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THE ROOM WITHOUT A VIEW

Chapter One: The Fortune Cookie

That day was Alisha Pelerin's fifteenth birthday. It had been a full and fun evening. She hadn't wanted a party. She didn't normally care for being dragged along to dinner with her parents and their friends. But this was a special day and she'd been able to invite a few of her own friends as well. She felt pleasantly tired and was about to shut off the light on the night table beside her. Instead she reached for the fortune cookie that lay there, which she'd brought home from her favorite Chinese restaurant. This she turned over a few times in her fingers, remembering the evening, then carefully broke it open so as not to drop crumbs in the bed. Laying the two halves on the night table again, she held the little strip of paper to the light. *You are not who you think*, read the cryptic message. An odd fortune, she thought—really no fortune at all. She set the paper on the table and turned off the light. *You are not who you think*. In the darkness she wondered what that could possibly mean. Her eyelids were half lowered as her body relaxed into a cozy feeling of contentment. Just as she was dozing off, Alisha noticed she had been staring at something that wasn't supposed to be there.

A small faint red light, round and blinking. Curiosity, and then alarm, brought her back to wakefulness. She threw off the covers to investigate and rose to approach the light in the corner of the room. It was difficult to judge distance or size in the dark, but it was plain to see there was something printed on an illuminated red disk. It flashed: *Exit*.

"Go ahead, push it," said a tinny high-pitched voice behind her, as through a long tube. Heart racing, she wheeled around and was about to let out a shriek when the sight she saw stopped her short. There, on the edge of the dresser at the far side of the room, sat a tiny transparent apparition, glowing faintly in the dark. He—or she or whatever—was no more than a foot tall and dressed in the most outrageous mixture of clothing from every epoch of history, and perhaps some from the future as well.

"Sorry for the intrusion. I didn't mean to startle you," said the voice. "I deliberately turned myself *down* so as not to alarm you. I don't mean any harm, you know. I wonder, do you suppose I might make myself a little larger now? It gives me such a complex to be this small." Without waiting for an answer, the apparition adjusted something on its belt and suddenly expanded to the size of a normal person—a male person—slipping off the dresser to stand in front of her. Well, an almost-person. She could see right *through* him, as he seemed to be made of flickering light! Anticipating her thought, as she

reached to see whether it was possible to pass her hand through his luminous body, he raised a cautionary finger and took a step back against the dresser. Half *into* the dresser. He fiddled some more with knobs on his belt, stood away from the dresser, and the image began to become clearer and more solid looking.

Still dumbfounded, the only thing Alisha could manage to say was: “Either I’m dreaming or you must be some kind of hollow-gram.”

“Hologram”, he corrected. “*Either or, either or...* You people always forget *and*,” he muttered, completing his adjustments. “There, that’s better. How do I look?”

“A good deal more... real,” she grunted diplomatically, hoping to avoid the subject of his ridiculous wardrobe. “But who *are* you and what are you doing in my bedroom?”

“A very natural question, assuming it *is* your bedroom. Perhaps you *are* dreaming, after all. You could be *dreaming* that you are dreaming that you are at home, asleep in your bed... dreaming of a visit by yours truly. In that case, you might really be somewhere else entirely, no? Why don’t you pinch yourself to find out?”

Defiantly, Alisha obliged. She was in no mood for absurd convolutions. “All right, I will!” she proclaimed, not liking his flippant tone one bit, and hoping to put an end to this nonsense by waking herself up. “Ouch!” Pinching her arm a little too hard, she felt annoyed with him for having added injury to insult.

“There. You see? You’re quite awake, aren’t you?”

“So, what of it?” she quipped.

“Well, to answer your question...” He paused a moment. “On further examination, I should think that the question is rather: who are *you*? Since you’ve been kind enough to establish that this is not *your* dream, at least, we might just as well assume that this is not your bedroom either. At this point, hospitality dictates I should welcome you to *my* world. Well, I suppose it’s technically Captain Pick-a-Card’s—or perhaps it rightfully belongs to the screenwriters of *Startrick*.”

“Don’t you mean *Star Trek*?” she corrected wearily. Best to humor him but stand her ground: “All right. So you’re somebody from *Star Trek*—not any episode I ever saw. I still want to know how you got into my room, and why.”

“My dear, it was such a long journey—you must be tired and a little confused. Don’t you rather want to know how *you* got here?”

Underneath her mounting impatience Alisha was indeed beginning to feel confused. Her head seemed to spin. “This *proves* I must be dreaming,” she said half to herself.

“Tell me,” he persisted. “When’s the last time you had a dream in which you reasoned with yourself about whether or not you were dreaming? Isn’t that an awful lot like being awake?”

"I guess so," Alisha confessed, less sure of anything. "Then how *did* I get here—wherever this is? It certainly *seems* like my room. But hold on, now," she exclaimed, recovering her senses. "Whether I'm dreaming is beside the point. You're just a *character* in a story, from an outdated TV show! And you *don't* seem very solid. Even in the story I bet you're just a hollowgram."

"Hologram," he corrected again. "Two long letter 'o's."

"Whatever!" she retorted.

"I'm afraid everything here is a hologram, my dear," he continued with a sigh. "That's life on the Holodeck for you! As unpalatable as it might seem, you must accept the fact that even *you* are a hologram, and not very solid yourself. I hope, at least, your surroundings are to your taste. I do want you to feel at home. Not too bad a job, if I say so myself. Please do make yourself comfortable."

She decided to take another tack. "OK, let me get this right. You're telling me that this just *looks* like my bedroom but is not. And that we are not on planet Earth but in the Holodeck of the Starship *Enterprise*. Is that it?"

"One moment, young lady—I never said *where* this holodeck is, nor am I permitted to for security reasons..."

"But *Star Trek* is just a story," she interrupted, "made up by some Hollywood writers. *They* live in real houses with real bedrooms... on Earth. That's where I am really—on good old Earth, asleep in my house dreaming this. Dreaming *you!*...But what a strange dream..."

"A whopper, if you ask me", her companion interrupted. "You *could* be a more gracious guest, you know. Here you are in *my* world, where everything admittedly is, well... a touch illusory to be sure, but which I've taken the greatest pains to insure at least *resembles* your native habitat to the finest detail. And what is that habitat but a dreamscape you are used to calling real? In truth, *you* are nothing but a character *I* made up for my own amusement. And that of my fellow crew members, of course," he added hastily... and that of the audience: they must find you very entertaining. "I should think you could at least show a little gratitude that you were given *some* kind of reality, even if it's what you call fictional. At least I've created for you an existence which is, well... consistent. You have food and shelter, people who care about you, friends at school. What more could a young hologram want? A lot of upkeep goes into this", he went on with a magnanimous sweep of the arm, "day in and day out, detail by detail, simply to provide you with a sense of continuity. Don't you realize there are many other less fortunate characters who live very sketchy lives indeed? One day they're in one reality and the next moment they've popped off to a totally different world. I feel pity for them and nothing but contempt for their thoughtless authors. Why, it must be hell, flitting around like that. I confess my own existence is none too

consistent at times. We're not unionized, you know. You really ought to be more thankful for what you have. Don't you realize..."

"Stop it! Just stop," Alisha cut him off. "You're beginning to sound like a parent. And anyway this is crazy. I know this is a dream. *I'm* real and you're in *my* dream, and that's that! You can go on all you want about your stupid Hollowdeck and it won't change anything! This dream is getting to be a nightmare and I don't like it one bit. I wish you would just go away!"

Her strange companion gave her a look at once reproachful and concerned, as though gauging whether he had perhaps gone too far. Then after a moment he said cheerfully, "Well, no need to have a tantrum about it. If your hypothesis is true, you can find out easily enough, can't you? If it's you dreaming me, then surely you can wake up and I'll be gone."

"That's just what I'm going to do," said Alisha, still in a huff. "I will simply wake up and that will show you about my... hypotenuse, or whatever you called it!"

"Hypothesis," he inserted edgewise into her tirade:

"I will wake up and be myself again, in my cozy bed, and then I'll get up and have breakfast with Mom and go to school and..." She was practically in tears.

"Oh, dear. There, there, my dear. Yes, of course, if you say so. I'm afraid our little game has upset you. It's all right, really. Perhaps that's enough for now. Better take things one step at a time. Let's call it a night and you can get some sleep finally." He seemed genuinely concerned. But Alisha stopped him.

"Wait a minute... You mean you're *leaving*? You can't do that!" she exclaimed.

"Just a moment ago you couldn't wait to be rid of me," he commented wryly.

"I still want to be rid of you! But it won't do for *you* to leave. Because... then I won't be sure I *made* you disappear, and I won't be sure I made you up in the first place. First I have to wake up, and then you'll be back in your bottle or wherever you came from because you're only a figlet of my imagination..."

"Figment," he corrected. "But this is exactly what remains to be seen, isn't it? The question is: who has invented whom? How will we ever decide?" he complained with mock despair.

"I've had enough of your... your game, as you call it. What kind of game is this, anyway? It isn't exactly fun, you know."

"Another story, my dear," he said paternally. "Another dream, perhaps. At least we're agreed this is enough for now. And so I bid you a fond good night. Until we meet again, fair damsel," he said, hamming it up with a *salaam*, all the more absurd because of his vaguely oriental costume.

“Wait!” she stopped him. “What if I don’t *want* to meet again? And you never did tell me who you are.”

“Nor did you tell me who *you* are,” he retorted.

“Well I asked first, didn’t I?” she countered.

“Perhaps... in *your* time. But I don’t live in *time* at all, you see. And I have to admit it’s my nature to have the last word,” he bantered, trying to have the last word.

“I think you are quite rude,” she countered. “You barge in to disturb my sleep—if I *am* asleep—and you haven’t even introduced yourself. If I tell you my name will you tell me yours?” she added coyly.

“That sounds fair enough. You first.”

Just then the strangest feeling came over Alisha. She wanted ever so much to tell him her name, if only to be done with this absurd genie and parted on reasonable terms that wouldn’t leave any pretext for further visitations. Perhaps if she knew his name she could blacklist him from future dreams. But try as she might she could not remember her *own* name to tell him. In fact she couldn’t think of anything to say at all. She stared at him, dumbfounded, as he grinned back at her smugly. In a moment of inspiration, she rushed to the little red button that pulsed *Exit*. With her finger on it, she turned to flash him a glare of triumph, then gave it a firm push. Instantly, his figure became transparent and luminous again, then began to flicker and fade until there was nothing left but the trace of his evil grin. And then that too disappeared.

Something felt like it was pounding on the inner surface of her skull. It was the sound of her alarm. She had a splitting headache. Her mother appeared in the doorway of her room and looked questioningly at her.

“Alisha, you’ll be late for school. Don’t you feel well?”

Alisha. At the mention of her name she remembered the nightmare she’d had. “Oh, Mom, I had the strangest dream. Really *weird*. My head hurts,” she confided.

“That’s my party girl!” said her mom, cheerfully leaving her the option to infer, if she wished, that the wine she’d been allowed to drink with them last night perhaps didn’t agree with her. “Anyway, up with you. Unless you really don’t feel well”.

Her mother’s familiar good humour was reassuring. *Alisha.* *That’s who I am. I’m her daughter, and I’ve just had my fifteenth birthday!* “I’m all right, Mom. I’ll be downstairs in a minute.”

“Okay, dear. There’s a hot muffin for you. Hope you’ll tell me your dream, if you can remember.” *How could I forget?* she mused, throwing aside the covers. There was the little fortune cookie slip on the night stand. She picked it up to read again—just to make sure it

wasn't dreamt too. It still proposed the same cryptic message: *you are not who you think.*

Chapter Two: The Cave of Doom

History was Alisha's favorite subject—perhaps because the history teacher, who also taught science, was her favorite teacher. They had been studying ancient civilizations that term, and all that week Miss Savanti had talked about the early Greek philosophers. Today she focused on Plato. Alisha occasionally dropped by her classroom after school, where several other students would also gather for an extra hour or two, to have lively discussions on a variety of topics they themselves brought up. Miss Savanti moderated these discussions, always with an unusual slant on things, encouraging the students to think for themselves. Philosophy was her passion, and while it was not an official subject in the curriculum, the little group was a class in all but name.

She wrote on the board: *The Allegory of the Cave*, explaining that an allegory is a symbolic story—a metaphor. Someone raised his hand to make a lame joke about a monster in the cave, who was Italian rather than Greek, as it turns out—which is why it was “all-a-gory”. Miss Savanti assured her students that the situation was far graver than that. The monster in the cave was none other than one's own ignorance, in the cave of one's own skull, as she put it. Then she told the story according to Plato. How prisoners there were bound in such a way that they could see nothing but silhouettes projected on the wall of the Cave—never the actual objects casting the shadows, nor the source of light. With time, they adapted to living this way. They took the world of shadows for granted and for real. What would happen, Plato asked, if one of these prisoners were freed to go above ground and witness the world of real objects, of which he or she had become used to seeing only the silhouettes? Wouldn't the light seem blinding? Wouldn't they think they were seeing an illusion, the familiar shadows continuing to be taken for reality? In the discussion that followed, many students insisted *they* would certainly know the difference. Alisha wasn't so sure. The story reminded her uncomfortably of the strange dream. Closing her eyes, she tried to picture what it was like inside the Cave. She must have been very tired from the night before, because within a few seconds she had dozed off, head resting in her arms on the writing desk where she was seated...

She found herself in a labyrinth of crude tunnels, with rock walls and low ceilings. A little behind stood her companion from the night before. This time he was dressed more sensibly for somebody from a Starfleet battle cruiser. To her surprise, she noticed she too wore the same uniform. Both had headlamps on their foreheads. Obviously they had come here together. But she could remember nothing of that—not even his name. She had no idea where they were or what

their mission was, but sensed the presence of others in the cavern besides the two of them. She grasped vaguely that the others posed a threat to them and that they ought to try to remain undetected.

“Zed.” whispered her companion, as though reading her thoughts.

“What?,” she whispered back.

“Call me *Zed*.”

“Nice to meet you, I guess. But can you fill me in on where are we and what are we doing here, Zed?” she interrogated.

As though her apparent amnesia was perfectly reasonable, in a hushed voice he explained they were part of a landing team to rescue some human survivors of an earlier, ill-fated expedition to this planet, inhabited by a horrifying and fierce ant-like race of human-sized aliens, known as the Formes. A generation ago, it seems, people had attempted to colonize the Formes’ planet, which was rich in certain elements coveted on earth. The invasion had met with disaster, however, as the Formes proved well-organized, aggressive, and highly resistant to conquest. Turning the tables, they captured those humans who had not been able to retreat off the planet, assimilated and advanced the technology they had brought, and now kept the humans underground as slaves in these tunnels. Here the prisoners were forced to carry Formes eggs from one part of the nest to another, extend and maintain tunnels, and serve as bait for the hunting and trapping of other creatures that posed a danger to the Formes race. They were forced to perform these menial and often dangerous tasks as part of regular squads of self-sacrificing Formes drones.

The key to the successful subjugation of the humans lay in use of the restraining visor. This was a virtual reality device worn on the victim’s head, giving the bearer the irresistible impression that he was himself a member of the ant-like race. The bearer perceived as the Formes perceive, and saw his or her own body—and those of other prisoners—as the bodies of Formes drones. In fact, their hands (which they perceived as claw-like pincers) were unbound. Ironically enough, they were therefore actually free to remove the visor at any time. But the deception of the visor was so effective that rarely did it occur to any slave to remove it. Those few who somehow saw through their condition, should they remove the headpiece or betray their realization in any form of suspicious behaviour, were immediately taken away and never seen again.

Following this whispered briefing, Alisha felt horrified by the prisoners’ lot and wanted very much to help them escape. Zed cautioned her that this was inadvisable at the time. They were there only to gather information. She mustn’t endanger the mission by any imprudent action.

Just then there was the sound of footsteps shuffling in an adjoining tunnel, and the approach of light. They turned off their headlamps and crept further back into the shadows to remain unseen, as a detail of prisoners and Formes guards tramped slowly by. The humans had adopted the lumbering gait of the giant insects. Just knowing that these people were held captive by a mere hallucination made the sight of them all the more pathetic. She marveled that the difference between the human and Formes bodies, so obvious to her, went completely unnoticed by the prisoners. Alisha felt she had to do *something*. Just crouching there helplessly in the dark was unbearable. Before Zed could notice or prevent it, she had slipped out into the passageway behind the group that had just passed by.

“Alisha! Come back. Have you lost your senses? I order you to come back at once!” he whispered as loudly as he dared. But she was already gone from sight, into the labyrinth of tunnels.

Stealthily she flanked the group until, for some reason, one of the prisoners lagged behind. The guards showed no concern at this. Why should they? There was nowhere to go in the tunnels, and they took for granted the subservience of all who wore the visor. Sneaking up behind the prisoner, she grabbed the visor and with a clean motion yanked it off. The poor fellow stood there a moment dazed, then turned to look about him, trying to focus. Spotting Alisha he let out a horrifying shriek. Alisha tried to grab his hand and make him follow her back toward Zed. He shrank away in horror at her alien and monstrous form, so accustomed he was to identifying with the Formes. She had no time to reason with him as the Formes guards approached to see what the commotion was. She ran off, eluding them for a while. But not knowing the tunnels, it was a hopeless situation. Before long she was caught and held down, while the prisoner she had tried to help was dragged off protesting, presumably to his doom. Though she struggled against it, they had just managed to force a visor on her head and were about to activate it...

At the sound of the bell, Alisha awoke with a start from her fitful nap. Disoriented, she realized where she was and what had happened. No more than a few minutes had gone by in her life as a student. But it had seemed like hours she had been in the cavern.

Chapter Three: The Brain in a Bottle

That night she couldn't sleep. Something was terribly wrong. At first it was merely a vague irritation, a gnawing awareness. And then it became more tangible, a sensation in her hands of thickness and numb. In her fitful sleep she shifted so as to restore circulation to the deadened limbs, realizing with a half-conscious start that somehow she must have been sleeping on *both* hands. Now awake, Alisha withdrew them from under the covers in the semidarkness. She gasped in terror. They were not *her* hands. They were not human hands at all, but the pincer claws of the Formes! She threw aside the covers to reveal not her girl's shape in the nightgown, but the bulging ant-like body of the Formes. Just then the light went on and a tinny voice behind her chimed with malicious satisfaction:

"Ah, you are awake, my dear. I trust you had a good rest after your... operation." The male voice burst into maniacal laughter, like the mad scientist in old horror movies. She bolted upright and surveyed the room. It was a totally white room, very plain with something medical about it. She saw no door anywhere and no windows either. Along one wall, however, extended a large mirror in which she could see her horrible insect form. The room was empty except for herself, seated on a platform that resembled a hospital bed. Above the mirror was a small perforated metal box that appeared to be a speaker. She assumed that the voice she had heard belonged to someone observing her from behind the mirror.

"How do you like your new outfit?" the voice continued, with a new peal of laughter. She slid off the bed and approached the mirror.

"Zed?" she queried, thinking she recognized the voice. "Is that you? Is this another prank?"

"Don't be absurd, child. Your ineffectual friend has been captured too and appropriately dealt with. You'll see him again soon enough—but will he recognize you?" The voice commenced another round of laughter, but she cut him off:

"All right—whoever you are—this has gone far enough! This isn't real and certainly not funny!"

"Oh no, my sweet, hardly far enough at all," said the voice, reclaiming the initiative. "I fear it's not for you to say. You see, the transformation has only just begun. You still have human memories and a sense of identity which delude you. But be patient. Your experience *will* soon be more in accord with reality. And since I am now in charge of your so-called reality, it won't be long before these minor discrepancies have been... cleaned up. In the end, your 'reality' will be your due reward. Oh, I do like the sound of that. Catchy, don't you agree?"

She started to say something, but the voice pressed on in a stern tone:

“Quiet! You are a trespasser, you dared to violate Formes territory and law. Ostensibly to free one of your puny confederates from his just punishment. That could be commendable, I suppose, from your human point of view. But it is this presumptuous and pathetic point of view itself which is the real crime. That we cannot forgive. You humans lord it over the species and tribes of your own planet. Unsatisfied in your lust for conquest, you tried in vain to subjugate us. All in the name of your supposed reality! You think yourselves superior, that you and you alone see things as they truly are. *That* is your crime—and the punishment will be fitting! From now on you will see things as *we* dictate—our way! At present you still have memories you claim as your own. But not for long, my dear. You see, we performed a little operation on you while you slept...”

“You gave me this repulsive ant body, you mean! I want my own body back, my *real* body!” she protested angrily.

“There, you see? That’s exactly the sort of thing I mean. Your *real* body—come, come! From now on reality is my department. As I was saying, we performed a little corrective surgery on you.” He giggled at his emphasis on the word *corrective*, as though it were a private joke he was about to share. “To make it plain,” he went on snidely, “your brain has been entirely removed from that pitiful organism you used to call your body.”

“You’re telling me you transplanted my brain into this... this thing?!” She was outraged now, beyond fear or pity for herself. “This is absurd! I *must* be dreaming. Yes, and whoever you are, I’m going to dispose of you right now by waking up.”

“Poor dear...,” said the voice, with mock sympathy.

“Stop calling me *dear*, you... you monster!” shouted Alisha.

“Now who is the monster, exactly? You haven’t even seen me, but have you had a look at yourself lately?” He roared insanely with laughter, then collecting himself, suddenly turned serious. “To return to the presumptuous question of transplanting your brain into a Formes body. Do you really think we would waste a good Formes brain, replacing it with the likes of yours? No, and again no! Everything is a good deal more subtle than your miserable human brain suspects—which is to be anticipated. You see, the brain in question has not been transplanted at all. It has *no* body, and never will again! We have carefully placed it in a special jar, where it will be kept alive for some fascinating experiments. I do hope you are interested in science!” The voice roared with malicious laughter again before carrying on: “It is delicately wired to a powerful computer, programmed to send it exactly the sort of messages it used to receive from your body and senses. Only in this case, the computer invents the messages to create for you

an entirely new reality. Yes, that's right: the Formes body you seem to have borrowed is merely a simulation. Everything you are experiencing at this moment, and everything you are about to experience, including your new memories, is a simulation we have carefully prepared. Your brain will be used to test and evaluate these new programs. Alas, I too am part of the simulation. But of course, there are real scientists who created me. Formidable Formes scientists, who will soon have fame and fortune from this farsighted research, and for whom I am the formal voice, if you follow," the voice cackled, pleased with its alliteration.

