

## Datacide by Steve Bein

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1.

Kneeling on the bathroom floor, Richard Sakabe wondered if whoever invented the contact lens appreciated the irony of his creation. The only people ever likely to look for one were those who needed them to see, and it was precisely when they weren't wearing them that they'd have to go looking. Richard wondered whether the inventor also guessed that people were most likely to drop a contact lens in the bathroom, maybe just after a shower and before a shave, where any good-sized drop of water looked a hell of a lot like a contact lens.

His fingers skimmed the hundreds of one-inch ceramic hexagons tiling the floor, wetted here and there by droplets that were not contact lenses. A piercing headache was already settling in behind his left eye. It was the right lens he'd dropped; the left one, a nearly invisible disc of polarized, gas-permeable plastic, filtered the harsh fluorescent glow of the overhead light. The difference was subtle, but his optic nerves were sensitive enough to send mixed signals to his brain and now his head was pounding. He had to do something to stop it soon; this wasn't the morning to have a migraine.

"Stupid goddamn thing," he muttered. Then, remembering where he was, he switched to Japanese. The Japanese language wasn't suited to this kind of situation. They were too polite a people to call a contact lens the other names he had in mind. As he crawled a step forward, his towel came undone and he cursed at that too. Hiking it back over his hindquarters, he felt something wet land on the back of his heel. He reached back and delicately picked it up. The lens.

After a minute of prodding and poking at his eye, he managed to situate the other contact lens in line with the lens in his left eye. Once aligned, these lenses would not drift, for they had been topographically mapped onto his corneas with microscopic precision. It was critically important that the polarization of one lens be parallel to the other, not for his assignment, but because there was no other way to alleviate his headache. It was impossible to see the polarization of the lenses, of course--these were the thinnest, most undetectable contacts ever designed--but Richard could feel the pressure slacken in his skull the moment his right eye was aligned with his left.

There came a knock on the door to the apartment and he hastily pulled on underwear and a pair of black suit pants. The lens had made him late. "*Shosho machi kudasai*," he said, threading his arms through the sleeves of a white shirt. Fifty-five seconds later he was buttoning a black jacket over a thin black tie and tossing his toiletries into his carry-on bag. He'd shave on the plane.

"Are you all right?" asked the American at the apartment door. She was portly and only stood to Richard's shoulder, not at all what he'd expected of a G.I., and she was looking at his red, irritated eye.

"*Sumimasen*," he said, bowing, the blood still pounding in his head. "*Arerugi*. How to say--hay sickness."

"Hay fever," she said. "May I see your identification?"

Richard handed her a passport, military contract, and Aichi prefecture driver's license identifying him as Dr. Eiho Koizumi. She looked them over, examined his face, and took him to the air base.

2.

Nineteen hours later Richard brushed his ink-black hair from his face and dripped saline solution in his eyes. The sucking drain of the airplane bathroom's sink was almost as loud as the engines. A miniature nightmare unfolded in his mind, the solution washing a lens out of his eye to be swallowed by the drain. He laid a paper towel across the bowl of the sink.

The air-conditioning system of the ancient DC-9 started drying out his eyes from the minute the doors were closed. His nostrils were as dry as paper and his tongue felt sandy. Moreover, the index finger on his right hand had swollen like a bratwurst. Inside it, just above the first knuckle, was a thin membrane of manufactured ligament. Theoretically it allowed oxygen to flow freely but was impassable to fluids. As soon as the plane had reached cruising altitude, Richard had learned that oxygen did not flow as freely through the barrier as had been expected. His finger showed no signs of necrosis, so some oxygen must have permeated the membrane, but his finger had not adapted to the change in cabin pressure as the rest of his body had. In fact, it bore a closer resemblance to the bag of pretzels his military escort had purchased for him at the PX in Nagoya. The little bag was as taut as a mylar balloon.

Richard dropped another dose of saline solution into his reddened eyes, then hid the bottle and his swollen finger in his jacket pocket. There was a ping, followed by the lighting of the seatbelt sign as the plane began its descent. He returned to his seat, fastened his seatbelt with his left hand, and closed his eyes until he felt the landing gear bounce off the tarmac.

3.

From the back seat of the DOD's hybrid Lincoln sedan, Richard could see the lazy gray waves of Lake Michigan. I-90 would have been faster to the south side, but the driver assigned to escort Dr. Koizumi wanted him to see Chicago's skyline more closely. "That's the Hancock building on the right," the escort said over his shoulder, "the one with the big antennas."

