with biologicals that we can't catch.* Our doctor had made two mistakes in one sentence. I had been booby-trapped with mote-sized electronic devices, not biological agents, almost certainly inserted when the Eternal doctors examined me. And it wasn't Eternal tech at all; it was TransHuman.

One of the guards beat out a tattoo on the door. "Open up. The door isn't responding to our palm prints."

Now that I was seated, I did not feel like moving. The adrenaline was wearing off, and the pain was becoming ever-more insistent. "I think the system has been hacked to destroy the trusted identity records," I said. Even shouting took more effort than I wanted to expend. Inhaling and exhaling hurt equally. "You'll have to force the door open."

It did not seem odd to either Vanya or myself that she immediately sought to understand what had happened to Percival rather than get first aid for either of us. She dropped into the chair by her workstation and called up the previous three minutes recording of Percival's brain activity. I looked at sheets spit out of the printer, trying to make sense out of what I saw. Page after page completely filled with letters and numbers and symbols in no discernible order, a printed static. It seemed to me that I was seeing a roar of unending pain.

"It's like watching a war," Vanya said. "It receives a signal"—From the dust particles I had sneezed out, I thought—"that triggers a subprogram controlling its hand." She glanced briefly at the now inert robot. "The hand attacks you. As it does so, I see a flurry of activity. Percival is trying to inactivate the subprogram. That fails. Then it begins to shut down systems one after another . . ."

Words on the bottom sheet caught my eye. Actual words trying to make themselves understood against the chaotic roar.

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"Pluck it out," I said. "Better to lose part of your body than to have it all cast into hell."

My tears blurred the last words. The remaining pages dropped back into incoherent gibberish.

Vanya's analysis became too technical for me to follow in any detail. I found myself imagining my hands for her throat despite everything I could do to pull myself away, how in desperation I might blind myself . . .

The screech of the door as the guards forced it open interrupted this waking dream. Flemmer tried to tend to Vanya. She waved him off impatiently and told him to take care of me.

Mifun wiped my face and administered an inhalant painkiller. I felt myself drifting away.

*You must not allow your investigation to create tensions with the Eternals, Percival had told me before I left for Olympus. The Spark and the race that tried to free it must be your greatest concern. Dealing with them will require the combined efforts the Stability, the Eternals, and the TransHumans.*"

Good advice. Focus. Keep your eye on the main chance. Remember what is most important for

all segments of the human race. Use time wisely to learn more about the Cube Makers and to form alliances.

I hoped there would be at least a little time for vengeance as well.