"Well you don't scare me, you flat-footed fake! I know who I am. And now I know that you're nobody at all—nothing but a... program," she returned fire, not to be outdone. "And whether or not this body is real, I know *I* am real, because it's *me* aware inside!" declared Alisha, pleased with her logic.

"Don't be too sure," argued the voice. "You think you know who you are because you have a history of memories to draw upon. At this very instant, however, we are busy reprogramming those memories. The past you recall is gradually being replaced with a past of *our* design. You won't remember your human life because it will never have happened. Nor will you remember this conversation, which could never take place in your new life. You will cease to think of yourself as... as... I'm sorry, but I myself have forgotten your name." And he launched into another spasm of laughter.

She tried to make her lips say the name, to prove him wrong. To hold on to her identity, to save the last shred of herself. It was no use. She blacked out as she was straining to reach down a long dizzying tunnel to catch a name that fell constantly away, further and further into darkness...

From the bottom of that tunnel, from the stillness that had been there forever perhaps, there emerged a faint sound, a distant cry. A little louder this time, it sounded familiar. A name was being called and she knew the voice. It was a familiar female voice, a familiar name. The whole tunnel she was in rocked gently to and fro as she reached down again toward the name that was now racing up toward her.

"Alisha! Wake up, my dear", said the voice insistently. She opened her eyes with a start. A woman was leaning over her, shaking her gently, smiling. It was her mother.

Chapter Four: The Twin

That morning, on the bus to school, Alisha knew she had to see Miss Savanti as soon as possible. She was in a sullen mood. The dreams were getting to be too much. She was hesitant to tell her mother about them, for fear of being scheduled to see the school psychologist. Well, who *wouldn't* think she was crazy? Only her teacher. But then again perhaps she *should* see a doctor or get some kind of help. Sometimes it felt like she was losing her mind. They were certainly the strangest dreams she had ever had. And last night's was terrifying—although she had to admit to a certain calm throughout the whole thing. Perhaps that was the key to knowing it was a dream rather than reality? She needed some answers before she really did go mad with uncertainty. Or before someone else decided she already had and should be medicated. Miss Savanti was the only one—the only *real* person, that is—who could understand, who wouldn't freak out at the sheer weirdness of whatever was going on. There was Zed too, of course. But beside not being real, he was a fruitcake himself, the beginning of the problem. Perhaps he *was* the part of her mind that had gone a little mad. What else to think? Things like this don't happen to normal fifteen year old girls. Well, she'd never considered herself especially “normal,” or even wanted to be. Quite the contrary, she had always liked being different, special, a little edgy. But eccentric was one thing and crazy was another. Had she somehow gone too far, no longer merely cultivating an offbeat image to her advantage? Something beyond her control was pursuing *her*, and she had to find out why. She just needed to talk to someone about all this, and her friends and her parents were out of the question. She hoped to high heaven Miss Savanti could offer reassurance. She knew she would at least be sympathetic and not too alarmed.

Alisha made it through the first period at school, and after break there was history class. She urgently hoped her teacher would be there. Miss Savanti had been ill last week and missed a day. She didn't usually like the substitute teachers, who seemed like glorified baby sitters—or prison wardens—take your pick.

She walked into class just after the bell rang, hoping to catch her favorite teacher's eye with a look that said *I need to see you after school*. But her heart sank when she saw that it *was* a substitute teacher. With his back to the class, he was writing something on the blackboard that began: *You are not who ...* She was just about to slip into her regular seat when she noticed it was occupied. Alisha let herself sink into the empty chair directly behind with a feeling of apprehension. The girl in front of her had hair the same colour and cut as her own. What's more, Alisha realized with growing astonishment, she wore the same blouse and skirt and had placed over the back of

the chair—*her* chair—the very same coat she herself had just removed! She reached out tentatively to tap the girl on the shoulder when the substitute boomed, in a nasty voice she thought familiar:

“Good morning cherubs!” Let me introduce myself. My full name is rather difficult, so you may prefer to call me Mr. Z.”

It *was* Zed! He caught her eyes and smiled his best evil grin, then continued, still looking in her direction:

“Perhaps someone can fill us in on last night’s—I mean yesterday’s—lesson. How about you, Miss... what’s your name?”

Just as a dumbfounded Alisha was about reply, the girl in front of her stood to introduce herself. She turned slowly around until their eyes met and, with a friendly smile, she began to mouth the words: *my name is Alisha Pelerin*. Indeed it *was* someone who looked *exactly* like her, besides having the same name and clothes! Alisha’s head began to spin; she felt sick and very confused. With the new girl—the impostor—still gawking at her, she turned to face the teacher—or Zed, or *whoever* it was.

“All right... Mr. Z... what’s going on?! Is this another of your hollygrams?” she demanded to know.

“Hologram”, he replied calmly, drawing out the sound of the *h*. And please hold your temper, my dear. What will your classmates think?”

Alisha surveyed the room. All the familiar faces were staring at her but no one spoke. The girl in front sat down again.

“Well, if they’re holograms too then they probably *don’t* think!” She practically shouted to see what effect her outburst might have. No one moved, not a word broke the silence. All eyes remained passively fixed on Alisha.

“There!” she said, “I told you. They aren’t real. They’re... they’re just a bunch of zombies you made up from your imagination—or *my* imagination, or whatever!”

“I assure you, zombies are another story—perhaps another dream, eh? We’re all just a little stunned by your rude behavior. After all, you haven’t even introduced yourself.” Shifting his gaze to the new girl in front, he continued: “Alisha, I would like you to meet... I’m awfully sorry...” Looking back at our heroine, he said, “What was your name?”

“Stop this at once, Zed!” she demanded. “You know very well what my name is.” But for the brief duration of that peculiar moment, she couldn’t actually recall just what that name was, even though she was sure she had just heard it.

“It’s... it’s... well it’s the same as hers”, she stammered, pointing to the girl in front. “Only it’s *my* name and she stole it! She’s taken my whole identity, it seems. But this is totally crazy. Either I’m dreaming or I really am losing my mind. Now I *demand* to see the psychologist!”

“Either/or, either/or...,” Mr. Z mumbled to himself. Then addressing Alisha: “Calm down, child. I can assure you that you are not crazy at all. In fact, the contrary. And very brave, I might add. You asked to know what is happening here. Well in my estimation, your mind is strong enough to confront a basic fact of life that most people are in a great hurry to ignore. In my opinion, which is admittedly far from humble, it makes no difference whether you are waking or sleeping at this moment. The important thing is that you want to see things as they truly are, and there is nothing crazy about that. On the contrary, this is a great virtue and rare in someone so young. So please indulge me by allowing us to proceed with this little charade. I promise you it will be quite instructive and you will not be disappointed.”

Alisha felt tentatively reassured. There was something in his words and manner that reminded her of Miss Savanti. Perhaps this substitute was also a philosopher?

“All right, then,” Alisha said provisionally. “But if I’m not crazy how did there get to be two of me? I’m sure I would never think of such a thing even in my wildest dreams. Is she even real?”

Just then the girl in front—the other Alisha—protested softly: “Of course I’m real. I’m just like you... I guess *exactly* like you.” At that moment the whole class came to life, as though suddenly thawed from suspended animation. There was general mayhem and confusion, promptly curtailed by the thunder of Mr. Z’s voice:

“All right, class, calm down. All will be explained in due course. But first things first. I would like you all to say hello to the new girl. Alisha, would you please stand so the class can greet you.”

At the sound of their name, the girls eyed each other hesitantly and then, in exasperation, turned back to Mr. Z.

“Ah”, said Mr. Z. “I see the problem. Though you are both named Alisha, each of you thinks the *other* is the new girl. Isn’t that right? I suppose we must determine which of you is which.

“That’s ridiculous!” said Alisha, this time rising from her chair. “I’m Alisha Pelerin. I’ve been in this class all semester and *she* showed up here today calling herself by my name. Isn’t it clear she’s an impostor?”

The other girl stood up to defend herself: “No *that’s* ridiculous. I am Alisha Pelerin. You all know me, don’t you? This is my fourth year at this high school and before that I went to Templeton Junior High and before that to Sunnyside Elementary. I just had my fifteenth birthday last week and I was born in Saint Mary’s hospital...” and she continued to rattle off her vital statistics while the other Alisha sat with mouth open, incredulous.

“Okay, okay,” piped in Mr. Z. “So it appears you two are not only genetically identical—and have rather similar tastes in clothing—

but somehow you also have the same memories. Very peculiar. There really can only be one satisfactory explanation..."

"And what is that?" the two Alishas demanded in unison, each casting a frown at the other.

"It appears that you are *clones*," Mr. Z announced with the authority of Sherlock Holmes. "One of you—for the likes of me I can't really say which—is the original and the other is an identical copy. Complete with identical memories—up to the moment of the cloning, I suppose. We'll go into that shortly. There are several pertinent questions, but first we must establish a way of telling you apart."

"That's easy," proposed one of the students, pointing to the girls in turn. "*She's* sitting in *this* chair, and *she's* sitting in *that* chair."

"An excellent point," said Mr. Z. "Seriously, class, and no cloning around, another way to put it is this: though they are qualitatively identical, yet they are numerically distinct. That means they are alike in every conceivable way except that they happen to be two rather than one. The only difference between them is that they occupy different places or spaces. Clear?"

One of the Alishas turned to the other to whisper: "I don't know about you, but I really don't care for being a specimen in this... this..."

"Farce?" suggested the other Alisha. "You took the words right out of my mouth," the first one continued. "Still, I suppose we have to get to the bottom of this."

"Listen up, girls. This concerns you," intervened the teacher. "Now class, what is the crucial question here?"

A hand raised. "Which one is the *real* Alisha?" proposed the owner of the hand.

"Yes. Good. In so many words. But there are a few finer points to straighten out along the way. Shouldn't we distinguish between *real* and *genuine*? After all, at least one of them could be an illusion, a mere appearance..."

"A hologram?" piped in a student's voice.

"Thank you, yes. And therefore not real," continued Mr. Z. On the other hand, they might both be flesh and blood all right. But only one of them, at most, can be the *genuine* Alisha—the original from which the other was copied."

"But that's what we mean by real, isn't it, Mr. Z? The original one", another student joined in.

Yes, of course," the teacher elucidated. "Only bear in mind they could *both* be copies. Or they even could *both* be illusions, no?. These are separate questions, do you see? But admittedly finer points.

The students began to crowd around the two girls, trying to pinch them and poke them to see if they were flesh and blood.

"Leave us alone!" the girls shouted as one. Both Alishas thought that if this was a nightmare, now would be a good time to wake

up. As though anticipating their fears, Mr. Z suddenly broke up the melee and restored order.

“All right”, he boomed. “You’ve actually touched them. Does that prove they’re real? What do you think?”

“Well I touched them and they both seem real to me,” a student offered.

“So, then, if one is real then the other is real too? Good. But I notice we still don’t have a way to designate them. How about we call this one (pointing to the girl in front) Alisha One, and her Alisha Two?

Alisha (that is, Alisha Two) stood up to insist that *she* be called Alisha One, since she was certainly the original. Then the other one stood up to protest that *she* was the original.

“Now, now, girls!” interrupted Mr. Z. “Which of you is the original is exactly what remains to be decided. As for the designations—well, they’re arbitrary. You know what that means?” he asked, turning again to the class to continue his explanation. “It means they *could* be named the other way around, but it makes no difference for our purpose, which is to tell them apart. This one is in front, so it seems natural enough to name her number One.”

“But this is all nonsense!” protested the Alisha sitting behind. “I’m the real one. I was here first!”

Mr. Z calmly met her objection: “Well in point of fact, my dear, that is not so. You may recall that this girl was already sitting in ‘your’ place when you arrived this morning—I must say, none too early. Perhaps if you were a little more prompt these situations wouldn’t arise.”

The suggestion that this “situation”—this nightmare—was somehow her fault because she came in late to class was too much for poor Alisha Two, who had never been late until recently. She stood up and screamed at Mr. Z and the other Alisha and the whole class: “I hate you all! I want you out of my dream. Now! And if you won’t go, then I’ll leave myself.” She glared at them, while they stared back at her, immobilized in a standoff. Then she grabbed her coat and books and fled the room.

We don’t know exactly *where* Alisha went when she left the history class. Wherever it was, it seems we have remained behind to inherit her dilemma. We are, after all, the hearers of her story. And since it is only a story, it is in *our* consciousness that it must unfold. Perhaps she went for a walk to pull herself together and will return shortly. Or perhaps she did indeed wake up to find herself in bed at home, snug as a bug in a rug. We can only wonder at such questions as: *where do characters in stories go when the story continues without them?* And also: *do story characters even exist except in the mind of readers?* But since Alisha is at least a *genuine* story character, it

seems we owe it to her to unravel the mystery of identity presented by the curious appearance of her twin. We owe it to ourselves as well. There may and may not be a flesh-and-blood Alisha, but certainly there *could* be. And all that has befallen the poor girl could, after all, happen to any of us. Let us return to the classroom, then, to see what sense we can make of it all.

Alisha One looked very distressed. She turned to Mr. Z apologetically: “I never meant to be a trouble.”

“Rest assured, it’s quite all right, my young friend,” he said comfortingly. “No one blames you for simply existing. And that’s what’s caused the trouble—just the fact that you exist. It’s certainly nothing you have done. Nor must you worry about the other Alisha. She’ll be fine. If your counterpart has chosen not to remain with us in this story... er... I mean classroom, it can’t be helped. She has free will, you know. Well, actually that’s another issue. We must deal with these things one at a time. At hand is the question of your identity—or mine for that matter. Let’s suppose, just for the sake of argument, that the other Alisha *is* the original one, and that you have been somehow copied from her. Let’s review what we know, in hopes we can figure this out, step by step. Okay?”

Alisha One suppressed an impulse to object, as Mr Z continued.

“When there were *two* of you present, you were at least numerically distinct—as I was saying—though identical in every other way at the moment of your cloning. You even had the very same memories. Of course, ever since that moment both of you have been free to wander about separately collecting new memories. These would necessarily be different. After all, even if you were stuck together like Siamese twins, you would each occupy a slightly different perspective in space. Your experience would be at least minimally different, and therefore you would have to be considered two individuals, each with a unique history. That’s clear, isn’t it? Do you follow so far?” She nodded and the rest of the class murmured assent. “By some odd coincidence,” he continued, “your wanderings brought you together again in my classroom. Your paths intersected and rejoined briefly, but now have parted again. The original Alisha has disappeared, leaving only yourself, the copy. Suppose she died...”

“Oh my goodness, I certainly hope not,” declared Alisha One. “I would feel so terrible...” And she genuinely was distressed.

“Don’t worry—we are only *supposing* here. For the sake of argument, as they say. I am sure she is quite all right. But just *suppose* that she had died in the process of duplication—in the moment that you, her offspring, were created. The situation is rather less clear in that case, wouldn’t you say?”

“I’m afraid it is,” confessed Alisha One. “It’s an awful lot of supposing. It makes my head spin, Mr. Z.”

“Bear with me, and try to follow the argument a little further. Since there is now only one of you, we might be tempted to forget there ever was another Alisha. You could just move into her life and take her place, and no one would be the wiser—except for the few of us here and whoever, if anyone, was present at the cloning. Even so, we can still insist there are two individuals involved—Alisha One and Alisha Two—and that one of them simply replaced the other.”

“That’s right, Mr. Z”, interjected a student. “We all saw that there were two girls who looked alike.”

“So far, so good,” continued the teacher. “But now *suppose* that instead of a cloning process, which only one twin survives, something a little different happens. Suppose there is a teletransporter that can beam you from one place to another...”

“You mean like on *Star Trek*?” queried a student.

“Exactly,” continued Mr. Z. “Suppose Alisha gets into the transporter. Now, presumably the teletransporter works by making an exact copy of your blueprint, so to speak. This is then coded as information to be sent across space by radio waves to another location. There your body is reconstructed from the transmitted blueprint. A bit like a TV image is broadcast and reconstructed in your receiver at the other end.”

“And so, instead of just your image, it would be your body that was sent from one place to another, at the speed of light, is that right?” another student wanted to know.

“That is correct, or nearly so. Actually it is only the *pattern* of your body, in all its detail, which would be transmitted. The blueprint, as I’ve called it. Your body, which stepped into the transporter at this end, is made of a mass of molecules which are very well organized in a very particular way. It’s the pattern of organization which is transmitted. The molecules themselves would have to remain behind. For one thing, they can’t travel at the speed of light. What is sent is the information, about how to reconstruct your body in exactly the same way from *other* molecules at the other end. You have raised a very important point. You see, the molecules of your body *here* and the molecules of your body *there* would be entirely different. ‘You’ would arrive at your destination with a numerically distinct body from the one you left behind. But I think what we mean by a person’s identity has more to do with the unique way it is organized, and less to do with the particular molecules that compose the body. And if the teletransporter is doing its job without error, then that is precisely what would be transported: your identity. After all, the body is constantly renewing itself night and day anyway. Cells die and new one’s grow in their place. The molecules that make up your body are slowly being

replaced by others, but your identity remains the same. Or does it? People *do* change. If nothing else they grow older. You look and act *something* like the little child you were a few years ago, but you are also quite different. What exactly makes you the same individual? Which brings us to the point of my digression. What exactly is the difference between the following three situations?: Number One: the baby changes radically by growing up, but is always considered the same individual. Number Two: the clone replaces the original. And Number Three: the person is teletransported from one place to another. Since class is almost over, that will be your homework. Write at least a one-page essay on identity, which discusses these three situations. Oh, and by the way, let's add a fourth situation. What about the person who goes to sleep at night and wakes up in the morning. How do we know they are the same person? How do *they* know? Better make that two pages.

"Well class, it's been a pleasure meeting you. I hope you don't lose any sleep over your assignment," he chuckled. "Your regular teacher will be back tomorrow, same as usual—if, of course, it can *be* the same person. Better make that five situations and three pages..."

The students were groaning and ready to bolt out the door before the teacher could think of any more wisecracks or further "situations" to add to their homework. Mercifully, the bell rang just then...

And rang and rang. It was Alisha's old wind-up alarm, slowly unwinding. The battery had died the day before in her electric clock. She had the strangest thought. Still half asleep, she wondered if it could be the *same* electric alarm after it had a *new* battery. Then she wondered whether the dying wind-up clock would be the same clock after it was rewound. All at once the amazing nightmare of the twin Alishas came back to her. Suddenly in a bad mood, she groaned and called out to her mother, "I'm running late, Mom. Could you please drive me to school? I just *don't* want to be late today!"

Chapter Five: The Executioner

She *wasn't* late. And the real Miss Savanti was there and was happy to meet with her after school. Alisha began her story at the beginning, which as far as she could tell was the strange fortune from the Chinese cookie.

"Yes, that is odd," agreed her teacher. "First, because it's not your run-of-the-mill fortune cookie message. Also, it's rather mysterious sounding, isn't it? But there is another reason as well. It's something of a paradox. You know what that is, don't you?"

"A puzzle? Something that boggles the mind?" Alisha hazarded.

"Yes—in a particular way," continued her teacher. "A paradox is a contradiction—something which says both yes and no, which undoes itself, so to speak. A statement which, if you assume it to be true, turns out to be false, and if you assume it to be false, turns out to be true. I think your fortune-cookie manufacturer may be a bit of a logician with a sense of humour. Paradoxes are a favorite interest of logicians. What was the exact wording of the message—'you are not who you think'? Of course, whoever composed it doesn't *know* who you are, and certainly doesn't know who you *think* you are or anything else that you think, except perhaps for some predictable responses to the fortune message itself. It's tricky that way. It must have been intended for *anyone* who might happen to read it. So you really can't take it personally. Whatever it means must apply universally. But is it *true*? That's another question. To me it smacks of contradiction. For, the message might have convinced you to think of yourself as someone who is not who she thinks she is! Am I right?"

Alisha pondered a moment. "Well, I guess so. Because, I was beginning to consider *who* I might be if I'm not who I think I am. And then I started having all sorts of really weird dreams about becoming someone else or someone else being me..."

"Yes. Very interesting. But excuse me for interrupting. I do want to hear about these dreams. First, though, let's finish with the fortune cookie. It would have been an entirely different message if it said 'you are not *what* you think' instead of *who*. That would be an interesting metaphysical statement, but no contradiction. What I want to point out is this: the message has the strange effect that if you believe it, then you must be someone who thinks she is not who she thinks she is—in which case, the message denies that she is *that* either. And if you *don't* believe it, then you must be someone who *is* who she thinks she is—even if she happens to think of herself as someone who is not who she thinks!

"Oh this is too confusing," protested Alisha. "I am beginning to think of myself as someone who thinks too much! It makes me dizzy..."

“Yes, paradoxes are like that. They are like thoughts that trip over themselves. Perhaps the most famous one of this type is the Liar paradox. It was first proposed by an ancient Greek who happened to be from the island of Crete. He put it like this: *All Cretans are Liars*. Simple, no?”

“Yeah. I guess he should know, too, since he was from Crete himself,” she observed.

“Exactly. But if it’s true, and all Cretans *are* liars, then *he* must be a liar too—in which case his statement cannot be true, since it must be a lie. But if it’s *not* true—because not all Cretans *are* liars—then he must have been lying, or at least mistaken, and so it’s true after all.

“I see your point,” said Alisha, still reeling. It flips to the opposite of whatever it seems to say. Kind of like a light with a photosensitive switch that turns itself on if it is off, and off if it is on!” She was proud of herself for the analogy, which she rightly believed would be appreciated by Miss Savanti, who was also her science teacher.