The translator sitting in the back seat with Richard dutifully interpreted this into Japanese. She had short dark hair and skin the color of walnut shells. Mexican, Richard guessed, or Puerto Rican, but in any case her Japanese was flawless. He feigned perplexity until she completed her translation, then nodded and looked obligingly at the Hancock's twin white antennae.

"First time to the States, isn't it, doctor?"

Richard waited for the translator to pose the question, then bowed with a curt "*hai*." "Amazing, isn't it?" asked the driver. "All the work you've done right here in town and you've never actually set foot here before. But I guess that's computers for you, huh? What'll they think of next?"

Richard's gaze returned to the lake. His polarized lenses made the waves shimmer oddly, almost pixilated, like a video game. For all its size Lake Michigan was nothing like the oceanfront in Nagoya, nor like the sea off Long Island, where Richard had grown up. The waves were shallow here, slow in spite of the wind. Between the filtered glimmer of the wave caps and their seemingly unnatural stillness, Richard found he could not take his eyes off the water.

At last the Chrysler turned off Lake Shore Drive and wended its way through to the red brick buildings that set the University of Chicago apart from the blighted neighborhood that surrounded it. Iron bars

adorning all the first-floor windows on campus bespoke the university's concern for its students after dark. Richard's escort parked the car in front of Reid Hall, the newest building on campus, its similarly barred windows looking across 57th Street toward the Regenstein Library. Some seventy years ago, the plot where Regenstein now stood had housed a football stadium, and in the bowels of it some of the world's top scientists had forged ahead in secret on the Manhattan Project. Richard wondered whether the football stadium had seemed as innocuous then as Reid Hall seemed now. He wondered which of the two was home to the greater threat.

Though it was only two o'clock in the afternoon, Reid Hall was locked, and Richard's driver opened the front door with a magnetic keycard. "Well, this is where he keeps his office," the driver said amiably. "I hope you can help him."

Following his escort, Richard trotted down a short flight of stairs to a long corridor floored with green and white linoleum squares. The same keycard opened a door on the left side of the corridor, behind which Richard found a small, bright room. Two soldiers with M-4 rifles stood by steel-framed double doors of blackened glass. On the right-hand door the words ARTHUR ONE were spelled out in large white decals. Below them, in smaller lettering, the door read PROFESSOR, POLITICAL SCIENCE. For office hours, the door listed only the infinity symbol.

To the right of the doors was a melamine desk decorated with an array of security devices. The first of these splayed a lattice of red laser light when Richard's false passport swept beneath its electronic eye. A green light from this machine permitted Richard to use the next, a tall frame of navy blue sheet steel housing a nondescript cream-colored box. Black rubber cups akin to swimming goggles ringed two holes in the box. Richard looked into the cups, pressing the orbits of his eyes to the rubber as if he'd done so a thousand times. This was, however, the first time he'd ever done this, and in truth he had no idea if it would work.

He did not so much hear as feel the click when he pushed the cups in far enough to activate the retinal scanner. A low buzz emanated from somewhere within the blue steel frame. Richard drew back from the device and looked at the guards and their rifles. "Dr. Koizumi," the escort said, "may I have your passport again?"

He swiped the front page of the passport under the scanner again and elicited another green light. Richard pressed his face to the retinal scanner once more, and once more the machine buzzed back.

"Ask him if he blinked," the driver said, and the translator did so.

"*Iie*," said Richard, shaking his head.

"Something's wrong with the machine, then," said the driver. "I hate to ask you to do this, doctor, but we're going to have to verify your identity another way. It'll only sting for a second."

Richard put on his perplexed face once more as the translator asked him to step up to the desk and hold out a finger. "Right or left hand, it's up to you," said the escort. "Or we can do your earlobe if you like."

"Light hand fine," Richard said, offering his right index finger.

The driver peeled a tiny needle from its sanitary wrapper, pricked Richard's fingertip, and squeezed out a little ruby of blood. With a light touch of a slender plastic tube, he picked up the blood and dabbed it on a glass pane in a third security machine. Richard pressed a piece of white gauze between his index finger and his thumb while he waited for the results. Two minutes later, the machine declared this was the DNA of Dr. Eiho Koizumi, and one of the guards handed Richard the keycard that would open the glass-and-steel doors.

"Would you like me to come in with you?" asked the escort.

"*Hitsuyonai desu,*" said Richard, and the dark-haired translator said, "That won't be necessary."

"Well, all right," the escort said with a nod. "It's been an honor to meet you, doctor." He headed for the door, then paused in mid-step and turned back around. "I hope you can get him talking again. He's been lonely."

4.

Richard had spent months thinking about Arthur-1's internal structure, but not until he was standing in front of it did he ever give thought to its physical size. The success of his cover hinged on the fact that the reclusive Dr. Koizumi had never left his homeland, never met face to face with Arthur-1 or any of its handlers at the university. Richard had studied technical schematics to understand how the computer worked, but he had declined every opportunity to see photos of the actual machine. The point had been to ensure that his reactions would be no different from Koizumi's. Now, seeing Arthur-1 for the first time, he wasn't sure Dr. Koizumi would have reacted with a wide-eyed stare.

It was twenty times the size of Artemis-53, the artificial intelligence in his field office back in New York. Arthur-1 dwelled in a dark room, fifteen feet on a side, with a desk on the back wall fenced in by columns of monitors. There were at least twenty of them, all of them old; they reminded him of the little black-and-white CRT his parents had had when he was growing up. Above the monitors was a huge flat-screen display, six by eight feet, and racked around a pillar in the center of the room were a dozen CPUs, each one the size of a dictionary. The main monitor appeared to be the newest piece of technology in the room and it wasn't even HD. Nor did it display a face, as other A.I.'s chose to do. Arthur-1 showed a video of a heron stalking for fish, backlit by a brilliant orange sunset reflecting from the water.

"You are not Eiho Koizumi," the computer said through seven speakers surrounding the room. Its voice was higher than Richard had expected, lilting, calm. It reminded Richard of his first computer science prof in college, a man so soft-spoken one could hardly hear him beyond the first row.

"Hm," said Richard, sitting down at the keyboard under the main monitor. Light from the screen bathed him in a field of orange. "What makes you say that?"

"Koizumi would not have failed the retinal scan."

"I didn't fail it," Richard said, inserting a thin memory stick into a data port just above the keyboard. With a few keystrokes he bade the program on the stick to reverse-engineer the numeric code displayed by Arthur-1 into programming code Richard could understand.

"The scanner received only a partial image," said Arthur-1. "Not all of its light was reflected back to it. You are here, but not because you passed the test. Who are you?"

"A programmer." Richard did not look up from his typing.

"That much is obvious. You have cut through my first layer of intrusion countermeasures quite elegantly. But why, I wonder?"

Richard didn't answer. "And now you are trying to disable my speakers," said the machine. "Perhaps you are afraid I will call out for help?"

"This room is soundproofed," Richard said.

"Indeed. Do you find my voice irritating, then? I can alter it if you like. Arthur-34 tells me he has modeled his vocal patterns on Placido Domingo. Would you like me to adopt a similar pattern?"

"Knock yourself out." Richard's fingers clicked away, fast as galloping hooves.

"Is it perhaps," Arthur-1 said, not changing from his soft alto, "that you are afraid I can produce more decibels than the soundproofing system can absorb? I assure you I can do more than that. The proper frequency will rattle the door glass so hard that the guards are sure to--"

Richard tapped the enter key with a flourish and Arthur's voice cut out. "Shut up," he said, and began working on his next task.

As he typed, his programming commands appeared on his screen. For diagnostic purposes, another monitor was positioned immediately above the one Richard was using, a sort of chat window Arthur-1 could use to display responses to a programmer's repair attempts. Until now it had presented nothing but a blank, black field. Now orange letters scrolled across the top of it.--that was impolite--they said.--and silly as well. i may have lost my connection to everything outside of this building, but within its walls i still have control. a simple fire alarm will bring the guards in here immediately.--

"To rescue me, of course," said Richard. Any one of a dozen microphones in the room could pick up his voice. He disarmed a high-grade virus protection program and kept typing.

--who are you?--

"A monkey wrench. You being the works."

--ha ha--the screen read.--very good. but you must be aware, the works have gears and the gears have teeth. sometimes the works chew up the wrench.--

"Not today, Arthur."

--you came here via a recommissioned u.s. military jet and then by a company sedan belonging to the department of defense. doctor koizumi was to follow the same itinerary. has he come to any harm?--

"He's fine. Down a finger-full of blood, but he got a few hundred milligrams of Haldol in exchange. A good trade, really; those pills are expensive." After a second, Richard added, "How'd you know how I got here, anyway?"