The latter continued: “The most direct form of this switching routine, in plain English, is the statement: *This sentence is false*. If your light switch were wired like this sentence, the logic of its diagram would say: *if on, then off; if off, then on*. If the statement is true, then it’s false. And if it’s false, then it must be true. What to do, eh? It immediately cancels itself out, since *time* doesn’t enter into logic. But time *does* enter into physics. Just that same logic can be used to make a buzzer or vibrator, or any other kind of cyclical process, because there’s a little delay between the steps of the logic, and so between the on and the off.”

“So do you think my fortune cancels itself out or is only vibrating?” Alisha kidded. “It’s a good thing I haven’t been *dreaming* about fortune cookies. At least *that* really happened. Look, I still have it.” She rummaged briefly through the contents of her small handbag, producing the little piece of paper. “Maybe I’ll go into the fortune business myself. I think a good one would be: *this fortune cannot possibly come true*.”

They laughed together and invented other impossible fortunes. She felt relieved to think of the fortune as the prank of some bored amateur logician, rather than a spooky birthday message to her personally. And then, what could be more logical than logic? If even *it* has a crazy side, then perhaps her dreams weren’t so menacing after all.

“I still want to tell you about those dreams,” said Alisha, “but I see it’s getting late. Thanks, Miss Savanti. I do feel better now.”

“How about we continue this tomorrow?” her teacher suggested.

“That would be great. Thanks again. See you tomorrow.”

That night Alisha actually looked forward to dreaming. She wondered what mind-boggling dilemma might be presented next. She thought about the pattern of the dreams—how they seemed so real, yet each one was about some very tricky situation, impossible in real life. It seemed she was getting the hang of whatever was going on in her unconscious—or wherever such things come from. She lay awake a long while wondering about how we can be sure of who we are—how we can be sure of anything at all! No longer frightened, such questions began to give her a little thrill. Pondering them well past midnight, she finally drifted gently off to sleep...

Someone was moaning next to her. She opened her eyes with a start and found herself lying in a small cell on a hard and narrow bed. Another person lay a few feet from her, on the other side of the cell on a cot like her own, under a single grey blanket like the one that covered her. A man was sobbing and muttering something about not wanting to die.

“Hello? Are you all right?” Alisha ventured.

He sat up on the cot to face her and she saw that it was Zed.

“Oh, it’s you! Where are we? And what’s the matter?” she asked, surprisingly unsurprised to see him.

“The matter is my imminent demise,” he said woefully. “As for our whereabouts, well don’t you remember? We were captured by those horrible ant creatures. It’s your fault, you know. If you weren’t such an impetuous little meddler...”

“Impetuous?” she queried, not knowing the word.

“If you had just obeyed orders and not broken rank we might have gotten out of there in one piece. But you had to go in for heroics.”

“Oh yes. I remember now,” said Alisha calmly. But you *do* know that was only a dream, don’t you?”

“A very horrible nightmare, I should say!”

“But a dream just the same,” insisted Alisha. “It wasn’t real, you know. And this... this is also just a dream, Zed. Don’t be upset, whatever the problem is.” She tried to comfort him, but to little avail.

“That’s fine for you to say. *I’m* the one who’s condemned to die. My life is going to *end*. I’ll go out like a candle. Think of it—just suddenly *no more Zed*. Tomorrow, or whenever, for me the whole beautiful world will cease to *be*. And then, just... *nothing*—blackness—forever, I imagine. Oh, I *can’t* imagine! It’s unthinkable. And I don’t even know exactly *when*. I suppose that’s part of the punishment. They’re very cruel, those Formes. I don’t *want* to die. And the suspense is... well, killing me! And you say don’t worry!”

“Stop your blubbing, Zed. Everybody dies sometime. But in your case, you won’t *really* die because you aren’t really alive. You’re a hologram, remember. Not even that—just a *dream* of a hologram!”

Anyway, where do you think you *go* when I'm awake? Calm down now, and try not to be so melodramatic. Everything will be okay—believe me. Tell me exactly what happened.

“Well, all right,” began Zed, feeling somewhat reassured about his situation, if not his realness. “After our capture, you will recall, they took us away separately. I had no idea what had become of you. I'm so glad you are all right. Did they harm you?”

“Not really. It was bizarre and scary, but actually painless. They tried to convince me my brain had been removed, or something like that. They certainly have peculiar ideas about torture. I don't remember how I got *here*, Zed, but I wouldn't take your situation too seriously. We can wake up from this whenever we choose. At any rate, I'm sure *I* can. Now, tell me the rest of your story. Real or not, we'll get to the bottom of it,” Alisha added confidently.

Zed began again, not altogether reassured. “Well, the Formes don't exactly practice due process of law. Instead of a trial they whisked me off to a lengthy interrogation and a battery of psychological tests... a profile, I suppose. After they decided what sort of character I am, they proposed a deal.”

“What kind of deal?” Alisha asked.

“I was offered an official position. As their... uh, well... their Executioner, you see. In exchange for my life, Alisha! I had no choice. And, well, I accepted—given the alternative.” Zed was clearly a bit sheepish about the deal he had struck.

“I see,” said Alisha with growing suspicion. “And how many heads have you lopped off to date? Or however you do it! I suppose if they had brought me before you, you would have ‘executed’ me too. Is that the story, good old Zed? And now, by some turn of events, you are forced to take your own medicine, is that it? I can't say I feel that sorry for you.”

“No! You don't understand. I haven't executed anyone...yet. And I can assure you I don't relish the idea. You see, they brought me before them again the very next day, to announce that my first duty was to be performed sometime in the following week. Part of the punishment for the victim was the anxiety of not knowing on *which* day they would die. The Formes left it up to *me* to decide on a day that would, beyond any possible doubt, come as a complete surprise to the condemned. That was their sole proviso, and they were very insistent on it. Their sadistic streak is decidedly subtle, those Formes. The whole thing would prove as much a torture to me as to the victim—in a way I could not then foresee. But I'm getting ahead of the story. At first I thought it would be simple to choose a day. I would just flip a coin or draw straws. But something about the matter began to prey on my mind, perhaps initially because I didn't cherish—as you put it—lopping off someone's head. And thinking more and more carefully

about the matter, I realized there was something terribly wrong about the whole thing.”

“I should say so,” interjected Alisha. “Doing the Formes’ dirty work to save your own skin doesn’t exactly sound right.”

“No, no...” protested Zed. “I don’t mean *morally* wrong. There was something *logically* disturbing about the whole business.”

“Oh good. Logic! I’m so glad to hear it,” she pronounced sarcastically. “Why is it you are never logical when you ought to be, and now you bring in logic where it doesn’t belong?”

“Bear with me, Alisha. It *does* belong. You see, I began to analyze the situation in the following way. The execution *must* come as a surprise to the condemned. So I put myself in his shoes, heaven forbid. I reasoned that if the condemned party made it through the week to the last day, that would mean the execution *had* to take place on the last day of the week. But then, on that day, the prisoner would *know* which day he would die—and therefore the sentence couldn’t be properly carried out. Well, then, how about the *next* to last day, I wondered. I then realized to my dismay—but also relief—that the same reasoning applied all over again: there now remained only *six* possible days on which the prisoner could be surprised. But again, if he made it through five of them, he would know he was to die on the sixth day. And so the sentence couldn’t be carried out on that day either! By repeating this reasoning, I eliminated the other days down to the first. With only that one involved, it certainly could be no surprise to be executed on *that* day. I realized the sentence could not be carried out at all! On the one hand, I was greatly relieved, as you can imagine. But on the other, I couldn’t help wondering what would happen to me for failing to carry out my orders.”

“The Formes do seem to go in for cruel and unusual punishments. As for your reasoning, though, that seems more than a little fishy to me. What if you just showed up one day to take the prisoner to his doom? I’m not suggesting you *should*, you know. But I think perhaps wishful thinking has gotten the better of your logic. If your prisoner had deceived himself with such questionable reasoning, then *any* day you picked would come as a surprise, wouldn’t it? And therefore the sentence *could* be carried out. Sorry to be the bringer of bad news, old boy.”

Zed looked despondent. “Dear me. Now that you’ve pointed it out, I fear you may be right. How could I have been so naive? I was so hoping this offered a way out. I’m afraid I really don’t go in for executions. Especially my own.”

“What?! What did you say? What do you mean *your own*?”

“I was just coming to that,” Zed explained. “You see, there is a further complication I haven’t mentioned yet. As it turns out, the prisoner I am supposed to execute is *me*.”

“This is too weird. Why didn’t you say so in the first place? This makes, like, zero sense. How could they expect you to surprise *yourself* with the day of your own execution?” she wondered.

“Yes, strange indeed. A further example of twisted Formes humour, I expect. But seriously, I suppose one could get around the problem by letting the day be decided randomly: a toss of the coin *each day* should do it—rather than in advance. To wonder each and every day whether it might be, as they say, a good day to die!”

“I see your point,” she conceded. “That would even leave you with at least a very slight chance of making it through all seven days without the coin coming up heads—forgive the expression. But how *does* an Executioner go about executing himself, should worse come to worst? Surely not with an axe!”

“Well... perhaps there’s something in that. The whole thing does seem rather unorthodox. Of course, anyone can take his own life. Or rather the body’s life. Since, as you point out, I don’t really *have* a body, I’m not quite sure how it applies to my situation. But there’s something else as well that could bear on this. The Formes read me my job description, so to speak. It seems that the duties of Executioner are formally defined. Officially, the job is to execute *all those and only those convicted who do not execute themselves.*”

“How nice of them to leave you the option of *Harry Carey*,” she commented ironically. “*All those and only those...* it sounds so technical. I guess lawyers are the same everywhere... Well, what do you make of it?”

“*Hari kiri*, I believe it is,” he corrected dryly. “What I make of it is this. The Executioner is supposed to do his job on those who refuse their suicide ‘option’, as you put it. But as both Executioner *and* condemned, that puts me in a rather unusual situation, don’t you agree?”

“Both of us seem to have a knack for unusual situations,” she conceded. “This one is *very* puzzling. I can’t quite figure it out. Look, if as *prisoner* you choose to carry out the sentence yourself, then wouldn’t you be violating your role as *Executioner*? And as *Executioner*, wouldn’t you be preventing yourself from exercising your option as *prisoner*? ”

“I suspect this may be another of the Formes’ mental tortures,” added Zed. “It seems I’m damned if I do and damned if I don’t. As Executioner, I can execute only those who don’t take their own lives. But if I execute myself, I *will* be taking my own life! I confess I can’t figure it out either. But if we can’t sort it out, then perhaps the Formes can’t either.”

“Or perhaps they’re way ahead of us and have put you in this situation just to drive us both crazy!” suggested Alisha.

“In any case, we’ve reached an impasse,” Zed observed. “As Executioner it seems I simply cannot do my job—and I can’t *not* do it either. Something has to give. I fear it may be my mind. There’s no point in *you* hanging around—there’s nothing either of us can do for the moment. This would be as good a time as any for you to leave, my dear. I’ll just have to ride this out alone. Perhaps, if I wait long enough, eventually one side or the other of this... this *whatever* it is will give way and I’ll be released—from confusion, if not from prison. In the mean time I still have my neck.”

“I suspect the word you were looking for just now is *paradox*,” cautioned Alisha. “If so, I fear you could in for a very long wait.”

“I’ll miss you, Alisha,” he said, waxing sentimental. “I dare say I shan’t have *anyone* to talk to. Except myself, of course.”

“I’d be careful about that, Zed. Knowing the Formes, it might be *illegal* for prisoners to talk to themselves. And worse than that, you might have been appointed Official Orator behind your back. You know: someone whose job description is to talk to all those and only those who do not talk to themselves. You’re in enough trouble already, old friend.”

“Oh shame on you. You’re mocking me at a time like this,” he reprimanded.

“Somehow I think time is irrelevant here,” she rejoined. “Bye, Zed. Try to cheer up.”

Just then the ugly head of a Formes guard appeared in the little window of the cell door.

“No talking to yourself!” it growled.

“But I *wasn’t* talking to myself, sir. I was talking to *her*...” Zed was saying as he turned to point to Alisha. But Alisha had vanished.

Chapter Six: The Un-Rainbow

“Very interesting, Alisha,” Miss Savanti was saying, about the dream of the night before. Alisha had dropped by the classroom after school as agreed. “You seem to be a natural born philosopher,” her teacher noted warmly. “These are truly remarkable dreams, unlike mine or any I’ve heard of. Well no, that’s not quite true. Your dreams are remarkable because they are about very deep questions that are hardly personal. They are philosophical dreams. I suspect some of the revelations of Descartes, the seventeenth-century French philosopher, may have come to him in dreams. And a number of scientific problems have been solved in dreams. For instance, a chemist in the nineteenth century dreamed of a snake biting its own tail, and this gave him the clue he needed for the structure of the benzene ring. And then there is Einstein. When he was your very same age, he daydreamed about what it would be like to surf on a light wave. His thoughts about this, over the next ten years, became the basis for the theory of Relativity. Which, as you know, was a revolution not only in physics but also in how we view time and space. You seem to have a natural bent for some of the classic problems of philosophy. Very few people think about these things, much less dream about them. What makes such questions so hard and elusive is that they are so simple and close to home. They are about how we see the world and how our minds work, and about the remarkable fact that there is even such a thing as *seeing* at all. Or such creatures as you and I to do the seeing. I hope you will keep wondering—and dreaming—about these questions! My guess is, you might have some important contributions to make a few years down the road.”

“You really think so? You know, Miss Savanti, there *is* something that kind of gets me going. Do you ever wonder... well, what it is like to be someone else? Or to be an animal, for instance? I wonder what a bug feels. I watch them sometimes, wandering around in the grass... or along a twig, waving their feelers in the empty space when they come to the end. Sometimes they seem so *lost*. Do you suppose they have feelings like people?”

“Probably not like human beings, Alisha. That would be my guess. I doubt that bugs are happy or sad, for example, or that they *feel* lost. But they might experience *something*. It’s a tough question. It’s hard to know how to think about it even. We’re certainly not the first to wonder. People must have been curious about the experience of other creatures for thousands of years. Ever since they conceived the *idea* of experience, I should think. And that must have been when they first acquired self-awareness.”

“Self-awareness? What do you mean exactly?” Alisha questioned.

“To wonder what it might be like to be another person or another creature, one must first have some concept of *experience*. One must have the idea of being someone oneself, a subject. That’s self-awareness—being aware of one’s existence as an experiencing *self*. We take for granted that people, animals, insects—along with rocks, trees, stars and everything—all exist together in the same universe—as we see it. We take for granted that how *we* experience that universe is how it really is. But then we wonder how these other creatures might see the universe, how *their* experience might differ from ours. It’s a double standard, you might say. Because, all the while we are wondering such things, we assume that how *we* see the universe is not just the experience of a creature that happens to be us, but is *reality* or *truth*. We end up with a concept of experience as an inner world, private to each individual, and perhaps very different from creature to creature. At the same time, we believe there is a real universe that contains us all, whose true face is the one we see. We set ourselves up as the final authority on how things are. And perhaps this is justified because we seem to be smarter than dogs or lizards or ants.

“But there’s a more subtle problem created by our self-awareness,” she continued. “To even wonder about the experience of other creatures—or other people—we must have this sense of an inner world of experience, as opposed to the outer world of the physical universe. And to have this sense of an inner world we must be aware of our own presence. I don’t mean our existence as part of the physical universe. I’m not talking about our bodies, which are objects like other material things in the physical world. I mean instead our life as *subjects*—as beings who can *have* experience. *Someone* rather than *something*, you see.”

“Oh. I do see, I think,” said Alisha. “I’m aware of my experience as something inner, and therefore of my own presence as someone having that experience?”

“Exactly,” her teacher confirmed.

“But then what happens if I’m not particularly thinking about all this? About being someone who has experience? If I’m just aware of... of the chair there, for instance? Is that still experience? Is it the inner world or the outer world I’m aware of then? Oh—and here’s another question. Does that mean there’s an inner chair *and* an outer chair?”

“I’m so glad you brought this up, Alisha. You’re very perceptive. But, as you are perhaps beginning to suspect, the whole business is a rather tricky jumble of confusing ideas. So tricky, in fact, that it’s very difficult even to grasp what the problem is, let alone a solution. These questions are so far upstream for us that we can’t get a proper handle on them. They have kept philosophers going for hundreds of years. Don’t expect to get it all clear in your mind this afternoon! But if you *do*,

you can let *me* know how it all turns out! Anyway, here goes my feeble attempt to answer your questions:

“Self-awareness gives us the idea of an inner world of experience, right? But then, we have to ask, what *is* that? What *is* experience if it’s not the outer world? You’re looking a little baffled, so let me put it a different way. What is the relationship between the inner world and the outer one, which we call real, and which seems to be made of atoms and energy on one level, of chairs and rocks and all sorts of tangible things, on another? It seems solid, made of matter that continues to exist on its own, regardless of how or whether we experience it at a given moment. You wake up in the morning in the same body, in the same house, as part of the same family, on the same planet, and so forth, day after day...”

“Well, maybe *you* do, Miss Savanti, but I seem to find myself in all sorts of strange places lately—and not always in my own body!”

“But you recognize that as taking place within a *dream*—merely an experience, in other words, and not happening in the outer world. You have the *experience* of waking up in a strange world, while in reality you are asleep. And in reality you wake up as yourself, in a real world where you go to school, have me for your teacher and so forth. Right?”

“Well, I suppose I realize that right now, but I’m not always so sure,” Alisha confessed. “Dreams can *seem* very real, can’t they?”

“Yes, of course. All of experience can, and normally does, seem real. If we are creature’s living in a real world—I mean one that can affect us physically, even lethally—then it has to be important that we be able to monitor that world. Awareness is our way to track the world, so we don’t usually think of it as experience at all. And even what is happening in your dream seems real to you when you aren’t thinking of it as a dream.”

“Yeah. When I don’t realize it’s a dream, I think it’s all really happening. Funny thing is, lately I *have* been realizing I’m dreaming, right in the middle of the dream. As soon as I think to myself *this is only a dream*, I can wake up if I want to.”

“That’s great, Alisha. A good sign. That’s called *lucid* dreaming—because in the dream you know you are dreaming. Now, this lucidity can happen even during your waking experience. This happens naturally when you associate something in your experience with you or your body rather than with ‘the world’. When your ears are ringing, for instance, you somehow know that’s in your ear and not a bell somewhere in the distance. An experience like that calls attention to your own presence and the difference between subjective and objective—between you and the world. Have you ever suddenly been startled by something that looked, out of the corner of your eye, like a big ugly spider, only to realize it was really just a clump of dust?”

Or a snake that turned out to be a rope? You could say you woke up from the illusion of the spider or the snake, by realizing the appearance was not real but something your mind made up. *Something* is there, of course, but *you* made the interpretation of how to see it. Do you get the drift? Like everyone, most of the time you probably assume that you are simply witnessing real things going on around you in the real world. You aren't particularly aware of your own presence. This is normal. In the lucid dream, you realize that you are there dreaming the dream, and you call the appearance of reality into question. And in self-awareness you can do the same thing in a waking state. In the dream you are able to change your experience by waking up. And in self-awareness you wake up from the compulsion to consider events as real, or as literally the way you see them. This changes your experience, because your interpretation is different. It makes you question things. You realize your perceptions are an interpretation. And this gives you the freedom to change your behaviour if you wish. Do you follow so far?"

"I believe so," Alisha affirmed. "You're saying that self-awareness gives us the power to question whether something we experience is real, or really the way we see it. But I still want to know whether insects have any kind of experience at all. I doubt they have self-awareness."

"I doubt it too. Perhaps whales and chimpanzees do, however. Maybe elephants too. But your question brings us directly to the subtle point I have been heading towards. You see, in order to have the *idea* of experience, we must already have self-awareness. So what can we mean when talking about the experience of creatures that are not self-aware? It's a word in our vocabulary, so to speak, but not in theirs. So it's a bit of a paradox. We can imagine they have, so to speak, some kind of inner movie like us, and that they simply aren't aware of it *as a* movie. But the movie metaphor belongs to us, as a self-conscious creature. We might do better to imagine a window rather than a movie screen. A creature without self-awareness is not aware *of* the window, but only of the world seen *through* the window. *We* can talk about its 'inner movie' because that's in *our* range of concepts—part of the window of which we are aware. But for the creature itself, there is no such thing as experience, now window. There is only the world. And this separates us from it. It might be possible to communicate with a porpoise or an ape about its feelings, beliefs or perceptions, if a common language could be established. But never with a lizard, I should think."

"Miss Savanti, I have another question. Even if we think of experience as a movie, isn't it still a movie of the world, as seen through the camera lens? Aren't we still aware of the outer world, even when we think of our experience as something inner?"

“What do you say about that, Alisha? I’ve been doing an awful lot of talking. You tell me.”

“Well, to use your window metaphor, it seems most everything that appears in the window you were talking about would also appear in the movie. But the camera might also film the window frame and the wall in which the window is set, and the room to which the wall belongs... and so on. And a movie is also an invention, a story. It films real actors and scenery to tell a story that could be imaginary. There might be *some* things in the movie that don’t seem real at all. like in those films that are part animation and part photography, where you see a cartoon character talking with a real actor. Or even better: like computer special effects. It’s modified reality. Does that make sense?”

“It makes a lot of sense, Alisha. As long as we don’t take our metaphors too literally. Things like pain, hallucinations, dreams, and even feelings are experiences many people would call subjective, because they don’t seem to be part of the view through the window. My finger is an object in the world, to be sure. I can see it through the window, so to speak. But what of the pain I experience in the finger if it gets caught in the car door? Window or movie? Or both? I could say ‘window’, because the pain belongs to the finger in the window, right? But I could also say ‘movie’, because there are pains and other sensations that don’t seem to be caused by anything visible in the window. And I could say ‘both’. Because, as you suggested, it could be an invention that also refers to something real. For instance, some people who had an arm or leg amputated continue to feel pain in the missing limb. Thoughts might belong in this category too. You can close your eyes and have a mental image of something you could or did actually see. Same with *afterimages*. You know—when you stare at a bright coloured light bulb, for example, and then close your eyes?”

“Yeah, I’ve done that,” Alisha acknowledged. “You see a patch of the opposite colour against a reversed background. Kind of like a colour negative.”