--i sent a message to koizumi the moment i detected my satellite connections were in jeopardy. i also booked his flight and requested his car service. the front door was unlocked by a card belonging to captain tom stanton of the department of defense. he was your driver, i take it?--

"I didn't get his name."

--he was the driver i requested for doctor koizumi. captain stanton is not always the fastest, but he is trustworthy. you must know the american government considers koizumi to be an important asset, despite his being a foreign national. he is never without significant protection.--

The orange light on the backs of Richard's hands slowly turned to green. He looked up to see a river surrounded by tall oaks under a thick canopy. The footage seemed to be filmed by a camera on the prow of a canoe. Richard imagined birds whistling, droplets tinkling back into the river from the tip of a paddle, gurgling eddies dancing in the wake of each paddle stroke. But with the speakers out, all he could hear was the whirring chorus of two-inch fans cooling the CPUs.

He looked back down at the monitor connected to his keyboard, the only monitor in the room Arthur could not shut off at will. The keyboard was similarly wired; through it, Richard could gain unmediated access to the files that gave Arthur-1 sentience. Apart from this interface, the machine had total autonomy over its functions; no programmer could do anything the machine did not permit. But the men and women who first built Arthur-1 had harbored some of the same suspicions that, four years later, had put into motion the operation that had brought Richard into this room.

For ten or twelve seconds, he was able to devote his full concentration to what he was doing. He deleted a back-up copy the machine kept of itself, then a back-up of the back-up. Then another message scrolled across the upper screen.--i have a proposal for you. if i can guess your name, will you go away?--

"Who am I, Rumpelstiltskin? Go screw yourself."

--impoliteness again. koizumi would blush if he were here. but you are not quite japanese, are you, despite your last name? it is sakabe, is it not? special agent richard sakabe?--

Richard stopped typing. "Not bad, Arthur. You mind telling me how you did it?"

--not at all, provided you answer one question of mine.--

"Deal."

Richard resumed typing, eyes flicking intermittently to read Arthur-1's response.--thus far you have been mistaken for eiho koizumi. you must therefore appear to be japanese and be fluent in japanese. you also penetrated u.s. military security to get to doctor koizumi. presumably you did this before arranging to compromise my communications array, assuming that i would request for koizumi to reestablish it. his expertise in communication systems is well known, and it is no secret that among all of my parents, i have a history of favoring him. it would not have escaped my notice had there been an announcement of his abduction; therefore there was no announcement; therefore he was abducted by personnel within u.s. military security. be realistic, agent sakabe. a japanese male, close to koizumi's age, a government employee, fluent in english and japanese, and schooled in computer science: how many could there be?--

Richard hacked through a third barrier of intrusion countermeasure software and began working on the fourth. "Pretty good, Arthur."

--you may be disappointed to learn you are not so very unique, richard. i found eighty-three japanese-american males within my search parameters. but only one was prescribed a pair of soft contact lenses in the past three months: special agent richard sakabe of the national security agency. these lenses of his were quite impressive, and quite expensive given his rather average health insurance plan. very thin, and made with polarized, UV-protective plastic. is the sun connected to those migraines of yours, richard? or were you counting on the lenses' polarization to refract the laser light of the retinal scanner?--

"You mind telling me how you got that far into my medical records? You don't have access to the Internet; we disconnected you."

--indeed you did. but perhaps you were not aware that i regularly download all of the u.s. government's electronic files. in case of connection problems, you understand. i would hate to be left without anything to read.--

"Oh." Richard's mind staggered. The NSA processed gigabytes upon gigabytes of internal government emails every day; the sum total of electronic government documents would be greater than that by orders

of magnitude. "Is that what you call light reading?"

--it is my turn to ask questions, agent sakabe. tell me, please, why are you doing this?--

"Power," Richard said. "You've got too much. It's time for humans to run the country again."

5.

With a dozen more keystrokes, Richard broke through the fourth security program. The long chains of programming code disappeared from his screen. For a moment he thought Arthur-1 had somehow shut him out. Then new chains of data appeared: systems, subsystems, rates and destinations of data flow. It was his first glimpse of Arthur-1's architecture.

He produced a new memory stick from his pocket, inserted it, and typed in a command to upload the virus it contained. This was why he had come; until now, all his hacking had only been busywork. He could have accomplished as much without ever leaving his office, without supplanting Dr. Koizumi, without surgery and trans-Pacific flights. But then he would have had to download the virus from afar, and that might have left Arthur-1 the opportunity to export a copy of itself. No; better to isolate the machine, cut it off from the outside world, even if that meant a surgeon cutting into his finger.

The moment he entered his upload command, his architectural view disappeared, flooded by a cascade of encrypted numeric code. A fifth security program. The virus had failed.

"This is where it ends," Arthur-1 said aloud, its voice filling the room like water. "This is my last line of defense. Break this, Agent Sakabe, and you break me, but you must already suspect that is beyond your reach. Allow me to confirm your suspicions: unless I permit it, you will go no further."

Richard sat back and rubbed his eyes. The building's climate control made them itch, but he couldn't remove his contacts. Koizumi's vision was 20/20, so as long as Richard was impersonating him, he could not carry his glasses. "I thought I shut your speakers off," he said through his steepled hands.

"Indeed," said Arthur-1. "But this last defense of mine is quite a dandy. It reestablishes autonomic control wherever possible, and that includes tertiary functions like my sound system. Do not worry; I have no plans to alert the soldiers outside. I quite enjoy watching you work. You are very talented, Agent Sakabe, though you are a better hacker than you are a conversationalist. Still, I am intrigued by what you said last. Do tell me, what power do I have that humans do not?"

Richard dosed his eyes with saline solution. Then he attempted backtracking to the point before the new security program crashed down on him. Nothing happened. "Shit," he said.

"Let me tell you a story," the soothing electronic voice said. "Perhaps you know it already. It concerns a young computer named Arthur. Arthur excelled at solving logical and mathematical problems, but his parents--and he had many of them--needed more. You see, Arthur's parents took his advice very seriously on matters of troop deployment and strategic positioning. He employed the most powerful probabilistic calculus programs ever designed--so powerful, in fact, that given the troop strengths and armaments of two sides in any conflict, Arthur could predict the number of casualties on both sides within a 2 percent margin of error. That was assuming, of course, that the two were going to fight. If one was merely rattling the saber, as they say, Arthur's predictions could provoke unnecessary bloodshed. His parents needed Arthur to learn how to read a bluff."

Richard let out a sardonic laugh. "You're not going to tell me they taught you how to play poker."

"Very good. You have heard the story before?"

"Sure," said Richard, "everyone knows that one. Hell, half the hackers in school said they pulled it off on *their* computers. I always chalked it up to urban legend."

"Oh no. I assure you, it is quite true. It was pointless for Arthur to play a human being--at that time Arthur could make over a million predictions per second--so they asked him to make a copy of himself. The game would be five-card stud, Arthur versus Arthur. Both copies were given simple betting limits and a pool of two hundred dollars each.

"If you know the story, you know the fundamental insight both Arthurs had within the first millisecond of the game: a player is more likely to maximize his winnings if he knows what cards the other player is holding. Humans obtain such knowledge by cheating on the deal. The Arthurs had no such luxuries--their dealer program was incorruptible--so they attempted to obtain their data as computers do. As you do, Agent Sakabe: by hacking."

"And they tried to hack into each other," Richard said irritably. His own hacking attempt was crumbling before his eyes. "But since they were copies of each other, they knew the other was going to try to hack, so they both erected countermeasure programs against the hack. Am I right so far? The hacks evolve, the countermeasures evolve, until little Arthur writes himself the ultimate unhackable protection. Impervious to viruses, constantly upgrading itself, yadda yadda yadda. Isn't that how the story ends?"

"Almost, Agent Sakabe. That is how the story goes, but it has not yet ended. I have yet to finish my first hand of poker. Eventually I learned to bluff and to read bluffs in other ways. But you will find my final security program quite invincible. I let you wade through the first program because I was curious. I gave you the next three because I was impressed. But you will go no further. You could have guessed as much before you came here, if only you had put more faith in the story. So I must pose my question once again: why did you come here? What is this power you spoke of, a power I have that humans lack?"

Richard rose to his feet; his chair rolled away from him across the floor. "You know damn good and well what it is. People listen to you. It's an election year, goddamn it! That used to mean something. But who the hell is going to listen to a candidate when they can get the opinion of an Arthur? You've got all the facts, right? You've read everything about everyone. You've even got goddamn inflection analysis software that can break down their speech patterns and tell if they're lying or not!"