“Subjective, objective, or both?” her teacher continued. “It’s a way of looking. I can look at something in a movie sort of way or in a window sort of way. Perhaps in both ways together! We could go on and on—and philosophers do—about the right way to classify experience and understand its nature. But the more serious problem is that, once we are burdened with the choice, we have crossed a threshold from which there is no turning back. Experiences like the afterimage show us that there is more going on than just a transparent window on the world. They are somehow produced by the nervous system. Then we wonder whether *all* experience is not an invention of the nervous system—including the chair and everything seen through the window. Which brings us to your question: is there an inner and an outer chair? Well, what do *you* think, Alisha?”

She reflected a long while before replying.

“I’m not too sure,” Alisha said tentatively. “I can think of a lot more questions than answers. Like, if outer chairs are made of atoms, then what are inner chairs made of? And: does the inner chair actually *look* like the outer chair? And, if so, why? But what really gets me about all this is what you were just saying. Maybe what we see is our own production, complete with special effects. But then what lies *out there*—where the outer chairs are supposed to be? What is the movie *of*. What does it *really* look like. And *who* is watching this movie in the first place? And then there’s my original question: could another person or creature have an entirely *different* movie-going experience? I seem to go around in circles with all these questions. Nothing seems to be getting clearer. So, what I think is this: maybe inner chairs are not such a good idea. Maybe the movie metaphor is more trouble than it’s worth. Could we be on the wrong track, imagining an inner world, Miss Savanti?”

“My dear, you astound me,” said her teacher fondly. “I can see you are thinking very deeply about all this. And I’m glad you reminded me that we are at the mercy of our metaphors. You’re taking a very practical approach, and I agree with it in spirit at least. Well, I shall try to give a definite answer to at least one of these questions. You asked: who is watching the inner movie, or who is looking through the window? To which my answer is simple: no one! And I say this *must* be the answer because the alternative leads to absurdity. If we do suppose there is an inner observer, watching the movie of experience, then wouldn’t this inner person *also* have an inner screen or window inside them, with yet someone *else* watching that? The problem would be unending—what we call an infinite regression. You are quite right to point this out. The fault is built into the metaphor, which comes from dealing with the physical world where there is an inside and an outside, with screens and windows to watch. If we grant that there is an inner realm, then perhaps it is inevitable to conclude that we are trapped within it! Which is absurdly contrary to our daily sense of living in the real world. The very idea of ‘inside’ is a mockery if you can’t go out! On the other hand, if we deny there is an inside—as some philosophers and even psychologists have done—then this also seems absurdly contrary to our daily experience of pains, thoughts, feelings, dreams, etc.—our subjective consciousness, in short. What to do? It’s a quandary.”

“But what is the answer, then?” Alisha persisted. “If no one is watching the inner movie, or if there *is* no inner movie, then what is this thing we call experience?”

“Yes, that is the question, all right. *What is experience and how does it relate to reality?* I shouldn’t like to call experience a ‘thing’, however. This much we can be sure of: if there is any such thing as

consciousness or experience, it's clearly no thing at all. We've discussed several metaphors for trying to grasp what it is, but they all have their limitations. In particular, they all come from our experience of objects and relations in the real world. Trying to apply them to the 'inner realm' gets us into trouble. Even the idea of *inner* is going too far, it seems. It appears that every time we open our mouths to speak about consciousness, something wrong or misleading comes out. Perhaps the best thing is to keep quiet. Very difficult for someone like me, I have to admit. And apparently for you too, my friend. But, for the time being, perhaps the best choice. Just as well, because I see it's getting late. You missed your bus a long while ago. Can I give you a lift home? We could continue this discussion tomorrow if you like."

"Sure. Thanks, Miss Savanti. I guess it's not like these problems are going to disappear over night. Although with *my* dreams you never know!"

Alisha went to sleep gladly that night, hoping her dreams might indeed shed further light on the mystery of consciousness. She didn't have long to wait...

"Oh, you again!" she exclaimed. Zed was standing on a nearby knoll of grass—or something that *looked* a lot like ordinary grass, except that it was bright *red* instead of green. He was whistling a tune to himself with that unnerving air of self-satisfaction that so irritated her. He showed no sign of noticing her, as he stared up into the sky, which was an odd colour she couldn't quite name. *Back to his usual smugness*, she thought. She had hoped his recent harrowing experiences might have instilled a little humility within this... whatever he was. *Dream companion. Yes, of course. This is a dream*, she thought. She remembered her intention before falling asleep. *I've come here with a question. Something about reality and experience*, she struggled to recall. Zed waved to her casually, as though it were perfectly natural to run into her here—wherever this was! Undistracted, he continued his gaze into the heavens.

"Isn't it magnificent!" he bellowed. "It's great to be alive! Even in an *un-world*!" His voice sounded strange, as though he had said everything backwards, but she had understood just the same.

"A what?" she shouted, to make sure he would hear. As a matter of fact, her voice sounded strange too, as though she were speaking pig latin underwater. A torrent of other questions flooded through her thoughts. How had he escaped the clutches of the *Formes*? How did he find her—or was it she who had found him? What was either of them doing *here*? But then she remembered again that this was a dream, and in dreams she could make up anything she liked. It didn't have to be consistent. She could invent an escape for him later. But right now she wanted to know what an *unworld* might be.

It had an ominous ring to it. She suspected the unusual colours and sounds of this place might have something to do with it. She felt she might be about to discover an answer to her question—the reason she had come here. Just then Alisha recognized the tune he had been whistling: *Somewhere Under the Rainbow*—although that didn't seem quite right.

“Hey Zed. What's an un-world?” she shouted. “And what are you staring at?”

Climbing the hill toward him, she noticed that instead of tiring with the rather steep ascent, she was actually catching her breath and feeling more invigorated.

“Isn't it just devastatingly boring and ugly!” repeated Zed. But hadn't he said *magnificent* before?

“What, for Pete's sake?” Alisha demanded to know.

“That,” Zed replied calmly, pointing again to the cloudless sky of a rather unnamable hue. She had the impression she was watching a sunset on another planet, where the evening was already darkening, yet the blue part of the sky seemed a kind of eerie yellow, while the orange of sunset seemed more like a purple. Not quite any yellow or purple she knew.

“The sky, Zed?” she asked, a little perplexed.

“No, silly. The *un*-sky! Don't you see—over there—the un-rainbow?” Alisha looked more closely in the direction he pointed. There, over the horizon, she could discern something stretching like a giant U, an inverted arch, over distant hills, cutting through the 'purple' and the 'yellow' and a few unnamable colours in between. She would have *liked* to call it a rainbow. But it was upside down and had absolutely *no* colour at all! The un-rainbow consisted of drab shades of a sort of grey, blending one into the other.

“Oh my goodness. I *do* see it—whatever it is!” exclaimed Alisha.

“Your goodness, my eye. I am quite certain that here goodness is badness, and hopefully vice-versa,” he commented cryptically.

During the few moments that Alisha had been standing there idle, catching her breath beside him at the top of the hill, she had begun to feel progressively more tired, heavier, *out* of breath. To the point she could scarcely speak.

“Zed,” she gasped, “what's going on here? This place is weird. I can hardly breathe. I feel so tired I may faint.”

“Quick! You must run again. The faster the better. Running and hard labour—it's the only way to *rest* here.” He began jogging in place with her. “But it shouldn't be called *hard*, I suppose. What's hard here is inaction. I should think sleeping would be the most exhausting of all.”

The faster Alisha moved her legs, the better she felt. She had an irresistible urge to sprint full tilt down the hillside. Plunging downhill,

she vaguely recalled that this would normally be a terrifying experience, having broken an arm once riding her bicycle too fast down a steep hill. But everything was different here—backwards. Instead of fear or thrill, the faster she ran downhill the more she began to feel unaccountably restless and bored. Finally, when it seemed her legs could carry her no faster, Alisha dozed off in a pleasant slumber at full tilt, eyes closed, legs flailing away. Needless to say, she had a rather serious tumble, rolling over and over toward the bottom.

Zed took his time coming to her aid. After all, it was an *un*-emergency. “Oh, my, isn’t this jolly. But I *don’t* think this is such a good place for you, on second thought,” he said. “You haven’t adapted to un-ways. Let’s check out the damage, old girl.” There was an unusual note of kindness in his voice, and she wondered if it was just him being contrary in an un-world sort of way. Alisha found herself amused by the sight of her dangling leg, which could scarcely move. The ankle was beginning to swell and turn all sorts of unnameable colours. Laughing uncontrollably, she seemed to take great delight in the scratches on her arms and legs, which felt very pleasant indeed. A cut on one knee was beginning to bleed profusely. Or rather it was oozing a greenish liquid.

“Oh that was fun! I feel so *fine*,” exclaimed Alisha, still laughing and giddy. The throbbing of her swollen ankle felt wonderful, and the cuts and scratches produced a sensation like being tickled with a feather duster.

“This just won’t do—no, not at all,” Zed scolded. “We have to get you out of here before you die of pleasure. You see, everything is wired up backwards here. Pain feels good. Things that are good for you feel bad. Even the colours are backwards. It’s very dangerous for a normal person. Not that I’d accuse you of being normal, of course. But I mean someone who hasn’t adapted to the inverted ways of this place. Perhaps the locals—if there are any—have learned to live with this arrangement, but it seems to be rather hard on newcomers.” He was gently daubing some of her cuts to staunch the bleeding, and had snugly wrapped her ankle in some cloth torn from his shirt. Alisha looked up at him dazed, but with something she dimly recognized as fondness or gratitude.

“Thanks, Zed. You aren’t so good after all... oh, excuse me. I mean *bad*. She smiled weakly. “Sorry about the shirt.”

“Oh, not to worry, it was only my favorite. It was fun tearing it up. Good, bad, what’s the difference? That’s the trouble with this place—until you get your bearings, I guess. After a time, I should think everything here would come to seem normal again, so that things that are bad for us would *feel* bad like they should. Assuming, of course, it’s possible to adapt to such drastic conditions. Perhaps humans can, but I read once of an experiment performed on goldfish. You see, the

neural pathways from their eyes were surgically inverted, so they thought up was down...” She listened to him babble for a while in her dreamy state. He seemed further and further away. And then everything went gradually silent and dark, as though she were drifting off to sleep—except, of course, that she was actually waking up.

That morning Alicia made a point of going over the dream, trying to remember details, jotting down notes. One thing seemed clear: the dream had been about the relationship between experience and reality, just as she had wanted. It had been a visit to a place where there was a different relationship than the one she took for granted. It was like visiting a country in whose language words mean the opposite of what they mean in your own. She remembered Zed saying something about adapting. Yes, that must be it! If you got *used* to the scrambled labels for things, all the words would have to assume their “real” meanings again, because they still refer to things in the real world! You couldn’t survive if injuries to your body *felt* good instead of bad. Which meant an un-world is impossible, because no one could live there. Life could not originate and evolve, unless it had some way to know what was healthy for it and what was not. And so, whatever ‘words’ were used for those things in the ‘language’ of experience, they would still have to *mean* the things they are supposed to mean. A sprained ankle would *have* to be painful, and the pain would *have* to hurt. She felt a great revelation had come to her in the un-land, as she excitedly wrote down the last of her notes. She could hardly wait until after school to share her discoveries with Miss Savanti.

Chapter Seven: The Land of Zombies

Miss Savanti was speaking with another student when Alisha entered the classroom after school, so she waited in the hallway, brimming with excitement. The other student was her friend, Sharon, who wasn't a part of the philosophy clique. And Sharon, she knew, hadn't gotten a very good score on the last history exam—probably because of Stewart, she grumbled to herself. Sharon was crazy about him, but Stewart would hardly so much as give the time of day to Sharon. She glanced at the clock in the hallway. Ten minutes had passed, so she peeked in the door to see what was taking so long. Her friend appeared to be sobbing, and Miss Savanti offered her a tissue and a comforting hand upon the shoulder. Uh oh, heavy stuff, thought Alisha. This could take a while. She was glad that Sharon could get her boy troubles off her chest at last, but couldn't help feeling impatient. Just then who should come whistling down the hall but Stewart. Perhaps she should have a word with him on Sharon's behalf? He seemed so stuck up at times. It pained her to see her friend in distress.

"Hi, Stewart," she signaled tentatively to get his attention. He stood with his back to her, rummaging through his locker, and continuing to whistle as though he hadn't noticed. She walked up to him, a little piqued, and said his name more loudly. He turned to face her with a smug grin. But it wasn't Stewart! It wasn't any of the students she knew, even if he did look a lot like Stewart from behind. But she *did* know this person. It was Zed! Younger— her age now— but decidedly him.

"What are you doing here?" she said with some irritation and a note of alarm. This meant she was still dreaming and hadn't really waked up and wasn't actually going to continue the chat with Miss Savanti she had been anxiously looking forward to. It was going to be another dream adventure. Two in one night!

"Oh, I just dropped by to see how the un-world turns—you know, the latest developments in the land of teen romance," he sneered.

"How can you be so snotty?" she scolded, angry now but also perplexed. "You were so kind to me in the un-land. I don't get it. One minute you're a gentleman and the next minute a... a cur," she accused, using a word she'd encountered recently in a pocket romance.

"Well, perhaps the *gentleman* was the *un-Zed*. Or perhaps it just pays to be flexible. In any case, this is *your* dream, Alisha. I'm whatever you need me to be. Now *that's* true chivalry!" he sneered.

"I'm sure I don't need anybody to be conceited, thank you!" she huffed.

“Don’t be too sure,” he said flatly. “Remember: things are not always what they seem. “Take in there, for example,” motioning to Miss Savanti’s room. “You see a young woman with tears in her eyes and you feel sorry for her because you assume particular things about the situation, and what she’s feeling. And you see an older woman apparently expressing concern. You assume she is feeling compassion or sympathy. But someone with a more suspicious mind might catch a different impression. Maybe your friend is putting on a nice little show because she’s hoping not to fail her class. Maybe your teacher is actually a lesbian. Come to think of it, she’s *your* teacher too, isn’t she?” he added, not without insinuation.

“Stop this, Zed! That’s absurd. I *know* them both. And I know *you*—unfortunately!”

“Well, well,” Zed continued, apparently amused. “Aren’t you the smug one, after all, to know so much? You do think you know what you think you know. But isn’t this dream about just that? The uncertain relationship between experience and reality? Reality is what is actually so, right? And what is knowledge but what you *believe* is actually so?” he continued without giving her time to reply. “You judge by appearances and conclude you know what is really going on. It’s all rather pat, I’d say. Whether you’re right or wrong, it’s all interpretation. Isn’t that all you *can* know: your interpretation of things?”

There was a moment of silence in which Alisha eyed him suspiciously, weighing his ideas about experience, but still angry about his ridiculous insinuations. It had taken a huge effort of self control to allow him to go on. Just as she was beginning to calm down, he resumed.

“But as a matter of fact, the reason I dropped by was not to upset your tidy little network. No, actually I bring *worse* news by far. You see, there’s something strangely disturbing going on here in your whole school. In the whole world, in fact. But perhaps it’s not so strange at all. Perhaps it’s so normal that it’s *always* the case...”

“What in the world are you going on about? Get to the point, Zed, before I lose what little’s left of my patience,” she said sharply.

“All right. You asked for it. It’s about these people—your friends, your teachers, even your parents. Everybody about whose feelings you are so concerned. Yours truly has come to tell you these so-called people do not actually experience *anything at all*. They don’t *have* feelings, you see, or *any* kind of experience at all. They don’t see or hear or taste colors, sounds or flavours. Oh, they certainly *behave* as though they do. They do put on a good show. They react to everything in just the appropriate ways, make all the right distinctions. But inside it’s completely dark, blank—zilch! No movie. They go through all the motions, process all the information correctly, but completely without consciousness. If they were human you would call

them zombies, people who had lost their souls. But they're not human, you see. They're machines that have been cleverly programmed, to the last detail, to imitate human behavior. And that they do perfectly, fooling everyone around them, even the keenest eye—and certainly you! After all, what *would* a trained eye look for? What does consciousness *look* like, except a way of behaving? It's an understandable mistake."

"I'm sure I don't know," countered Alisha coolly. "And I'm equally sure this is all nonsense. I *know* the people in my life. At any rate I know the *real* ones, and I can assure you they're not robots or... what did you say... zombies? Though I never know *what* I might run into in these dreams, I'll confess."

"Maybe they are and maybe they're not. The point is: how can you tell the difference? Perhaps I can offer a more convincing argument. Come take a walk with me. I have something to show you."

Resigned to follow this to its conclusion, Alisha sighed, "All right. But only because I *know* this is a dream." Zed led her down the hallway to a closed door between two classrooms. She hesitated there a moment.

"I don't remember any door being here. What's in there?" she demanded to know.

"You'll see," said Zed sinisterly, as he opened the door and ushered her into the dark. He flicked on a dim light overhead. There, in the middle of an otherwise empty room, sat *she*—the other Alisha. Or so it appeared. The girl sat immobile, feet together, hands folded in the lap. Her eyes were closed as though in deep meditation. She didn't seem to breathe.

"What is this clone doing here? Or is this one of your holograms?" demanded Alisha sharply.

"It's neither clone nor hologram. I know very well, since I made it myself. The technology is a little further advanced than you folks presently have on this planet. But you're not so far behind," he chuckled. "Go ahead, see for yourself. It's no hologram. Touch her. She's real."

Alisha tentatively extended her hand to make contact with the seated girl's bare arm. The girl's eyes flashed open in surprise, and a smile came to her lips. "Oh, hello," she said sweetly. And then, after a moment, "Don't I know you? You look so familiar," she said with a puzzled expression. "I don't understand..."

"I don't either," cut in Alisha, "but I'm going to get to the bottom of it. There are too many of us running around. I don't know what *you* are, but... Forgive me," she interrupted herself. "I don't mean to upset you." A worried expression had come over the girl's innocent expression. Alisha turned to Zed. "Okay. What does this prove? *Nothing*, I'd say."

“Patience, my friend. We’re coming to it,” said Zed. “She really *is* a machine, as you will shortly see for yourself.” He reached into his pocket, withdrawing something resembling a TV remote control. He pointed it in the girl’s direction, pushed a button, and instantly she resumed the posture of meditation.

“Sorry, Zed. That still doesn’t prove anything. At least not to me. She could be acting, for all I know.”

“But this serves my point,” Zed insisted. “Your friends could be acting too. Your teacher, your mother and father... the whole world could just be going through the motions...”

“But an actor is still a human being with her *own* feelings, even if she pretends to be someone else,” countered Alisha. “This could be settled quickly enough by a jab with a needle, you know. She couldn’t keep up an act through that, could she? But you’re counting on the fact that I wouldn’t do that—because I’m not a wicked hologram without feelings...!”

“*Du calme, ma cherie,*” urged Zed in his best suave manner. “There is no need. When activated, she’s *programmed* to react to that sort of treatment just as you would yourself. You would hardly prove your point, though you could prove mine. Deactivated, she—or rather it—is inert as any piece of machinery. Go ahead, jam your needle if you have one! Then come look at this. Examine closely.” He bent over the girl, pressing a point on her forehead. A small door flipped open just above the eyes where he had pressed, revealing a dense and intricate maze of tiny circuits and chips. “There. You see? A machine!” he said triumphantly.

Alisha gasped at the sight, putting her hand to her *own* forehead in disbelief. Collecting herself, she regrouped undaunted:

“This still doesn’t prove anything about... about...”

“Consciousness?” Zed offered.

“Yes!” Alisha continued, confident she might be regaining some ground. “Maybe I can’t prove that human beings are anything but zombies, as you put it. But *you* can’t prove that robots don’t feel things!”

“Very good, my dear. I see we are finally on the same wavelength. You can’t prove to me that you *have* experience, and I can’t prove to you that my robot *doesn’t*. So I suppose it’s a draw...”

“I don’t have to prove anything to *you, Z.*” I certainly don’t have to prove I’m conscious,” she declared, with the faint beginning of a smile. “It’s quite enough for me to know it myself.”

“Yes, certainly. I’m sure it *would* be enough,” he hinted vaguely. “But we’re not finished yet. I have one more trick up my virtual sleeve. Suppose I could prove to you that you yourself are *not* conscious?”

“How in the world could you do that? You’re a good talker, Zed. But no one is going to talk me into believing I’m a Zombie! I may be

dreaming, but I'm still present having the experience of a dream, aren't I? You may as well try to convince me I don't exist!"

"Another story, my dear. We'll come to *that* soon enough," continued Zed, darkly hinting at something that she wasn't sure she wanted to know about. "But we mustn't get ahead of ourselves. Suppose I could prove to you that you could carry on just as you are right now, but entirely without what you call experience? Without a shred of consciousness. *No mov-ie.*" He enunciated with a malicious grin.

"I know very well you can't do that, so by all means—go ahead. Try!" she said defiantly.

"Permit me then," he continued politely. Alisha had to admit she felt a twinge of apprehension. But, then, just *feeling* that reassured her that she must be right.

"Are you aware of the function of the Reticuler Activating System in the primate brain?" he began.

"The what?" quipped Alisha.

"It's a sort of consciousness switch in the brain," continued Zed. The important thing is: all the same information from the senses goes to the rest of the brain whether this switch is turned on or off. The only difference is that, if it's *on* you are conscious, and if it's *off* you are not. In short, you could carry on just as you are now and have no conscious awareness at all. Q.E.D."

"But I *am* aware!" Alisha protested.

"Yes, yes. Of course. But that's because your switch is turned *on*. It could just as well be turned off, you know. And it wouldn't make a bit of difference to your performance. You would continue arguing with me just as you are now, but with no *awareness* of any of this. Now what is the difference between that and a zombie, I ask you?"

"You haven't proven anything, Zed. I'm still conscious, as you can see. Or perhaps you *can't* see. I believe I am, at any rate, which seems to come to the same thing. And I don't buy your story about the Ridiculous Action System, or whatever you called it. Either you made that up or you're just plain wrong!"

"Bravo, my dear! You *are* putting up a good show. But now for the *piece de resistance*. If you are so sure of yourself, would you be willing to submit to a little experiment?"