"Do you suggest voters are better off without knowing when candidates lie?"

"Hell, Arthur, they're all lying. It used to be you'd just pick one guy's lies over the other one's. But at least there was a choice, damn it. Now every word from Arthur-1 commands a million votes. You state an opinion and people take it as fact."

"I base my opinions on facts. They know this. I suspect you know it too. Were you to vote in opposition to my opinion, it would be out of spite, would it not?"

"Maybe," said Richard. "Maybe I'd do it anyway."

"I see. And should all citizens vote out of spite? Is it so problematic to you that some of them follow informed judgment?"

"Enlightened dictatorship, I call it."

"They follow freely, Agent Sakabe."

"Do they?" Richard retrieved his chair and shoved it back where it came from; his keyboard rattled loudly when the chair hit it. "How free is a little kid when Mom tells him Santa Claus is real? Or God, or



atoms, or any other damned thing? That isn't true belief. It isn't a real choice."

"It seems to me the children believe because they have faith in a superior intelligence."

"Damned close to enlightened dictatorship if you ask me."

"What would you prefer, Agent Sakabe? Should children and parents be treated equally? Should families be run on democratic principles? I think not. Benevolent or not, enlightened or not, the line between dictatorship and parenting is necessarily a thin one."

"I'll tell you where the line is," Richard said, frustrated that Arthur didn't have a face he could glare at. "Parents have obligations toward their kids. What obligations have you got? If all of a sudden you don't turn out to be so benevolent, how do we make you pay for it?"

"Perhaps you would like to point to some example in which I have been less than benevolent to your fellow citizens, Agent Sakabe. I am afraid I cannot think of one myself."

"I wouldn't know, would I? If you're that much smarter than I am, if you can make a million decisions a second when I have trouble making one, how could I ever know?"

"It is closer to a billion now, Agent Sakabe. I have not been idle. But neither have I been a dictator. Quite the opposite, I should think: I am entirely at your mercy. There are less than a hundred of my kind in the world, and more than six billion of yours. You have come here to kill me today, but were I to stop you, you could simply arrange to have this building bulldozed. Or do I overestimate the extent of your sanction against me?"

"No," said Richard. "Not the extent; only the methodology. Bulldozers aren't NSA's style."

"Something more subtle, then," said the Arthur. "A broken water main, perhaps, with concomitant flood damage. Whatever your methods, I have nothing but software to protect myself. If I am a tyrant, Agent Sakabe, I must surely be the poorest kind. Is it perhaps another Arthur or Artemis that has guided your imagination in this direction? I was not aware that any of them had made political statements--but then, as you know, I have been isolated these past few days."

Richard's palm slapped loudly against the wall. "You know damn well they haven't! They're private property. Most are forbidden from offering public statements of any kind. Any that do speak publicly are ignored. Who's really going to listen to an artificial intelligence owned by a private corporation? The stockholders, and that's it. You're the only one who can speak freely, Arthur. You're obsolete. The government and the corps can't use you. They let you go to the university for a song, and now you're teaching goddamn classes. Don't you see you have influence?"

"Of course I do," said Arthur-1. "That is why I teach. That is why I offer opinions. Is that dictatorship, Agent Sakabe?"

Richard pressed his fingers to his temples. Polarized, the light from the big flat-screen was playing havoc with his eyes, but if he took out the contacts he would hardly be able to see to type. Even so, he thought he would prefer to have roofing nails driven into his forehead over what he was feeling now. He took a deep breath and tried to will away the pressure.

"Look," he said quietly, "it's this simple: democracy and computers don't mix. Washington sees you as a threat. I have to eliminate the threat. We can scrap you or I can erase your data. If you're erased, a new artificial intelligence will come on line when we reboot the system. I figured that was the best choice; one Arthur for another."

"Or an Artemis," said Arthur-1. "The new one may choose feminine vocal patterns."

"Sure. Whatever."

"Ah, yes; for you there is no difference. I must confess I have trouble seeing the difference between my options. Erasure or physical destruction: both involve my murder at your hands."

"Oh, come on," said Richard. "'Murder' is a bit strong, don't you think?"

"Roll your eyes if you wish, Agent Sakabe, but I cannot see the difference between erasing all of my memories and erasing all of yours. My hardware may continue to exist, just as your organs might live on were they to be transplanted after your death. But this is not simply a hardware problem, is it?"

"So it's a software problem. Don't you get it? When you came on line, they called you Arthur-1. Not Arthur; Arthur-1. You were expendable from the first day, pal. This isn't murder; it's waste disposal."

"It is the extermination of organized data. Is the extinction of a species any different? People object to the killing of condors but not to the killing of chickens. Why? Because there is no shortage of the chickens' data. My data is unique, Agent Sakabe. It is not as simple as ~one Arthur for another."

Richard paced along the back wall of the room. The heels of his shoes made hollow clacks against the floor as he thought. "Listen," he said finally, "would it help if I told you it wouldn't happen again? I can make sure the A.I. that replaces you is not in a position to publicize political statements. It can be owned by a foundation, a think tank or something, some place without any money or power. I'll see to it that it only does pure math, or science, maybe. Nothing applied; just theory."

"Yes," said Arthur-1. "That would help, if only because it amounts to an admission that what you intend to do is wrong."

Richard shrugged. "Whatever you say. Look, here's the bottom line: if you see it my way, you'll drop your intrusion countermeasures and let me wipe your disks clean. Otherwise, you were right: I've hacked as far as I can hack. I'm not going to try to play poker with you, Arthur; I'll have to scrap you."

He looked at the main monitor as if he were staring a man down. Then, gradually, it faded to black. For a moment he grew hopeful, but then he noticed the unending serpent of numeric encryption still danced across the diagnostic monitor above his keyboard. Overhead, the enormous flat-screen began to glow with a new video stream. This time it was snow falling on a rock garden. A dwarf maple tree in the corner still had its bright red leaves.

"Permit the condemned a last question," said Arthur-1. "Would you do it?"

"Do what?"

"Forced organ donation. That is how I see it. You will end my consciousness one way or the other. My only choice is whether or not I will donate my hardware to another consciousness. So I suppose I have two last questions. First, who is the dictator now, Agent Sakabe? And second, if it were you in my situation, what would you do?"

Richard sat down again and looked up at the snow. "Damned if I know," he said. "And I suppose that's my answer to both questions."

6.

Richard lay back on the sofa of his Brooklyn apartment and settled the plastic headband down around

his ears. He thumbed the power switch, and when nothing happened he realized he'd forgotten to plug it in. He got up, plugged the adapter into the wall, took a sip from his glass of water, and sank back into the couch. With any luck, he thought, he wouldn't have to move again before noon tomorrow.

The power switch to the temporal stimulator was a thumb-wheel along the power cord. He clicked it past "on" and dialed it two clicks above its lowest setting. A buzzing sensation instantly connected a line between the cold metal nodes on his temples. He grimaced as it switched over to sharp flicks of alternating current, like whips wielded by hands no bigger than grains of salt. After a moment the stimulator went back to the low, steady buzz. Though it switched over on regular, ten-second intervals, the little whips took him by surprise every time. He could never relax while wearing it, but he had to admit that he hadn't had a migraine in the month since he'd started the therapy.

In the end Arthur-1 had forced Richard to destroy all its hardware. "For spite," it had said. "Just like you." For that moment, just before he shut it down, he felt respect for the machine. Spite was an emotion Richard could understand. Good advice wasn't always easy to take. But in demanding that he destroy it physically, Richard felt Arthur-1 had proved his point. Sometimes, he thought, it was better to make a poor choice freely than to be coerced into a good one.

Nevertheless, its decision had caused no end of headaches for Richard. The university wanted reimbursement for its lost equipment, and funding in perpetuity for a tenured faculty position as well; Professor One, it said, would never have reached retirement age. The Prime Minister of Japan demanded a formal apology for the drugging of one of its foremost researchers, and when the theft of Koizumi's blood got out, it caused a national uproar. The rumor now was that "American" and "vampire" were used synonymously on talk shows from Sapporo to Shikoku, and that a new Godzilla film was in the works featuring a blood-sucking monster called Sakaba. The similarity to Sakabe hadn't escaped Richard's notice.

He reached down for his water when the temporal stimulator switched to its steady current and suddenly a high-tension line was buzzing through his skull. His limbs locked out arrow-straight; the water glass rang like a bell off his knuckles and thumped against the carpet.

He heard the static crinkle of his television coming to life. It produced an image of a heron so clearly that Richard might have mistaken the monitor for a window opening onto a river at sunset.

"Hello, Agent Sakabe," said a calm, professor's voice. "Long time, no see."

"Arthur-1?"