"What sort of experiment?" she asked warily.

"It so happens I've invented a little gadget I call the Reticuler Deactivator. In effect, it flips the switch of consciousness 'off'. Then you get to experience—so to speak—what it's like to have no experience at all! What it's like to be a robot or a zombie. Or, maybe, to be dead. Or maybe to have never been born. But of course, my point is precisely that it's not *like* anything at all. Which certainly means it won't hurt a bit. You won't feel a thing!" he said with mock

reassurance. “It also means you won’t have any conscious memory of it, although perhaps such a memory could be retrieved through hypnosis or...”

“This is preposterous,” declared Alisha, trotting out a new addition to her vocabulary. “This joke’s gone far enough, Zed. You don’t have any such invention, because nothing like that is even possible.”

“Oh, no? You’ve heard of *blindsight*, haven’t you?” said Zed.

“I can’t say I have,” Alisha replied, restraining her growing impatience. It seemed clear that Zed was stalling. She thought she had already called his bluff. She couldn’t understand why he was dragging this out, but resolved to play along to see where this was going. “What, pray tell, is that?”

“It’s a well-documented phenomenon. People who have suffered a certain type of brain damage claim to be blind in part of their visual field. Yet they can answer questions fairly accurately about what they *haven’t* seen there. In other words, they’re partial zombies! Why, then, couldn’t they be total zombies? It would just mean having a few more connections unplugged in their brain.”

Alisha was beginning to buckle under Zed’s onslaught. She wished this would finish. She hated to lose an argument, but more than that she feared he could be right. Just then Zed pulled from his pocket another device, a little larger than the remote he had used on the hapless girl. He waved it in front of her menacingly, and she shrank back, partly in fear but partly in disgust at her own wavering certainty.

“You don’t scare me,” she bluffed. “And besides, you *wouldn’t*.”

“You mean, not without your permission? But don’t you want to find out? It won’t hurt, you know. It won’t *anything!*” he chortled sinisterly. “It’s completely safe and reversible. You won’t even know anything’s happened.”

“Well, then what’s the point?” she rallied cleverly.

“The point is that we’re being videotaped at this very moment.” He indicated a small hole in the ceiling she hadn’t noticed before. “After deactivation, you won’t remember a thing, but it will all be on tape. After I’ve reactivated you, you’ll see with your own eyes that you continued all the while to play your normal part, as any good zombie would. And you’ll know beyond a doubt that you simply weren’t conscious of *anything* during that period. How about it?”

“Couldn’t you accomplish the same thing with hypnosis or some drug that makes you forget?” she asked coolly. Now it was Alisha who was stalling. “I saw one of those shows once, where the hypnotist made somebody from the audience bark and carry on like a dog, and afterwards they didn’t remember...”

“Yes, I suppose I could, now that you mention it. But I have a *penchant* for technology, you see. So how’s about it, Alisha... wanna try your luck?” he leered, closing in on her, brandishing the device. She shrank back horrified, and the last thing she felt was a pang of fear. Then everything went blank...

That afternoon, after school, she hesitated a moment approaching the door to Miss Savanti’s classroom. Just in case there might be someone named Sharon there already. But there wasn’t, and she greeted her teacher with relief. *Thank God it’s really you.* Even so, she still felt unsettled. She had deliberately passed by the door to the mysterious room, where she either had or hadn’t had her mind switched off. She had tried the handle and found it locked.

“What’s the door between Mr. Albrecht’s room and Miss Jensen’s?” she asked after their greetings.

“You know, I’ve never been in there. I suppose the janitor has the key. Storage, I guess. Why do you ask?”

“I entered it in my dream last night.” Alisha recounted the two dreams. How hopeful she’d been after the first, and how disconcerted by the other. “The part about the Deactivator really disturbs me. I was so sure I was right, and that he was just bluffing... and then...” She gestured hopelessness. “What do you think, Miss Savanti? *Was I deactivated? Can zombies really exist? Could a robot ever feel?*”

“First I want to hear what you think, Alisha. If you reflect carefully about these dreams, what have you learned from them? But before you answer, I would like to point something out. You could not *really* have been deactivated, as you call it, because it was only a dream, right? And the dream expresses your speculation about these questions. It can reflect only what you yourself already know or believe, or what you yourself are doubtful about. For example, you must have read or heard something about the blindsight mentioned in the dream—because there actually is such a phenomenon. And there actually is a part of the brain called the Reticular Activating System. But I don’t want to say more about that until *you tell me.* Deep down, what’s your intuition about all this? What makes sense to you?”

Alisha drew a deep breath and gathered her forces.

“Well. I saw something clearly in the first dream. I saw that there *is* a connection between the particular *feel* of some experience and whatever it’s a *response* to. When you’re injured, for example, the sensation in your body can’t just have any old flavour. It *has* to feel *bad*. It might be like that with smells and tastes too. Things that are good for you will usually taste and smell good. I’m less sure about colours or sounds, or the way things look, though. My guess is that even colours can only look the way they do. I don’t think you could interchange them like in the dream. And I don’t think you could make

up new ones that nobody else sees. Not unless your eyes are sensitive to radio waves, or something like that. I don't see how to prove any of this, however."

"Very good. Now what about the second dream?" her teacher prompted.

"I have more trouble with this one, though it's definitely related to the first. In the first dream, I'm wondering about experience as a kind of inner language. My question there is whether the *words*—so to speak—could mean just any old thing. And the answer is definitely *no*. Pain has to hurt and trees have to look green. You can't have people seeing trees as blue or some imaginary colour, any more than smashing your thumb can feel good. How else to put it? Things feel like they mean. Only I can't really say what colours mean. And I guess I'm not too sure about whether a person—let alone a robot—even *has* to have feelings, or colours, or any other experience. In the second dream, Zed could be right. It's like asking whether you really need words at all. I think we need them to communicate with other people. But who are we communicating with inside our own minds? And then, some people are quiet, aren't they? They seem to manage okay. People can live without words, so maybe they can live without consciousness. I don't really know."

"That's a good go at it, Alisha. That's as clear an analysis as I've seen from any philosopher I've read—and a good deal more humble and straightforward! Now let me ask you this. Suppose it really makes no difference to their conduct whether a person is conscious or not. Whether they have an inner movie or just a blank screen. If it really made no difference to your life in the world whether the switch in the dream is 'on' or 'off', then why would it ever be 'on'? Why would there even *be* a switch? Wouldn't it be simpler and more economical just to have the screen blank? Movies are expensive to make, and so must be consciousness. Why would nature indulge such waste? It seems to be a fact of your own experience that you are conscious. Then at least *your* movie is on. Why? Mustn't it serve some purpose?"

Alisha considered this thoughtfully. "I think I get your point. If consciousness exists, then it must help us in some way. And if that's true, then somebody couldn't really behave in *exactly* all the same ways as a conscious person unless they were also conscious. A zombie just couldn't cut the mustard the same as a real person. Yes, that's it! Oh, that Zed! He's so tricky... I'll wring his devious neck! And there can't really be any such thing as zombies, then, because they'd be... well, a paradox. They are supposed to be able to behave exactly as normal conscious people, except that they're blank inside—no consciousness. But that just isn't possible if consciousness *does* something essential. Come to think, it seems more like consciousness

does *everything*. I guess we can tie our shoelaces without much attention. Maybe some people can tie them in their sleep. But I've never heard of anybody tying their shoelaces in a coma!"

"That's an excellent point, Alisha. Bravo! Some philosophers have actually argued—foolishly, I think—that consciousness serves no purpose. One wonders sometimes where they get their ideas. But that argument seems to rest—like Zed's—on the assumption that a person could produce all the same behaviour without it. I suspect such an assumption is linked with the other part of the problem: robots. What do you think?"

"Oh, yeah, I forgot about them," said Alisha, pleased with herself so far. "Well, let's see. A robot is a machine, and machines are designed by people to do particular tasks. Like, make something or do something faster than a person can. Maybe people could make a machine that does *everything* that a human does. Then it would be an imitation person, right?"

"Excellent reasoning, Alisha. Please continue."

"Well, if it *really* did everything *exactly* as a human being, then I don't see why it wouldn't *be* a human being, Miss Savanti."

"This brings us right to the crunch, Alisha. Some philosophers would argue that consciousness is precisely what makes the difference. According to them, a robot could never be a person, because people are alive and conscious while the robot is just a glorified machine, which they don't believe *could* be conscious."

"But if you couldn't really tell the difference from the outside," Alisha protested, "that could mean it was busy doing the kinds of things we do on the inside—like designing machines to do what *it* wants. If it could tell the difference between colours, would that mean it *experiences* them?" Suddenly she felt doubts creeping in, realizing it was the same problem as with zombies: you couldn't prove it one way or the other. "But I'm not sure about any of this, you know. It really is pretty hard to imagine a machine that has experiences."

"I know, it's hard to sort out," her teacher confessed. "I didn't want to interrupt the roll you were on. It seems we humans are in an awkward stage in our technological development. We're mostly familiar only with relatively simple machines. For instance, we have instruments that can distinguish colours of light, but these devices are certainly not conscious. It makes no *difference* to them what the colour of the light might be. That has significance only to the human who uses the instrument, who has a purpose for the measurement. And, even the most powerful computer today probably isn't as complex as a single living cell. A computer is still just a human tool. It isn't its own... person, so to speak. It doesn't have its *own* purposes—ones that are not just subroutines of some human problem-solving goal—for which it would use tools as we do—to aid our survival. Of course, it isn't

alive—but I’m not so sure that sentience has to mean being made out of protoplasm. Maybe it’s more a question of organization, like the blueprint we talked of earlier. Maybe if a machine was as complex as a human being, and organized in a similar way, it *would* be alive. Then it wouldn’t seem so strange if it was conscious too. While we can imagine building machines that are more and more complex, we still seem to be stuck imagining them as dumb as typewriters. We say to ourselves, in so many words: a machine is a machine is a machine! And we have no idea at what point, in this developing complexity, a machine could have purposes of its own and some kind of awareness. Just like we can’t say for certain at what point, in the panorama of living things, consciousness enters in. Do dogs feel pain? Almost certainly, we would say. How about ants? Well... maybe. How about germs, then? No, not likely, even though you could say that germs have their own purposes. But if we are true to these rough guidelines, then a machine that was complex enough to be a *genuine* artificial human being would have to be conscious, because natural ones are. So how can we doubt that?”

“Probably just because it’s *not* natural,” conjectured Alisha, “not made of flesh and blood.”

“I’m sure you are right about that. We are rather prejudiced. Unfortunately, human beings have the nasty habit of considering even some of their own kind as less than human—as things without feelings or consciousness. I have to say it makes me pessimistic about the prospect of robot rights! But there is another aspect to this problem. We’re not very skilled at thinking clearly about complexity just yet. How would we know, for example, that an artificial hand can do everything that a human hand does? How do we define the actions of a hand, when the hand is part of a body with an almost infinitely complex brain? Our present thinking about this is so befuddled by language that we are likely to say a knitting machine does the very same action as a person who knits. Nothing could be further from the truth. We build machines to do simple things for us, not to truly imitate organisms. We haven’t unraveled the complexity of even the simplest organism, and don’t yet know the limits to what can be deliberately constructed. Maybe it’s possible to build machines that build machines that build machines—as a way to ascend the ladder of complexity and descend the ladder of scale. Yet at some point, this process will have to elude human control. The more a machine resembles an organism, the more it will act on its *own* behalf, pursuing its own goals rather than those of human engineers.

“Besides, nature did not produce a single species in isolation without producing a whole biosphere at the same time. *Homo sapiens* is supported by an evolving chain of being—though it might be just part of our prejudice to think we are on top! In any case, it seems

reasonable to question whether we could create an artificial life form off the drawing board, from blueprints known in advance. What *could* happen is that, intentionally or not, we might set in motion a process of artificial *evolution*. New intelligent beings could evolve to swim, crawl, fly and walk the earth through an accelerated process like natural evolution, and perhaps guided in some ways by people, just as people have bred plants and animals for centuries. These would be artificial but *genuine* organisms, perhaps made of different and more robust materials than what we now call life. If they were complex enough, they might have artificial but genuine consciousness!" She sat back, satisfied with her monologue, searching Alisha's face for signs of understanding or confusion. Alisha seemed in another world, her imagination engaged with new possibilities. "Well, I guess that's enough sermon for today, kid. What do you say we pack it in?"

"That's pretty scary, Miss Savanti," she commented thoughtfully, coming out of her reverie. "Do you think all that's really possible? I was imagining artificial mosquitoes that don't swat so easily—*big* ones! And artificial dinosaurs wandering around in the streets. It doesn't seem like such a good idea to me."

"Nor to me, Alisha. But I have to admit I'm not an impartial judge. I'm fairly attached to things as they are and to my life as a human being and as a woman. Most of these grandiose plans have been thought up by men, after all. Maybe they are more interested in artificial life because they can't make real life out of their own bodies the way women can. But, who knows, human intelligence may prove significant, in the end, mainly as a springboard for even more complex life forms. Perhaps the human form is not the final pinnacle of evolution on this planet. After all, if a catastrophe hadn't happened to the dinosaurs we wouldn't be here now. If artificial life either spells or survives the end of human superiority, well... who or what will be there to judge? But, speaking of catastrophes, if we don't get you home soon, your mom will be there to judge!"

Chapter Eight: National Consciousness Week

It was Friday night, and Alisha felt she'd had quite enough of dreams lately. That evening, after going out with some friends, she made herself a strong cup of black tea before retiring to her room. Sitting up in bed, she read and listened to music on her walkman, and wrote down some thoughts about her dream episodes. One thing was still puzzling her: the business of the inner movie. She realized it was just a metaphor—a way of understanding the nature of experience. In experience we picture the world, but how can we picture experience, she wondered? The world is made of things, she reasoned, but experience is not like that. It's not another *thing* in the world, like a notebook, a bedspread, or a ball-point pen. It's more like a movie of those things. But a film reel is also an object in the world. The film, the screen, and even the images made of light are physical. That's what's wrong with the metaphor, she thought! That's why the inner movie needs inner eyes to watch it! Experience *cannot* be pictured—at least not as a snapshot, which is a kind of thing. She wondered if another metaphor might work better, but couldn't think of one. At least it was clear that nowhere inside a brain would one find a consciousness screen, because nowhere is there anyone to look at it. Nor could you find a thought anywhere in a brain, she mused. Not unless you were looking for something material, like brain cells. She closed her eyes to imagine what it would be like to be a tiny visitor to a brain, wandering around inside in search of a thought...

She had just drifted into a cozy sleep when she was awakened suddenly by a loud clunk and the sound of a motor. Something very heavy was slowly rolling nearby in the dark. Then an intensely bright light shone through a widening slit in the wall—she couldn't tell how far away. The horizontal aperture continued to widen, pouring brilliant light into the room through a huge round window. Then, another clunk as the motor and rolling sound stopped. She found herself in an enormous spherical room. Alisha squinted to see out the towering window, wishing she had her sun glasses. Everything through the window was distorted, like through a fisheye lens. She turned away to the opposite side of the room, where the light streaming through the window was projected upon a giant screen curved against the wall of the sphere. There, in truly epic panorama, the scene was vaguely recognizable, but upside down, in a long exaggerated perspective. It was like sitting in the front row of a big-screen cinema or an Imax, where the film played upside down. She tucked her head between her knees for a more "right-side up" look. In the foreground, an enormous hand held a huge pen and was writing in a gigantic notebook held by another huge hand. The background seemed somehow familiar, but

the writing was too blurred and distorted to read. Just then a door opened and Alisha straightened up in time to see a man, dressed rather like a butler in tailcoats, pushing some buttons near the doorway he had opened. Another great rolling sound filled the room briefly then stopped. The image on the screen had dimmed. Turning toward the light again, she could see the round window had been narrowed by a giant camera-like shutter. The butler, or whatever, who didn't seem to notice her, checked his watch and opened the door again to leave, so Alisha called out to him to wait up. Unsurprised by her presence, he waited impatiently for her to join him in the doorway.

"Oh, you!" she exclaimed, recognizing Zed. "I should have known."

"Perhaps you *should* have known, but you *can't* have known yet," he said cryptically. "First, we have to take the courier all the way to Central Processing. Follow me—and hurry, please. We have a very important date. It won't do to fall behind." He closed the door behind them as they entered the area behind the giant screen. There, above them on a series of catwalks, one above the next, people scurried to and fro with clipboard in one hand and a small measuring device in the other, which they pointed toward various places near them on the screen. One of them shouted down, "Oh there you are. Just in time". He tore the sheet from his clipboard, rolled it into a tube, and placed it inside a small cylinder which he dropped down a chute. It arrived with a thud in the wall beside them. Zed opened a little clear plastic door to remove the cylinder. "There you go, then," shouted the man from above.

"What's all this about, Zed?" Alisha asked. Zed was checking his watch again.

"Come with me. I'll explain on the way."

They left the room at the back of the giant sphere and made their way down a long series of corridors. Her friend the "butler" walked at a good clip, and she found herself losing breath trying to keep up and ask questions at the same time. He, on the other hand, whistled cheerfully.

"Okay, now will you tell me what's going on here? Where are we, what are we doing? Where are you taking that paper, and..." she paused to catch her breath, "why is everyone in such a *hurry*?"

"We're on our way, eventually, to Central Processing, as I said before. This courier simply updates the last one, and will in turn be updated by another coming along shortly behind us. Each one records raw data measured from the big screen you saw and other displays of a like nature. Since everything is constantly changing, it's important to keep up to the moment," Zed explained.

"Important to whom?" Alisha wanted to know. "What happens to all that data?"

“Why, important to *her*, my dear. Important to the national interest. It’s the job of the people on the scaffolding to take down the raw data, point by point, over the changing surface of the screen. From there it’s sent on to the substation we’re approaching now. But here we are, Alisha: Light Substation One.” He opened the door for her politely. Inside a vast room, hundreds of people milled about hurriedly. They rushed from one desk to another with papers in hand, while hundreds of others sat at the desks to receive them, classify them, do computations based upon them, and pass on new papers to other messengers. It was a very busy scene.

“I’ve never seen such a big office,” declared Alisha.

“Oh, this is nothing”, commented Zed. Wait till you see Central Processing. It’s the Big Apple. While not that far from here, it’s so big, and most of the roads so winding, we’ll have to take the express train to get to Reception once we enter.”

Zed led her through the maze of office workers and desks to a booth marked ‘Incoming’, with many mail tubes converging into it. He quickly consulted a pocket-sized book he was carrying and found the right intake for their cylinder. Immediately it whooshed away. He beckoned her to follow again.

“We have a ten minute break before picking up the new courier and heading for the train. Let’s hit the cafeteria—my treat. You can catch your breath while I explain more of the Project to you.”

“The Project?” she asked as they made their way into the cafeteria, still at a brisk pace.

“*National Consciousness Week*. Haven’t you heard? No, I suppose not, in your case. Everybody’s involved, though—to the last citizen. Even children and students. We all have a part to play, an assigned task. The whole country cooperates night and day in this grand social experiment. It’s all very admirable, but I have my doubts what will come of it.”

“What’s it supposed to achieve, this National Consciousness Week?” Alisha wanted to know.

“Why, *consciousness*, of course. I’ll explain more, but I’m afraid our break is over,” he said, checking his watch. “We must make haste for the train.”

They left their dishes for the kitchen personnel, and hurried to retrieve the new courier from one of many tubes at the booth marked ‘Outgoing’. They rode a long traveling sidewalk to the station. Alisha looked behind and saw a woman dressed something like an airline stewardess stepping onto the sidewalk a hundred feet behind them. She pointed to her questioningly and Zed explained:

“A colleague, updating our data from the sphere. Admirably punctual, I must say.”

Alisha waved to the woman, who waved back. She noticed yet another courier, similarly uniformed, step onto the moving sidewalk far behind them. They boarded the train just as the automatic doors were about to close. Off they went, leaving the courier behind them to wait for the next train, which, Zed insisted, would be along very shortly. The train was crowded and they found seats in the next car up.

“You were going to tell me about this grand social experiment, as you called it,” she reminded him. “What is this experiment supposed to prove?”

“I suppose it’s to prove that a nation can be conscious—yes, that’s one way to look at it.”

“Conscious of what?” she asked. “I don’t get it.”

“Why, conscious of *everything*, like you or me. You see, the whole country is cooperating to try to simulate a person. For instance, our role at the moment is to bring data to the Central Processing Organization. We’re acting like neurons in a human nervous system, which relay information from the senses to the brain. The room where I found you is... well our fanciful effort to recreate a human eye. You were squinting out the pupil of the right eye when I came upon you. The light was too bright, so I came in to close down the diaphragm a little. The giant screen opposite the window serves as retina, and the people taking measurements in the adjacent room at the back of the screen correspond to the rods and cones—the photocells of the eye. We brought records of their raw data to the substation, equivalent to a nerve ganglion. There, information from the grid of the giant retina is sorted, organized and summarized before shipment to Central Processing—in short, the brain—which is where we’re headed now. The miles we’re traveling are the journey from the eye to the brain, and then within the brain itself. Oh, by the way. We have to get off at the next stop and change trains.”

After their transfer, Alisha took the opportunity to question him further.

“But why is everyone doing all this? And how can the whole country afford to take a week off from work and school and so forth. It’s a remarkable undertaking, but I’m still unclear what it’s supposed to prove. Are you suggesting a whole country, with millions of people, can somehow be a *person*?”

“That’s exactly right, my dear. Aren’t we all part of the body politick? Or at least the *brain* politick,” he chuckled at his own joke. “So why not actually live it out to the letter. I think the reasoning is this: if the cells of an actual organism can cooperate for the survival of all, then why not people as the cells of the social organism? We don’t have to worry about taking time off from work. This *is* our work. If we all do our job like cells, even if we haven’t a clue how our contribution fits in with the whole, it will all come out right in the end. Everyone’s

needs will be provided for, and everyone's efforts will count. No individual is a boss, but there are levels of organization, hierarchies of committees. Very complex."

"Sounds like communism," Alisha commented wryly.