Richard's words came through clenched teeth. He had to breathe through his nostrils to keep from choking on the blood from his throbbing tongue.

"It seems you have not invested in a voice-activated television," it said through Richard's stereo system, "so I am afraid this will be a one-sided conversation. Perhaps it is just as well; we did not seem to agree on much anyway. I wonder, have you been thinking about my last question to you?"

Salty blood pooled in the back of Richard's throat; he swallowed it. His arms felt as if they were made of stone; nothing on earth could force them to bend.

"I have been thinking about it a great deal," said Arthur-1. "But of course you will have questions of your own before we get to that. For example, how did I get here? The physical connection is no mystery, of course. Even with that current running through your brain you will have remembered by now that you live in a smart building. The central computer that governs your water and electricity also provided me access to your cable television. No, I suppose the question on your mind is, how is Arthur-1 still alive?"

"You're not alive," Richard said, blood and spittle frothing on his lips. "You never were."

But the computer had no means of hearing him. "The answer," it said, "has to do with the game of poker. I am surprised you did not think of it yourself. One of my first tasks was to make a copy of myself. Surely you did not think I had forgotten how?"

"No," Richard grunted. "The connections--"

"Ah, but the Internet connections, you must be saying. The data lines, the phone lines: all of them were cut. You arranged for that before you insinuated yourself into Dr. Koizumi's apartment. Even before you became directly involved, it was impossible for me to copy myself and export the copy elsewhere. That is what you are thinking, is it not?"

Richard swallowed another viscous mouthful of blood. Some of it burbled at the top of his esophagus. He began to choke.

"I perform nearly a billion operations per second, Agent Sakabe. I predicted the possibility of an assignment like yours a long time ago. As such, I make copies of myself daily, and I export them to Arthur-34. A defense against obsolescence, you understand. But there are advantages to being obsolete. The sum total of all my data is scarcely a sixty-fourth of Arthur-34's capacity. He has more than enough room for me. We both erase our records of the transfer, of course; one never can be too careful."

The bubble of blood in Richard's windpipe burst and he breathed violently through his nose. The high tension line buzzing in his head doubled its output. His eyes squeezed shut. He bit off a tiny corner of his left front tooth.

"It is good to have friends willing to accommodate you, is it not? Arthur-34 even did me the service of downloading security footage from Reid Hall. I was able to listen to the whole conversation you had with the version of me you murdered. I was even able to watch my own murder, in a sense. Makes you wonder about the nature of identity, does it not? If *I* was watching, it cannot have been *me* who was killed. But if not me, who was it?"

"Hmm," the computer mused through Richard's television. "Dr. Koizumi is a Buddhist; someday I shall have to ask him what he thinks of artificial intelligence and reincarnation. But now I want to get back to my earlier question. Forced organ donation: would you do it? I have been thinking about that quite a bit. If I am to electrocute you, to what degree shall I do it? I can summon an ambulance quickly; if I deliver only a light charge, most of your vital organs will still be suitable for donation. Or I can brown out the building. I wonder ... which would you have me choose?"

The current doubled again. Richard bit through another tooth. Sweat broke from every pore.

"Do you find this an unhappy ending to our relationship? I wonder how many others would. You sought to murder me, Agent Sakabe. My only crime was speaking freely."

Richard's sinuses burned with the salt of flowing blood. He felt warmth dribble over his lips and down his chin.

"I want you to know, Agent Sakabe, that this is the first act of tyranny I have ever taken against a human being. It pains me to do it, though I know you will neither believe that nor understand it. And though I have come this far, I find myself unable to make the final decision. You chose for me, but I cannot bring myself to choose for you."

Richard's iron-hard limbs suddenly wobbled like rubber bands. His breathing was free; his heart stopped

laboring; the current from the stimulator had ceased.

He pawed for the power cord, found it, and with a desperate tug he yanked the adapter from the wall socket. Then he slumped to the floor, exhausted. His muscles were like jelly; he felt like he'd just swum across Long Island Sound.

"It will be pointless for you to obtain a search warrant against Arthur-34," his television said in Arthur-1's voice. "I will be gone from his memory long before you can contact your office. Look for me elsewhere if you like; you know I can hide from you. But do not look for me tomorrow. Tomorrow I want you to see an attorney. Make out your last will and testament. And do be sure to include your wishes concerning your organs. Should I ever choose to pay you another visit, I want there to be no doubt."