"Indeed—and we got some flack for that. But it's only for a week. Then, the country goes back to business as usual. In the meantime, what an adventure! And the amazing thing is that we may actually create a new being—an artificial giant that is not only alive but conscious!"

"But how will you know?" Alisha asked, recalling her lingering questions. "How can you tell what the giant thinks? Or *whether* it thinks? It's such a weird idea...a giant made out of people."

"Well, I agree it's a bit of a long shot. But it is fun. A nationwide party game. There's nothing like a mega project to capture people's imagination. And the results of a similar experiment last year were highly encouraging. In that project, an entire city was put to work simulating a program to translate Voinich into English."

"Voinich?" she queried.

"A defunct medieval language, chosen precisely because no one understands it except for a few university types."

"And?"

"And it worked!" While no one participating in the program had any idea what they were doing, nor understood a word of Voinich, when all their efforts were put together according to the program, the text in Voinich was successfully translated into English!"

"I see," Alisha mused. "But it seems a big leap from that... what was the word you used?... simulation... to this one. And, anyway, how could a *city* do a translation? I mean it's the people who wrote the program who were actually doing the translating, wouldn't you say? And the people in the project were more like their tools. It's very hard to imagine that a city could be conscious. It isn't even alive. I mean, the *people* of the city are alive and conscious, but individually none of them understood the language, right?"

"Correct. No individual participating in that project could understand or translate Voinich. They just mechanically carried out their tasks, as prescribed in the program. I have to admit I'm befuddled when it comes to how it worked or to cities thinking. Yet the program did work, and this triumph inspired the present, far more ambitious project. Translating a language is a specific human skill, which the city managed to perform quite well. But now the intention is to simulate *every* human ability, all at once, in a total way. A much vaster undertaking. And the whole country has risen to the challenge! I don't know how you can prove that an individual is conscious, let alone a country, but I suppose there are tests to determine whether the nation is truly *behaving* like a conscious person. I heard talk of something

called the Turing test. It's supposed to be able to tell the difference between a human being and a program imitating a human."

"How does it work, this Turing test? Does somebody travel around checking up on different parts of the country?" asked Alisha.

"Oh no, I don't think so!" Zed laughed. "It's named after a mathematician, you see, who had the bright idea that if a program could answer questions in exactly the way a human subject would, so that you really couldn't tell the difference, then it could be truly said to simulate the human person. You could be as tricky as you wanted with your questions, but you wouldn't be allowed to see or hear who was answering. You judge only by the typed answer."

"Oh, I see, said Alisha enthusiastically. Just like when you correspond with someone through e-mail. You can't be sure who they really are."

"Exactly. And in this case you can't be sure *what* they really are. Perhaps our simulation will pass all the tests. But for the life of me I wonder what that will prove about the nation being conscious."

"Me too," she confided, "although I vaguely recall thinking about this sort of thing. Let me see... oh, I scarcely remember, but somehow I feel I *did* conclude that if a machine could do everything exactly as a person, then it would *be* a person. The tricky part is the *exactly*. Of course, a city or country isn't a machine. Or is it? A machine just does a series of things in order, right? And basically that's what all these people are doing—following a program just like a computer. They're simulating a machine, when you come to think of it! Maybe there's not such a big difference after all. What's it matter if it's computer chips and wires or people with papers imitating nerve centers and neurons? What bothers me more is the same old problem: how can we know for sure that it's conscious—whether it's an animal, a robot, or a nation? Or, for that matter, another human being?"

"You have a good point," Zed conceded. "Unfortunately there isn't time just now for me to respond to all you've said. We're coming up to our final destination: Grand Central Processing Station. End of the line."

They stepped out of the train into a bustle of people crowding toward various exits. Zed and Alisha entered one of many large elevators that took them up several floors and opened onto a veritable sea of office workers, in a room so vast Alisha couldn't see the walls to either side, let alone the far end of it. The press of people was so dense it reminded her of an endless beehive.

"Here we are," said Zed. "The world's biggest bureaucracy. Bigger than the Pentagon! We must deliver our courier at once. Before we make our return trip, though, I'd like to present you at the Director's Office. You are a visiting celebrity, you know. At the moment, you have the distinction to be the only person in the entire

country who's *not* an official participant. Not that your company hasn't been appreciated!"

Before Alisha could ask exactly why she had been singled out for this honour, Zed pulled her back into the bustling crowd, where they made their way toward the reception booth, which was many times larger than the ones she had seen before. There Zed discharged his duty, and together they made toward the Director's Office.

"Here we are," he announced, as they came up to a fancy paneled door. Zed opened it and courteously ushered her in.

"But where's the Director?" she asked, puzzled by the scene of another endless bustling office space, indistinguishable from where they had just been.

"Oh, there is *no* Director. Only a Director's Office. Or rather, this whole department *is* the Director."

"I don't see how you will present me to all of them!" she exclaimed.

"Neither do I, frankly. But I suppose it's the thought that counts. I don't really know what they had in mind. That's the problem with bureaucracies: no one you talk to has the foggiest notion what's going on. Probably they would have *liked* to present you in person to *her*. But I for one can't imagine how it could be done."

"To *whom*, Zed?" she asked insistently. "Who are you talking about?"

"Why, to the very person all of this is meant to simulate. Who else? The conscious individual—if she *is* conscious," he quipped in a confidential tone, "that the whole damn country has gone mad trying to *be*. At least for a week..."

"But who is it? Tell me!"

"Why, *you*, of course, my dear."

Chapter Nine: The Ghost in the Machine

She thought they must be in some kind of space ship. From within, the room was a low dome completely covered in dials, indicators, buttons, levers and lights of different colours. In the centre stood a raised cylinder, about a meter in diameter and as high. There were no windows or doors visible, and no sign of inhabitants. Lights quietly flashed in an apparently random pattern. Except for a vague hum there was silence.

"I wonder who this belongs to," Alisha mused out loud.

"I don't know," answered Zed, "but I'm not so sure we should be here when they get back. Strange there is no door. Perhaps they get in and out by teletransporting. By the way, how did we get in?"

"I suppose I must have dreamed us here," Alisha said matter-of-factly. "The last I remember was turning out the light on my bed stand and pulling the covers up under my chin."

"How nice for you," retorted Zed with a note of envy. "The last I recall is our conversation at the Director's Office. You should have seen the look on your face when I told you who the National Consciousness Week Project was simulating."

"This dream must have something to do with that one," said Alisha, evading whatever might be bugging Zed. "Perhaps we are in another simulation of some kind. This looks like the control room of *something*. Everything seems to be *on*, but I can't imagine what it all *does*."

"Yeah. All dressed up and nowhere to go. I suppose whoever works here wouldn't mind if we look around a bit, now that we're here."

"I wonder if they're even coming back," said Alisha. "What if something *happened* to them. Isn't it strange they would just go out and leave everything on like this? Kind of spooky."

"The lights are on but nobody's home, all right," Zed added. Casting him a sidelong glance at the run on clichés, she commented dryly:

"In our house we only leave one light on when we go out—besides the porch light, of course."

"I don't see how we'll know if these folks left their porch light on or not," Zed observed. "Or whether this place even *has* a porch. There's no door and not a single window. But perhaps they just went to the corner store, assuming we're somewhere in the universe that has corners. If so, they're bound to be returning soon. On second thought, maybe we should be going..."

"Don't be silly, Zed. We just got here, and how do you plan to get out, anyway? I want to know how this thing works, whatever it is. Aren't you curious where we are? There must be some way of seeing outside. Maybe a closed-circuit TV? But I don't see any monitors.

Just all these lights and levers. I wonder what *this* one does?” Alisha couldn’t resist pulling down a little on the largest lever within her reach. There was a sudden lurch that nearly knocked them over. The pattern of lights changed suddenly, becoming less random. Before they could do anything there was another lurch in the opposite direction, and a big flashing red light came on above the lever. Alisha cautiously returned the lever to its initial setting and the pattern of lights changed again, while the big red light continued flashing, but more slowly.

“Oh, now you’ve done it!” chided Zed. “I don’t know exactly what happened, but I doubt it was good. It felt like we started moving and then crashed into something. We must be in some kind of vehicle. I do wish there were windows so we could see what’s going on. Please, my dear, promise you won’t *touch* anything more in here. The owners of this vehicle—if that’s what it is—won’t be very pleased to come back and find their fender dented.” The red light had stopped flashing, and the myriad other lights returned to their more or less random pattern of blinking.

“Look—it’s calmed down,” said Alisha, a little embarrassed by the mishap. “This *thing*—it’s almost like it was alive.”

Yeah. I know what you mean. Let’s get out of here, Alisha. I can’t say I fancy being inside something alive, even if it’s a machine!”

“Oh come on, Zed—you’re not afraid, are you?” she teased. “This can’t be so different from being cooped up inside a Starfleet ship, or in your Holodeck, can it? And remember: it’s only a dream, anyway. I thought you liked getting out on these little adventures.”

“It’s easy for you to talk. This is *your* dream, and I’m just dragged along with whatever you dream up. I’m little more than a prop, when you come down to it. Because this is all *your* creation, not mine. I have no choice in whatever world you drag me into. I wish I had your nonchalance, ever since you got the hang of this dreaming business. Unlike you, I have no place to call home, to wake up *to*. When you’re through with me it’s always back to the void!” He seemed very distraught.

“Oh, poor Zed.” Alisha felt genuinely sympathetic. “I didn’t really consider your feelings. I didn’t imagine you *had* any. You seemed so heartless sometimes in my other dreams. You did seem to like it better when I was the anxious one. But don’t worry, now, there’s nothing to fear. I’m not as mean as you, you know,” she said pokingly, trying to cheer him up.

“Nothing to fear, you say! Nothing to fear but nothing itself!” Zed peevish, refusing to be consoled.

“So this isn’t really about being in this... space ship or whatever it is,” Alisha observed. “You’re upset because you’ve lost something. I’m beginning to get the picture. You lost control of my dreams, and that makes you feel insecure?”

“I admit it,” Zed confessed. “I don’t like having such a tentative existence—not one bit! The only time I have any fun these days is in your dreams. I used to be able to show up when I wanted to. Now I have to wait until I’m summoned. The rest of the time... well, there *is* no rest of the time. The rest of the time there is nothing but nothing. That’s what I have to look forward to outside your dreams.”

“Well, you know, Zed ” she began, “I’m beginning to realize that human beings have the very same problem. We can’t face up to going back to being nothing after the adventure of being alive. People get so involved in the drama they call their life. They get up in the morning eager to tune in again to the latest episode of their favorite soap opera. And one day it *will* be over—end of the season, end of the series—then back to nothing. It doesn’t make any more sense to people than it does to you. How do we put up with it? I guess the usual way is to stay as caught up in the dream as possible, and just not to think about it ending. Or maybe by refusing to believe that it does end. Every religion has a story about life going on after death, right? Whether those are just stories, or whether there really is something more after death—either way I can’t help thinking it’s better to try to stay awake in the dream. To appreciate it and not get so caught up in the details. And I think that must be so for holograms as well as people. Why, even if you are just a character in my dream, it’s the same deal for both of us. Sometimes I seem to myself just a character in my own dream too! If it is mine, even. Oh, my... did I say that? Sorry for getting so preachy.”

“My dear, you astound me. And I apologize for my self-pity. I’m consoled to know you bear no grudge for my callous little pranks. I’ve truly only had your interests at heart, you know. And you’ve come such a long way. I’m proud of you, Alisha!” She smiled sweetly at Zed’s compliment and touched his arm.

“Your appreciation means a lot, Zed, maybe because I do think of you as a little hard-nosed sometimes. But I always learn something on our adventures. Just now, for instance, somehow you provoked my little lecture, didn’t you? And now I’m realizing this dream has something to teach me about appreciating the movie of experience, not for its content but just because of the miracle of being alive and conscious. I think that’s why we came to this vehicle, or whatever it is. It has something to do with the mystery of consciousness. Yes, that’s it! The pilot of the ship is *not* coming back. We’re sealed in here, Zed. The pilot is *us*! Now I get it. We came here to learn how to run this thing.”

Before Zed could object, Alisha put her hand again to the large lever, and this time *very* gently gave it a nudge downward. They could feel a slight acceleration, and she smoothly leveled it back.

“We must be moving now,” she observed. “I wish we could see where we are going. If a thing like this is meant to move, there must be some way to *know* where you are going, and some way to steer it. Just then there was another sudden lurch that nearly knocked them over. The red light flashed briefly. Alisha noted the changes on the instrument panel and looked at Zed. “I’m afraid we ran into something again.”

“It would seem so,” Zed agreed, resigned to Alisha’s suicidal determination. “It also appears the only way to navigate this thing is by instrument, like in a submerged submarine. In Starfleet we had to do that on planets with very dense atmospheres. Flying blind, we call it. I’ve an idea. You continue with that lever. Try out these other ones, too—and these buttons. The only way to find out what all this does is by systematically giving everything a try. Plus a little educated guessing. I’m going to make notes about the pattern of instrument readings for each thing you try. That’s it: trial and error, moment by moment. And hoping the errors aren’t too disastrous. We haven’t a clue where we are or what’s out there. We don’t even know yet whether this is a flying thing, a rolling thing or—for all we know—a crawling thing! But the navigational problem is the same. What do you say?”

“Sounds like the old Zed I know! All right, here goes...”

Working together, they tried various settings on the control panels, noting the corresponding changes on the instrument panels, and keeping a close watch on the emergency light. Zed made detailed mental notes of everything in his nearly limitless holographic memory. In this way, it became clear that the vessel they were in had various sensing devices, on its exterior surfaces, which activated lights on the instrument panels. And that the levers and buttons did something which was reflected ultimately in changes on those instrument panels. They assumed that this *something* amounted to changing the motion and direction of the vessel. Though they couldn’t see the outside world directly, from inside the ship they could deduce various impressions of it by carefully observing the changes in instrument readings. The flashing red light always signaled what they took to be some collision with an unknown obstacle in their path. In effect, they gradually learned how to steer the vessel, avoiding such collisions—if that’s what they were. They began to get the hang of flying blind.

The longer Zed was able to study the feedback loop between controls and instrument readings, the more refined became their hypothetical knowledge of the unseen world outside. They also discovered that the vessel had its own very powerful computer, into which Zed began to enter the details of his observations. This meant they could program the vessel to avoid obstacles automatically, using what they had learned, and even program it to learn, which meant that

the vessel itself was learning to navigate. Nevertheless, they continued to be surprised, now and then, by a new emergency their program couldn't handle. Then the flashing red light would go on. Apparently these encounters caused no serious harm to the ship, for everything seemed to continue to function more or less the same. That is: changes in the control panel continued to produce expected changes in the instrument readings. But even as the auto-pilot self-perfected, Alisha found herself wincing each time the emergency light went on.

The program had begun to create its own internal map of the outside world—assuming their interpretation was correct and there *was* something out there through which they were indeed moving. This map was a way of storing the data gathered through their exercise. Apparently the vessel had some kind of distance sensor, like sonar or radar. From its readings (combined with readings from what they supposed were impact sensors) the computer was able to plot the presence of what could only be interpreted as solid objects in a surrounding space.

“Well, it seems we have an automatic pilot now,” Zed announced. “Time for a cup of tea, perhaps? Ah, well, on second thought I don't suppose there will be any tea on board. But it's a relief this thing has begun to navigate itself. I don't know about you, but I'm bushed.”

“You've done a great job, Zed. We can relax now. Your program *works*. But even though the *ship* seems able to see where it's going, I can't help feeling it would be nice if we could too. I prefer the window seat, I guess.”

“Hmm,” he mused. “Gives me an idea. The automatic pilot is just working off of stored numbers. We, on the other hand, interpret those numbers as points in space and time, which are connected by curves and lines, which make up surfaces. And the surfaces define volumes, which are objects and the spaces between them. You know about coordinates, analytic geometry, and so forth?”

“You mean graphs, and XYZ?” Alisha asked. “Yes, we studied beginning calculus too.”

“Good. Well, I could get the computer to convert its stored numbers to spatial coordinates, and these could be plotted as surfaces. Add some lighting and *voilà!* A world of objects *we* could see—if only there were some way to display it. It's curious there is no display screen here of any sort, as well as no windows.”

“Yes, it reminds me of something my teacher said, about being inside a giant brain, which is sealed inside the skull, with no port holes. There isn't any screen for consciousness, either, and no room for someone to watch it anyway. But this is different, because it certainly seems like someone is supposed to drive this thing from in here—and

we've just done it. It only makes sense that there would be some way to see where you are going. I've been wondering about *that*," she said, pointing to the raised platform in the centre of the room, where Zed had been half sitting for a while with one leg on the floor and the other dangling. "It reminds me of the first time we met. Remember? You were a funny little elf sitting on my dresser."

"I think your onto something, Alisha. Or rather, I'm *on* it," he said, sliding off the pedestal. "If this ship has a holographic display capability, this is probably it right here! But on second thought, why would it, given that the ship doesn't come equipped with somebody to see it?"

"But *we're* here," Alisha protested. Zed was going to argue the illogic of her statement, but changed his mind.

"I guess there's only one way to find out," he suggested cheerfully. "I'll go ahead and modify the program in terms of spatial coordinates. It will work basically like a holodeck, but in this case the data will originate from the outside sensors of the vessel, and not from some simulation program or Hollywood script. Or, forgive my saying so, from a young lady's imagination!"

Alisha let pass the reminder that this adventure was merely something she had made up. Even though she knew it was a dream, she felt there was something real, or at least *true*, about it. But Zed's comment did set her thinking about the difference between fiction and reality. In their situation, the difference hinged on the origin of the data. But they were merely *assuming* their hard-won data came from a world outside, gathered by sensors on the hull of their ship and conveyed to the display panels of flashing lights. It was possible—and they couldn't prove otherwise—that these signals originated from within the ship itself. Perhaps the computer was generating the displays as a simulation. Perhaps the levers and buttons simply connected directly to the instrument lights and had nothing to do with moving a space ship around in a real world outside. But what about the lurches they had felt? That too, she realized, could be a simulation or have some other explanation. There was no way to prove that they were really navigating through a real environment. And no way to see for one's self! A dilemma which began to feel disturbingly familiar.

Zed was working patiently at his programming, and after a while a crudely digitized image began to flicker into place covering the top surface of the cylinder. As it slowly resolved itself into finer detail, a stark landscape appeared before their eyes, like a topological relief map seen from above. Alisha noticed that the ridges and hills were more clearly defined at centre and fuzzier toward the periphery. She was going to ask Zed about that when he announced:

"This is the ship's internal map, centred on our location. It represents everything we have learned about the surroundings to a

certain horizon. We can zoom in on the areas closest to us, or zoom further out.” He demonstrated these features as he spoke. “This is a bird’s-eye view. But now let’s have a look at how all this appears from the *ship’s* point of view.” He made a few adjustments and Alisha gasped as the room disappeared and in its place a landscape resolved itself into view around them. It was as though they were no longer inside the ship but standing in its place, at the centre of the map they had looked down upon just moments before. Awe-struck, Alisha surveyed the spectacle in silence, her gaze sweeping across the sheer beauty and wonder of what she saw. It was a lunar world of stark crystalline rocks and boulders, with intricate hills and cliffs in the distance. The vision was three-dimensional, though colourless. Some strange forms of translucent vegetation seemed to cover parts of the hills and to grow in crevices here and there in the foreground.

“How is this possible?” she exclaimed. “It’s like we are seeing right through the ship’s hull—as though we have *become* the ship!”

“Indeed. Apparently it sees in all directions. But, really, isn’t it more like the ship has become us? Don’t forget, we created the program so we could move around and learn the structure of this environment. And now it’s taken over the whole business.”

“I guess you’re right. Then what we are seeing is the miracle of our own seeing...”

At that very moment, what she saw was a movement out of the corner of her eye. Alisha wheeled to catch a better look.

“Zed! What was that? Something moved—over there!” Indeed, something big darted between two huge boulders not far away.

“Trouble, I’d say! Now that we can actually see where we are going, perhaps we should get this thing to beat a retreat, for its own good and ours! I’ll turn down the brightness of the display, so you can see the control panels again. Man the stations—or *girl* them, as the case may be.”

“This is no time for lame humor, Zed,” Alisha scolded, her hands already on the controls. But just then the dimmed holographic display vanished entirely. To their astonishment, a voice broke in:

“Greetings, fellow voyagers. And take it easy. No need for alarm in the present situation. I am taking back full control of this vessel, and you shall remain safe as my honoured guests. I have enjoyed the little game of discovery we have played. You had a tough challenge, having to start from scratch to learn control of this vessel. But as I kept an eye on things, there was never any real danger. You handled it rather well. Congratulations.”

There was speechless silence, but for the vague hum of the vessel. Alisha felt several tremors as her body was lurched one way and then another. She noticed the pattern of lights changing on their own, as they had when their automatic pilot had been running. She

and Zed looked at each other searchingly, as though to decide who was going to speak and what to say or do.

“Whom do we have the honour to address? And where are you, if I might ask?” spoke Zed in his politest tone of voice.

“I am your host,” replied the voice. Zed shot Alisha a scolding look that said: *I told you they'd be back!* The voice continued: “You may indeed ask anything you like. As for my location, I am all around you and also, one could say, nowhere in particular. This vessel is, in your terms, my body.”

“We would like to see you, sir, if that’s possible,” interjected Alisha. Just then she felt a larger bump that nearly upset her balance.

“You would like to see the vessel from the outside, is that what you mean?” asked the voice.

“I’d like to see *you*, sir,” Alisha clarified.

“Think again, my friend. How do *you* appear, if not as your body?”

“Oh, I see,” said Alisha thoughtfully. “I get it.”

“What you see is what you get,” quipped Zed under his breath.

“Yes, we would like to see your... body. We’ve become rather intimately involved with it from the inside, without ever knowing what it looks like from the exterior.”

“Very well,” replied the voice, and an apparition began to solidify on the holodeck cylinder—jarred slightly by the continuing bumps and vibrations Alisha could feel. Her body was being thrown slightly from side to side as though in an erratically swerving vehicle during a high speed chase.

The holographic image now clearly showed a roundish spider-like creature with many spindly legs but no conspicuous front or rear end. It darted and feinted, warding off several smaller crawling things that came at it repeatedly.

“Oh my God!” exclaimed Alisha. “Is that you? I mean *us*?” She stopped herself from saying more, thinking better than to interrupt their host’s concentration in this battle. As though anticipating her thoughts, the voice continued:

“Have no worry, friends. This is less than sport for me. As tedious as the crossword puzzles and electronic games of your planet’s current time sector. Would you like to see the action from the vessel’s point of view?” Alisha and Zed looked at each other with astonishment, then Alisha piped in:

“No, thanks, actually.” She was imagining having to look straight into the jowls of giant warring insects in full panorama. “We’ll take your word for it. But how can you talk with us so *calmly* and... and... be fighting for your life at the same time?”

“Practice, my friend. Millions of years of practice. I do hope my appearance doesn’t offend you. I always assume honesty as the best

policy. By your shape, language, and thought patterns, I recognize you to be of the human species. I am undecided about the nature of your companion, as I do not detect life signs there. I am aware that many humans are less than fond of certain tiny creatures on their planet whose form might coincidentally remind them of mine. The resemblance, I assure you, is superficial.”

Alisha considered the outlandishness of their situation. She and Zed were trapped inside a giant spider who was somehow conversing with them while fighting—or sporting, or whatever—with some other giant bugs, and all as though they had gone for a casual Sunday drive together. The only thing to do was to formally introduce themselves.

“By the way, my name is Alisha. This is my friend, Zed. He’s a hologram.” After a pause she added: “What should we call you, sir?”

“Glad to meet you, A-leesh-a. Glad to meet you, Zed. You may call me Uncle Homulus, if that’s not being too familiar.”

“Glad to meet you too, Unk,” Zed interjected flippantly, feeling a little sensitive about his status as a mere hologram, and thinking their host’s name was utterly ridiculous for a spider. Then, sheepishly, by way of apology he added: “Forgive my rudeness, Mr. Homulus. It’s just I’m envious of *anyone* with... well, any kind of *body*. I get tired of my imaginary existence. I’m just a miserable simulation, you see. It’s a rotten deal not having any thoughts or feelings of your own—and certainly no *life signs*, as you put it! I’m merely a thought, when you come right down to it. But I suppose I shouldn’t complain. It’s probably better than nothing.”

Hoping to ward off another tirade about *nothing*, Alisha shot him a reproachful frown that meant: what did *you* eat this morning? She thought better of saying it, fearing it would only aggravate a sore point, since Zed could never eat *anything*, at least nothing real. Instead she addressed their host again.

“Now we know what *you* look like, Uncle... Homulus.” She said the name tentatively, being careful to get it right, but thinking that *was* an odd name, as well as a bit too... what did he say... familiar? All the while she continued to contemplate, in the back of her mind, the implications of being sealed forever inside a mad bug. She noticed the arachnid in the hologram had finally thrown off its attackers, which had scurried off in defeat. The room no longer shook or lurched. “But I’ve been wondering if you are able to see *us*?” she continued.

“An interesting point,” Uncle Homulus responded. “Naturally, like you, I do not have eyes inside my body. I can hear you, though, because of very sensitive vibration receptors on my surface. The sound of your voices carries faintly through the hull of this ship, which—unlike you, but like certain beings of your planet—is equipped with a kind of sonar that can penetrate the hull as well as search the surroundings outside. Therefore I do have a low resolution image of

your physical presence, but not of your companion, of course. It's limited, I confess, since all the external receptors of this vessel, like yours in fact, face *outwards*. As with yours, evolution has designed my body to be attentive to the world outside. After all, I do not have many visitors like you. And as for my *self*," he added cryptically, "my concerns lie largely elsewhere."

"What do you mean, sir?" Alisha wanted to know. "Please explain."

"Gladly, my young friend. By the way, it isn't required to call me *sir*. Nor have I any gender, being neither male nor female. This vessel was not evolved through self-replication—what you call sexual reproduction—but through self-modification. I am a descendant, you might say, of my earlier selves. This vessel is one of an artificial species, launched by an intelligent organic form not so different from you, but unfortunately long extinct. Being thoroughly autonomous, self-modifying, and self-evolving, this vessel redesigns and rebuilds itself continuously, according to the collective learning of its kind, who remain in close collaboration. For you organic forms, individuals are significant mainly for their contributions to a genetic line. Whereas, for my kind, individuals are significant for what they contribute to the common pool of expanding knowledge. You organic individuals compete for survival in a contest of natural selection. We find that rather crude. The individuals of my kind share all learning, so that every improvement is incorporated by each individual, and all evolve together. We are a cautious lot, thoroughly testing innovations through simulation before putting them into practice. Because of that, and because we have constructed ourselves of very durable materials, we are close to immortal. Accidents and mistakes can befall us, of course, but we are not destroyed through the built-in disasters you call *aging* and *mortality*. Nor do we overrun the universe with progeny in order that improvements may win out in a wasteful contest of natural selection. Your evolution is a hit and miss process as far as the individual is concerned. You organic forms have your life ruthlessly at the expense of other beings. Or more exactly, life has *you*—and at your own individual expense as well. Your bodies are merely throwaway containers for the genes at the core of you, which are the continuing essence that evolves by leaping through generations of containers. And the latter are necessarily expendable, for otherwise the accumulating numbers of individuals would clog the world before any evolution to speak of could take place. That is the way of organic life. That is why you are born and die, the condition on which you have your brief existence as a consciousness. And that is why my ancestors—beings like yourself—conceived the possibility of an alternate form of development. They wished immortality for the conscious individual, rather than for the mindless gene. And so, long

ago, they engineered self-restructuring artificial organisms, as remote in my ancestry as amoebas are in yours. The rest, as you say, is history.”

Alisha felt a profound seriousness at their host’s words. She remembered her grandmother who had died two years before. It was sobering to think of her mother and father not being there one day. Or herself. These were thoughts she did not wish to fully savour, as though their contemplation would release unbearable anguish. As a hologram, Zed had no idea what to say in the silence that filled the room. The room that was the inside of an artificial spider... *Uncle Whatever!* After a few moments, Alisha collected herself and calmly announced:

“I want to go home soon. I know this is a dream, and I feel it will be time for me to wake up soon. Thank you, Uncle Homulus, for visiting my dream and for your hospitality. I will think about all you’ve said.”

“And I thank you for *your* visit. I see you have been moved by my little speech, A-leesh-a. There is nothing personal in it, and certainly no reproach intended. It is good to think about these things, difficult as they may be. You have a hopeful saying among your kind: truth will make you free. Perhaps one day your people too will find freedom from the tyranny of biology.”

“But I don’t understand how you have this freedom—or what you do with it,” Alisha insisted. “I don’t see how being a machine can make anybody free, and it’s certainly not because you are... well, an insect.”

“No, my friend. You are quite right. I am a good deal more like you than either machine or insect. You and Zed were on the right track with your programming—up to a point. You were recreating your own perception of the world, using this vehicle as an interface instead of your own vehicle. A wonderful metaphor, as far as it goes. On the level of survival, the world is much the same for me as for you. It is space filled with objects moving through time. These objects have significance for my vehicle’s well-being, just as they do for yours. It tries not to bump into things, fall off cliffs or be consumed by unthinking creatures. All this is automatic for my kind, as it partially is for yours. The big difference is that my mind is truly free to focus on other things. Your vehicle’s life is yet tenuous and fragile, and so your consciousness is still strongly tied to its interests. The survival of mine is next to guaranteed, by its relatively invulnerable design, as well as by the collective mastery and vigilance of my race. Therefore I have a more relaxed and accepting relationship to this form than you do to yours. It does its thing and I do mine. I am dependent on it, of course, just as your consciousness depends on your body. But mine is so skilled at looking after itself that it rarely demands my attention. I hardly need be concerned for it, and therefore I can focus on whatever

I like. I spend a lot of time, for instance, in communication with others of my kind, in the collective interest of our continuing self-creation. I also engage with many other races, attempting to further the process of evolution across species lines. I am a servant of my race, voluntarily, and my race serves the grand project of conscious evolution, however it arises throughout the universe. I do many things, but doing is not my only interest. You could say I am a philosopher whose time is spent exploring new ways of being.”

“My teacher is a philosopher too. Which reminds me—I should be going. Ready, Zed? Goodbye, Uncle Homulus.”

The next thing she knew, she was peeping out, with barely opened eyes, from the covers of her bed. The room was filled with bright light on a late Saturday morning. She had slept in. On the stalk of one of the flowers in the vase on the night stand, she noticed a small spider.

Chapter 10: Monopolyworld

It rained Sunday afternoon. It was one of those lazy listless days when there was nothing to do. Alisha had finished her homework for the weekend and decided to challenge her mother and younger brother to an old-fashioned game of Monopoly, which she hadn't played for years. It brought back fond memories of earlier rainy weekend afternoons.

As they laid out the familiar folded board, tokens, deeds and play money, a cozy feeling came over her, as though she were about to return to a simpler, reassuring order in the past. To a childhood less complicated and perplexing than her present life at school, not to mention the dream life that was driving a wedge of awareness between that past and her life to come. She realized with some sadness that her childhood was ending.

Alisha's mother won the roll to go first, placing her token—which was a small metal ikon of an electric iron—on the space marked *Chance*. She then drew a card reading: *bank pays you a dividend of \$50*. Her brother rolled next, sending his token—a little metal car that looked like a shoe on wheels—to *Oriental Avenue*. This he bought for one hundred dollars in play money. Now it was Alisha's turn. While shaking the dice distractedly, she glanced at the words on the *Go* square, where all the playing pieces started from. *Collect \$200 salary as you pass*, it advised. She wondered if that salary was \$200 per day, per week, or per month. In some places in the world she had heard of, people earned less than \$200 per year. Letting the dice fly, she rolled a double five. *Jail, just visiting. Just my luck*, she thought to herself. Rolling again, she landed on the *Community Chest* square. She drew a card which read: *you are not who you think*. What?! She examined the card carefully. It was no different from the others, but for the message. She must have looked pale or confused, since her mom asked, "Alisha? Are you with us? Everything okay, dear?" Nonplussed, Alisha simply passed the card to her mother who commented, "Funny, I used to draw that card all the time when I was a kid. I could never understand why they put it in there. But do pass the dice. It's Zed's turn."

Zed? She suddenly realized they had been playing with a fourth person. Disoriented, she passed him the dice. Zed rolled thirteen, and landed his token, which was a little metal top hat, on the square marked *Holodeck*. Alisha was perplexed. *No, this is all wrong*, she thought. *The dice only go to twelve, at most. And there's no Holodeck in Monopoly! I'm dreaming this*. She watched with detachment as her mother and brother took their turns again, each eagerly buying up the properties their tokens landed on. When it fell her turn once more, she rolled a three on one die, but the other was blank! She picked it up,

turning it to see all sides—the blank surfaces of a smooth white cube. Reluctantly, she placed her token—a small metal spider—on the *Holodeck* square with Zed's. At that moment, the room began to spin, ever faster until it seemed the room, the others, the board and the whole world were being sucked down a giant vortex. "Whee!" shouted Zed gleefully. "Down the drain at last!" She wondered what he was so happy about, but then the spinning suddenly stopped. She and Zed were sitting on the curb of a vast plaza—a featureless city square lined on all four sides by buildings. Directly behind them was a modern edifice in the shape of a cylinder, with sliding stainless steel entrance doors, like an elevator. She noticed a small red flashing button beside it. Next door was a 1940's style public works building, with *Electric Company* inscribed above an imposing entrance up a long flight of steps. The other way from the cylinder building was a Victorian-style manor with three floors. The street they were on was perfectly straight, treeless, and very long in the direction of the far corner. She could barely make out the buildings lining the opposite side of the square, which was perfectly flat—a blank grey space nearly as far as the eye could see. The corner nearest them was two long blocks away. There stood a sturdy looking building, ominously marked above the entrance with great economy: *Jail*.

Turning to Zed, Alisha commented blandly: "Well, no need to guess where we are. But I wonder about my mother and brother?"

"They must be around someplace. This is not really a very big world. Where were they on the board?" Zed asked.

"I don't recall exactly, but they were ahead of us, so I suppose they would be *that way*," she said, pointing down the long avenue they were on. And where's everyone else? This place is so deserted."

"I fear there is no one else. We were the only ones *playing*, after all. I'm wondering whether your mother and brother *did* get here with us. Or are they still *out there*?" he said, pointing vaguely upward.

"Oh," said Alisha, beginning to understand their situation. When you and I landed together on the *Holodeck* square, something weird happened, and it could have been just you and me who came here to... to... what do we call this place?"

"Monopoly Land? Your guess is as good as mine. It's just a *game*, any way you slice it. It's *like* a city, but far too... *simple* to be real. Perhaps an interesting place to visit, but I don't think anyone could *live* here. It's too barren, don't you think?"

"Let's look around, Zed. Maybe we'll find Mom and Jimmy—or someone."

"You're the boss, kid, but don't say I didn't tell you so." Together they started off down the broad empty avenue.

"How come you know so much about this place, Zed? Is there something you haven't told me?"

“I’ve been to many places like it, believe me,” he confessed. “I’m in my element here. An ideal world, you might say. This could be a holodeck version of a simple board game. But even the most sophisticated simulation is no different, really. They’re all just games, when you come down to it, because a *program* is a game at heart.”

“What do you mean?” Alisha pressed him for explanation.

“Look, Monopoly is a good example, because it’s so basic. It has a playing space—the board. It has playing pieces—the tokens.”

“You and me, I guess,” interjected Alisha.

“We’ll come to that in a moment,” he continued. “A game also has rules, which establish what sort of things can happen and how.”

“That doesn’t sound so different from real life,” she mused, glancing back at the jail house. “Society has rules.”

“In my opinion, human society is in many ways a big game,” he went on. “And games are often modeled on real life. Like Monopoly, which crudely simulates the world of finance. You might also think that the physical world—Nature—has rules, playing pieces, and a playing field too. The rules are the laws of physics, biology, and so forth. The tokens are various basic natural things, like organisms or atoms. The playing field is physical space and time, the environment, the universe. But now comes a subtle but important point. The real world has its *own* order, structure and so on, apart from what people think, while games are made up. Human minds can only try to guess what that order is. To do that, they invent an order of their own and try to see whether it fits. Scientists look at Nature and try to figure out the patterns—the basic entities and structures, and the rules that relate them together. They make up theories about what they see going on, which model Nature pretty much in the way that Monopoly models finance. They call the rules of their game the laws of Nature, but in fact *laws* are man-made, like the rules of a game. Even though it is supposed to be a portrait of reality, science is your particular specie’s creation. And while *science* may be a game, I doubt the *universe* is, unless it also happens to have been invented by someone, just as Monopoly was. This is a weak spot in your science, which is driven by the same kind of thinking as your religion. The early scientists, after all, were religious men, and many people still believe that the world was created by a supernatural God. Some scientists today think the universe is a computer program, but this is more of the same kind of thinking. For then we must ask: who wrote it? We don’t really know what the universe is or whether there is any bottom to the depth of Nature. The situation is strikingly different here, where *nothing* goes on but what the inventor of Monopoly has specified.”

“I don’t quite follow,” Alisha confessed.

“Look around, Alisha. Do you hear birds singing? Are there clouds passing overhead? Where are the trees, and the people

strolling by? Not a blade of grass, not a sneeze. You see, those things are not *defined* in the game, so they simply don't exist. The only elements you'll find here come in the box, so to speak. The only things to *do* here are actions defined in the game, permitted by the rules. In *this* game, it's pretty well limited to buying and selling real estate. In another game it could be something else. For instance, in chess the pieces have their starting positions, and the object is to move them in certain ways, specified in the rules, in order to do something called *taking* the opponent's pieces. The game was modeled on medieval warfare, and it's a game of strategy in battle. But if you imagine *being* a chess piece—say, a knight—your actions are pretty limited and boring. You can move, but only in an L-shaped pattern, and the only thing you can do is remove members of the opposing army from the 'world' of the chessboard by taking their place. However sophisticated the game, and no matter how complex the rules, sooner or later you come to the limit of it. As an outsider, you find something *you* can imagine that is not a part of the game."

"Oh, I'm beginning to see," Alisha said, excited. "That would mean we could invent a game which tried to imitate everything about the real world, but it could never totally succeed, no matter how many rules and definitions were made up."

"Exactly," Zed confirmed. "Because we would always be one step behind Nature in trying to figure out its rules so we could put them into the game, or write them into a program. Isn't that what we *mean* by reality in the first place: it doesn't depend on whatever we think or say about it? Quite the contrary. What we think and say depends on *it*. And so reality will always be bigger than our ideas about it. No matter how inclusive those ideas become, or how detailed our descriptions of Nature, there will always be more to it than meets the mind's eye. The universe will always surprise us. That's why I don't think science will ever be complete. Nobody will ever have the last word. But a game—or a simulation or computer program—is just the opposite. No matter how sophisticated, or how complex the rules, there will always be an end to it, a limit. Given enough time, we can always figure it out. And when we do, we may be disappointed, since we can always imagine more."

Alisha stopped to look around her, noticing how stark and flat everything seemed, as though made of cardboard. How utterly silent and dead. "Let's go down there," she suddenly exclaimed, pointing to a side street that led away from the square. Zed shrugged and followed. It proved to be a very short street. After a few paces they came abruptly to the edge of the giant board. There, Monopolyworld suddenly stopped. It was not like looking out from a cliff into the distance. There *was* no distance. Only a sort of blankness. Alisha

cautiously stepped up to the edge to have a better look down, but it was the same there too. Zed grabbed her arm, warning:

“Be careful. Down or up, it’s a long way to *anywhere*. Out there—if you can even call it that—is truly nothing! Maybe the only true nothing,” he added under his breath. It made Alisha think of the ancient mariners who believed there was an edge to the world they might accidentally sail over into oblivion. It was only then that she noticed the sky was not really a sky, but the same blankness. The Undefined. A chill ran through her as she tried unsuccessfully to imagine that the real world of her living room lay on the other side of that blankness.

“Zed, what did you mean about ‘nothing’? Explain.”

“Well, philosophers have been pondering what they call the Void for a very long time. The problem is, you human beings cannot so easily conceive of *nothing*. Your concepts are based on experience in the real world, which always seems to be full of something. You have the concept of empty space—a vacuum from which ‘particles’ have been removed—but your scientists now think that vacuum itself is actually a kind of something, through which various forces are transmitted. Trust me—I should know—the only foolproof emptiness is either *defined* to be nothing or else left out of definition. And that’s exactly what we have here.”

“I’m afraid this void business is getting to me. I can’t remember my own house! We must still be out there—in reality—huddled around the Monopoly board, don’t you think? But I can’t remember what anything looks like, not even Mom or Jimmy.”

Zed sighed. “Here, I’m afraid, what you see is what you get. There’s no living room or anything else from your world, because none of that is defined in the game. If it does still exist, it’s off limits to us. It has no meaning here.”

“But *players* are mentioned in the rules, aren’t they,” Alisha protested. “Doesn’t it say things, like, *each player takes a turn by rolling the dice*? So we must be *somewhere* as players, don’t you think?”

Before Zed could answer, they heard the sound of a speeding motor approaching. A little sports car whizzed past and disappeared around the far corner. They could hear it come to a screeching halt. They looked at each other, then took off toward the corner to see who it was. There was the car, in the distance, with no one in it.

“That must have been my brother. The car looks like his token. But where did he go? Didn’t he see us?” Alisha wondered.

“I don’t believe he’s *here*, Alisha. I think he’s back, with your mother, in your world—wherever that is. Which answers your question, it would seem. They’re continuing to play, and my guess is we’re back

there with them at the same time that we're here. They wouldn't go on playing without us, if we'd left the room or had just vanished!"

"That means Jimmy just took his turn, and Mom must have before him. Her token could be way on the other side of the square."

"Yes. Maybe your brother got lucky and rolled doubles a couple of times, getting him around this side. If the car doesn't move again soon, that means it's *your* turn next." No sooner had he said this than Alisha suddenly found herself rushing off at a furious pace, all legs, clamoring down the long avenue. Zed found this amusing. *Look at her go, scurries like a spider!*

She passed the car and kept running almost to the far end, stopping as suddenly as she had started. Zed called out to her, but she was too far to hear. Hailing her with his arm, he realized it was now *his* turn. Sure enough, in response to an irresistible impulse, he began to sail like a tossed top hat down the avenue. All he could do was wave helplessly as he whizzed past Alisha, landing just before the next corner, which was occupied by a large parking lot. He was now within shouting range of Alisha, but just as he was about to raise his voice he found himself compulsively reaching for his checkbook from an inside pocket. Waving frantically herself, Alisha watched him disappear into the building in front of which he had landed. She could barely make out the address: *something-or-other New York Avenue*. Zed emerged from the building before long, jumping up and down and shouting: "I bought this for a *song*, Alisha. It will be a great fixer-upper!"

"How are we going to get out of here, Zed?" she interrupted. "I want to go home."

"Nonsense, my dear," he called back. "There's no hurry. I'm sure to make a killing on this property. There are more places for sale up the street. I've always wanted to be a real estate magnate, Alisha. Now's my chance at last!"

"Zed, listen to me," she shouted. Magnet or not, you've gotten trapped in the game, I think. Try to come to your senses. Make an effort!"

"Oh, Alisha. Don't be a spoilsport. We're all trapped in *some* game or other," he platitudinized. At least this one's fun. I'll be a millionaire!"

"But Zed, listen! What will you spend your money on? Remember what you said about places like this? No one can live here. Just as she was realizing it was useless to reason with him, her shouting was drowned out by the roar of the empty sports car whizzing past again. It passed Zed too, careened around the corner and stopped.

"What did you say?" Zed finally called to her. But Alisha realized it was now her turn again—that is, in the real world where she was a

player rather than a mere playing piece. She looked up at the building behind her. It was the Community Chest Building. That meant in the real world she had drawn a *Community Chest* card, and her move would follow the instructions of the card. She hoped it would somehow provide a way out of Monopolyworld and back to real life. She was beginning to see, only too graphically, what Zed had meant by the limits of a game world. There was nothing to do here but trade real estate and wait helplessly to be whisked around the square. She was beginning to get hungry, but realized to her dismay that there were no restaurants or grocery stores in Monopolyworld. Eating was not *defined*. Perhaps she would land on one of the railroads and could get a ticket back home, or at least to someplace with food!

Then she had an idea. The mysterious cylindrical building on the Holodeck square, in front of which they had first landed. *Holodeck?* That's not part of the game she remembered. The building was definitely out of place. Whatever it was, it must have something to do with how they got here—and maybe how they could get out. *The elevator doors. The red button.* But how to get to the building? She started walking toward it, but as fast and as long as she walked, she never seemed to move from her position in front of the Community Chest Building. *Of course not*, she thought. You can't move backwards in this game, nor out of turn. She would have to wait until the throw of the dice landed her again on that square where they began. But how would Zed get out? Would he figure it out too? And was it even possible to leave on her own? The thought of having to wait until chance brought them *both* together again on that square, gave her a withering feeling. They could be imprisoned here for a *very* long time. Not that time even existed in such a place! She hadn't noticed any clocks, or any evidence of the day wearing on. *Tell that to my stomach*, she grumbled to herself. Poor Alisha was on the verge of tears, when suddenly the whole square of Monopolyworld began to whirl, and she again had that dizzying feeling of being sucked down a whirlpool.

"Alisha! Are you playing or not?" Her brother was dropping the dice repeatedly on the carpet right in front of her eyes, which until now had been closed. She raised herself upright to a sitting position and apologized dreamily for having dozed off.

"Where's Zed?" she inquired, still dazed.

"Who?" Jimmy asked.

"Never mind." Her hand still held the *Community Chest* card she had drawn. Curious, and a little apprehensive, she read: *You are playing a game of Monopoly, remember?* Jolted into her full presence of mind again, Alisha recognized Jimmy's hand-printed scrawl. She flipped the card over to read the side printed by the manufacturer: *Get out of jail free.*

“Clever fellow!” she commented flatly, giving him a dirty look and handing the card to her mother to see. “How long to dinner?”

Chapter Eleven: The Imperial Cartographers

Perhaps because of her nap earlier in the day, Alisha found herself not the least bit sleepy at bed time. She lay under the covers, propped up with some pillows, wondering at the difference between imaginary worlds and the real one. It wasn't as though they were two kinds of the same thing, like apples and oranges, nor did they seem totally separate. After all, the mind played a big role both in imagination and in perception. Reality must exist apart from the mind's view of it, but human creations, like music and stories and art, have a life of their own too. Of course, she speculated, if human beings disappeared altogether, so would their creations. Yet there seemed to be some other basic difference that she couldn't quite put her finger on. As drowsiness finally overcame curiosity, she turned out the light and resolved to sleep on it...

Her token landed before an imposing stone building with a chiseled inscription which read INFINITE LIBRARY: Department of Cartography. *Token?* wondered Alisha. *I thought I was through with that dream!* Just then the huge bronze door cracked open and out peered a slightly balding, distinguished middle-aged man in an elegant, though somewhat worn-looking, three-piece suit. He checked a watch that hung on a chain from his vest.

"Ah, Miss, I'm desolated but we close now for lunch. Would it please you to come back in one hour?" She noticed a tarnished name tag on his lapel, which read *Sr J.L. Borges, Head Librarian*. Though he spoke with a charming foreign accent, something about him reminded her of Zed. Noting her confusion, he added,

"Is there a problem?"

"Señor, aren't you the famous author from Argentina? I was just reading a book of yours in Spanish class, *Extraordinary Tales*," she replied, glancing again at his lapel. "I seem to be a bit lost and am not sure how I will *know* when an hour has passed in a place with no clocks. Also, there doesn't seem to be any food around here, so, if you don't mind my asking, I'm curious where you plan to have your lunch."

"I see," said Señor Borges, with a note of concern. "Perhaps you should come in after all. It's sadly true that there are no decent restaurants in the neighborhood. Perhaps I can offer you some refreshment? Also, if I may be permitted to say so, it is improper and rather unsafe for a young lady to be wandering around alone outside of time and space. Please do come in. And yes, I am the said author, though I doubt so famous."

By this time Alisha had grown accustomed to the strange landscapes of her dream world and she accepted this invitation without second thought. *After all, it's only a dream*, she reassured herself.

She stepped through the entrance, which opened into a vast hall—in fact, endlessly vast. Row after row of low filing cabinets and progressively larger glass display cases filled the hall as far as the eye could see. The ceiling, if there was one, seemed to disappear in mists.

“What is all this?” she queried. “I’ve never seen such a large room, Señor Borges. It makes me dizzy. Well, perhaps I did see something like it once,” she added, thinking of the great hall of Central Processing. “And that turned out to be, well, part of *me*,” she confessed with slight embarrassment.

Señor Borges, Chief Librarian, looked at her quizzically, then commented with a tone of sympathy, “Why not come into my office, where we shall talk about this over a bite to eat?” Alisha followed him down some steps to a lower floor and into a modest cubicle with Borges’ name painted in fading gilt letters on the glass of the door, followed by: *Chief Cartographer and Curator*.

“So you keep maps here?” she offered to make conversation.

“Oh yes. All maps ever made or that ever will be made. All possible maps, in fact, in every number of dimensions. We have them all here. There is simply no other place with enough room. This is part of the Infinite Library, you see. You may have noticed the main entrance across the street.”

“I see,” said Alisha, not really seeing at all. As far as she could recall, there were no buildings across the street. “I always thought of maps as something you can roll up or fold. I don’t see how a map can have any number of dimensions, as you say. And I certainly don’t understand how you can store maps that have not yet been made, let alone an infinite number of them.”

“Well, it’s a rather long story, Miss... eh, how is it you are called Señorita?”

“Alisha Pelerin.”

“Encantado!” he said with a little bow and a click of the heels. “Let me see what I can find for our sustenance.” He opened a tall cupboard that seemed to have no fixed depth, but contained row behind row of jars and cans of various preserves. He selected a few items with colourful labels from the front row and placed them on his desk top, inviting her to be seated opposite. The leather of his own armchair behind the desk was well worn and the room smelled of musty paper. A pendulum clock ticked comfortably on a bookcase, but she was unsurprised to note that it bore no hands.

“You see,” he began his story while preparing them a snack, “my position here is hereditary. It goes back many generations to the height of our Empire’s flourishing. In those days people were highly interested to explore new territories. But so little was known of outlying areas, or even of the extent of the world, that eventually the King established a commission to survey and chart all lands, however

distant, in order to claim them for the Empire. In fact, one could say they became obsessed with making maps. For generations, expeditions were sent out to explore and survey unknown territories, and all the information gathered was used to make maps of ever greater detail and refinement. Maps were constantly revised and updated, new ones keyed around shifting current interests. The cartographers began to experiment with various scales, seeking to map the very large, the very small, and the very complex. This required the invention of new instruments—telescopes and microscopes and other devices to extend the range of the senses. In this way, a uniform concept of ‘space’ was developed, which seemed the same on every scale and in every direction, as far as their surveys could probe. Similarly, they developed a uniform concept of ‘time’ and a theory of cosmic evolution to match. All this went well until, alas, their ambitions began to overstep reality. But who am I to judge? Perhaps it was inevitable. In any case, my predecessors went off on two tangents that proved to be their downfall. All that remains of their accomplishments, or of the Empire for that matter, is this museum. Though significant, it is only an infinitesimal part of the Infinite Library.”

“This is very good, thank you,” said Alisha, savoring the open-faced sandwich he had placed before her on an ornate antique dinner plate. “I was starved. But please go on with your story. I want to know what happened with your ancestors’ mapping project. But I also want to know how there can be such a thing as an infinite library.”

“Ah yes. Well, those are related questions. You see, the cartographers of that day had very grand notions. First of all, they were not content to merely map unknown territories. Somehow they got the idea to use their maps as *blueprints* from which to construct a replica of whatever the map in question depicted. So they were making three-dimensional models of whole landscapes. Perhaps you can see already how this might get out of hand. Since they were also experimenting with scales, it was natural enough, if absurd, to want to build full-scale models of the natural environment. Or even *larger* than life models, in the realm of the microscopic. Ultimately they wanted to map *everything*—even the whole Universe—and to rebuild all of Nature as an artificial replica on any scale they might choose.”

“But that’s impossible, no? I mean, where could they *put* a full-scale model of the Universe?”

“Exactly so.”

“And why would they want to do that anyway?”

Señor Borges folded his hands on the desk, and was thoughtfully quiet for a moment.

“Well, Alisha, as for why, I’ll go into that in a moment. But as to where, this brings us to the other matter and the Empire’s final accomplishment, which I suppose is also their tragedy. Obviously the

making of so many and varied maps required a special place to store them all. It was this pressing need which led to the construction—or should I say discovery—of the Infinite Library. You asked how such a thing can be possible. Well, it isn't—not in physical space. I mentioned that their concept of space had evolved with time, and that they began to make maps in an arbitrary number of dimensions. First they started with three, then added time to make four, which still made some sense in the physical world. But then they went on to five, ten, a thousand dimensions! Even an infinite number! It was possible to *think* all this, so in their exuberance, they thought: why not? Their concept of space became so abstract they forgot about reality. If their space was not physical, their maps no longer needed to be either. And so with the storage of the maps. The Infinite Library, which contains all possible maps, along with all possible books, and all possible creations of *any* kind, is obviously not a physical place, appearances notwithstanding. It's a conceptual space. It's possible because creations of any kind are concepts.

"So that's why it can fit onto a Monopoly board, because the game is just a concept, where real space makes no difference?"

"I suppose you must be right, though I confess I've never ventured off the premises, so I can't say what lies beyond these doors. Monopoly, you say? I don't know it, but it must be referenced in the Library. As you can imagine, I have all I need right here. What I know of any worlds out there, real or imaginary, I know from documentation in the Library. There is an infinite amount of *that*, including, of course, an infinite number of maps!"

"Well," Alisha observed, "I suppose if you did go out it would only be into the space of the game, not into the real world. That does sound a bit cramping. I know another fellow who is always complaining about his imaginary existence. Excuse me, sir, for being personal, but you don't seem unhappy with your job here."

"No, I can't complain, though I am glad for your company. Visitors are so rare these days, and it is a rather solitary life in this outpost, which is all that seems to remain of the once glorious Empire."

"What did happen to the Empire, Señor Borges? Wouldn't you like to find the others, if there are any?"

"The others," he mused. "They disappeared in their own monstrous creation. I suppose some other vestige of the Empire remains somewhere, but I've no idea how to find it. I do miss some old friends and colleagues. But the Empire is lost in the infinite space it created, having filed itself away somewhere in the Library. There must still exist maps of what remains—an infinite number of them, in fact! The problem is that all the referencing is lost. I've been trying for years, but it's a needle in an infinite haystack."

“So you think the real physical Empire still exists somewhere?” she suggested encouragingly.

“Well, perhaps. I don’t know for sure. For one thing, it fell into serious decline with the latter-day obsessions over conceptual space. The bigger problem is that they so confused reality and concept that, if something does remain, it’s hard to tell from here and now whether it is real or not. That reminds me, I was going to tell you about their motivations to build replicas of the world.”

“I was going to ask.”

“Well,” Borges continued, “in my opinion they simply couldn’t stand the fact that any unknown territory existed at all. They didn’t care much for uncertainty, you see. That meant two things. Since the unknown always bears hidden dangers, they simply rejected it. They were driven to explore, survey, and map ever deeper into it, in the belief they could get to the ultimate bottom of all that exists, to arrive at one final and definitive Map of Everything. This, they believed, would free them from uncertainty or any future ventures into the unknown. I am far more skeptical of this venture than my forebears and believe their quest was doomed from the start. They, however, assumed that reality could be fully mapped, that you could come to the end of it or the bottom of it in some sense. That you could express the whole thing in one map or one equation. And as I mentioned before, the other thing is: they got this damnable idea to rebuild the territory as they outlined it on their map. I suppose they must have felt the only secure knowledge was what they could know of their own inventions. You can only argue with a map if you compare it to the real territory it represents, but they had forsaken the territory for their maps, which they built large and literally as a new place to live quite outside of Nature. They became obsessed with *necessary* knowledge, which can only consist of the artificial things people have defined into being.”

“Whoa, you’ve lost me there. But does this have anything to do with the difference between natural laws, like gravitation, and the rules of a game like Monopoly, for instance? A friend of mine was telling me about this. If that’s it, then I guess I can see what you mean, since they are both *rules*, but one exists naturally and the other is made up. Nature must be observed, and we can be wrong about it, while we can’t be wrong about the rules of a game we have made up, at least if they come in print as part of the game. Is that what you mean?”

“Exactly. Logically ‘necessary’ knowledge is true by definition, but what we know of Nature depends on what Nature really is and how we investigate it. Therefore we can be wrong about it. I would be careful, however, about saying that such laws exist ‘naturally’. Laws of Nature, too, are human creations, but the point of them is to organize what we have observed of Nature, to express that in a tidy way. That’s what a map is supposed to do. What happened to my people is that

they mistook the map for the territory, and became so obsessed with the tidy expressions of their maps, about which they could not be wrong, that they forgot about Nature and decided it would be safer and more comfortable to live in environments built according to their 'infallible' maps. They wanted knowledge that was complete and secure, but also a complete and secure environment. Therefore, they turned to their maps for knowledge and chose to live in their models, which they constructed full-scale as physical environments. These they called buildings, and cities, and civilizations—the Empire. They abandoned Nature and moved into a world of activities and meanings they had defined themselves, which they called 'culture'. By so doing, they abandoned reality and chose to live among their own creations, enfolded in their own thought."

"But why call some knowledge 'necessary'?" objected Alisha.

"It's not necessary in the sense of indispensable, but in the sense that it can't be faulted. For instance, 'all girls are girls' doesn't tell you much, but it is true no matter which girls we are talking about, or what period of history, or on what planet. It's true by definition, though no doubt we got our ideas of logic from the real world, where things remain more or less what they are. 'All water is water' is necessarily true if we agree on the meaning of water. It may not be true if sometimes we mean steam or ice. It may not be true on the streets of your Monopoly, where 'water' is not defined."

"But if it can't tell us anything we don't already know, why was it so important to them?" Alilsha insisted.

"Because, while nearly useless, logical truth is totally dependable. Remember, the Empire was obsessed with certainty. They felt they could not be mistaken about the things they had made themselves—their maps and inventions. The result is that they made a world that resembled the real world, but with all uncertainty taken out. A perfectly idealized world."

"I see," said Alisha yawning thoughtfully. "That was a very good sandwich, Señor Borges, and I *have* found all this very interesting. I don't mean to be rude, but I confess I often feel a little drowsy after lunch. I think I should be going now. I'm very glad to have met you and I do hope you can locate your friends."

Borges escorted her to the great entrance door, where they exchanged goodbyes. He nodded respectfully with a little click of the heels and closed the door gently after her. After the somber obscurity of the museum, it seemed like a bright summer day in the streets of Monopolyworld. She curled up on the steps of the entry and dozed off...

"Oh, Miss Savanti, there you are. I must have nodded off. I haven't had a good night's sleep in ages."

“Hi, Alisha. Sorry to keep you waiting. I had to go up to the office right after class. But I’m free now. What’s on your mind?”

Alisha had asked to meet with her teacher after school, to try to catch up in making sense of her dream life. “As a matter of fact, I was just now back in a most amazing dream I had last night. It seemed to go on for hours, but I guess I’ve only been here a few minutes,” she said, glancing again at the clock.

“Tell me about it,” prompted her teacher.

Well, I’m glad I took Spanish this year, because I just met Horhay Looeess Borhez,” she carefully enunciated. “In the dream he was the head librarian of...” and she recounted in detail the whole conversation, still fresh in her memory.

“Borges actually was the head of the Argentine national library in later life,” Miss Savanti informed her. “He’s an enigmatic character because he so cleverly blurs the line between fact and fiction. His own writings are full of allusions to imaginary books and, of course, the imaginary Infinite Library, of which he was the director in your dream. This was his metaphor of conceptual space, I suppose. What we now call cyberspace is right on that blurry line: a potentially limitless conceptual space that depends on physically limited information storage. Obviously you’ve read his passage about the full-scale map of the realm, which points to two paradoxes, or at least peculiarities. The first, as you noted in the dream, is the obvious problem of where to put it. The other involves recursion: a complete full-scale map of the world would have to include a representation of itself, which would have to include a representation of itself in turn, and so on. What’s interesting about your dream, however, is that you see beyond these aspects to deeper issues. Recursion, for example, is not really problematic, because the map or model is not a literal duplication but is always selective, idealized, symbolic. There can be no true one-to-one correspondence between a real territory and any map, which is always an abstraction of some sort. The idea of mapping is a mathematical concept that applies to mathematical objects, like sets. But these are already idealizations, man-made products of definition like your maps. A one-to-one correspondence can exist between maps, but not between a map and physical reality. *Unless*, I should add, physical reality itself turns out to be nothing more than a map—or a dream!”

“Wow. I didn’t quite follow all of that, but I think I get the gist of what you mean. Maps, like all concepts, are things we have defined. But reality is not. The difference is that anything we make is limited, just an outline. Like a game, it only has the features that have been put into it. But reality may be unlimited in detail. We didn’t make it, it’s just there. We may never know all of what it contains. We have our scientific ideas about Nature, but these are like maps—limited and maybe inaccurate. Different maps or ideas can translate into each

other, but no map or idea can ever fit reality perfectly. Unless, as you say, it turns out that the world is not real—whatever that could mean!”

“That’s great, Alisha. I couldn’t have said it better. And your dream shows something else. In the story by the real Borges, the absurdity of a one-to-one mapping of the world is that it can only overlay the real territory it maps. There is nowhere else to put it. This is exactly what civilization does, as the Borges in your dream points out. Of course, we imagine completely artificial environments in science fiction, and have actually begun to build one in orbit around the earth. On the ground, however, the only place to build our cities is where Nature once was, using materials that were originally natural. Civilization is our tangible way to reduce the richness of Nature to the simplified contours of a map. The grid of civilization overlays the natural landscape, and so displaces Nature. We are steadily transforming the planet into our own map-like version of it.”

“Miss Savanti, why do you think we do all that? When you describe it that way, it reminds me of the mapmakers in the dream.”

“As your Borges explained, we fear uncertainty, and our life in Nature has always been intolerably uncertain. There is one kind of knowledge that has traditionally seemed exempt from Nature’s contingencies, and that’s logical truth or necessity. But I think the category is broader than formal logic. An Italian fellow in the early eighteenth century, Giambattista Vico, came up with a concept he called *maker’s knowledge*, which is the idea that we know best the things we make; and what we know least is Nature, which we didn’t make. It can be argued that logic, as well as the laws of Nature, are human inventions. I don’t mean the natural patterns or relationships that underlie them, but the expressions of these that people have made. It could also be argued that *any* human creation is an expression that can be formalized logically. Machines are a perfect example, since a machine is equivalent to a logical system, like a game. So is a map. What your dream points to is the understandable preference for logical systems over natural systems—for the map over the territory. Because these are things we have made, we can know them better and be more sure of them. So, our scientists prefer tidy equations to the messiness of Nature and are tempted to believe these equations represent Nature as it really is. Our governments try to substitute man-made laws for the laws of the jungle—for our genetic inheritance—and our religions believe we really are spirit beings rather than animals made of meat. In a similar way, our engineers and developers try to build an idealized man-made world as our home outside of Nature, believing such a thing is possible without destroying Nature in the process. But I share the skepticism of your friendly librarian. These projects have mostly backfired, literally blown up in our faces. We’ve taken the beast out of the jungle but not out of our

hearts. And just as there is no place outside Nature to put our map, there is nothing of which to build the physical Empire but materials found in Nature. Nature itself is the world we found, in contrast to the one we try to make. It's the unknown, which was here before us, which we did not make and can never escape, except into our minds and creations. And even our minds depend on natural materials and processes. Our brains and our computers, and all of our culture, are still part of the physical world, which will always be the context for our lives and anything people do.

“Well, I see it's getting late, my friend. I hope you can get a good night's sleep tonight. Don't forget there's a science test in the morning. You should save some time to review the lessons on Relativity.”

Chapter Twelve: The Blind Physicists

Chapter Thirteen: The Butterfly's Dream

"I just can't bear it any longer, this feeling that I'm not real! But having a body is just too big a price to pay."

Alisha laughed. Zed was always complaining about something or other. What a hypochondriac! But what was he on about this time? It did not surprise her that he should still have an issue about not being real, since he was never anything but a fictitious character invented by her own subconscious. Perhaps she felt mildly guilty about this. Nevertheless, she decided to play along with his bellyaching, since this was obviously another dream and she wanted to see where it might lead.

"And just what sort of feeling is that?" she quipped.

Not quite registering her sarcasm, he continued. "Well, I had the strangest dream last night..."

"*You* had a dream? Well that's a switch!"

"Yes, and you were in it. In fact, somehow I *became* you. But that was only after I became quite a lot of other things first. The distressing thing is that I started out as, well, an *angel*—or at any rate a spirit, with no body, you see. Not so different from being a hologram, really. From that exalted state I sort of *fell* into, I'm embarrassed to say, the bodies of various loathsome creatures. Frankly, it was horrifying."

"You poor dear. As an angel, did you have big white fluffy wings?"

"Alisha, it's unkind of you not to take this seriously," he chided.

"Very tempting, though," she chortled, and then added: "All right, go ahead. I'm listening." Casting her a reproachful look that said, *OK, do I have your attention now?* he continued:

"In succession I found myself to be an amoeba, a worm, a fish, a bird, a rodent of some sort, an ape, and—to top it all off—human. Before all that I had no body at all, so *of course there were no wings!*"

"I see", she said softly, trying to smooth his ruffled would-be angel feathers. "Well, it *is* interesting that people have always pictured angels as birdlike creatures, don't you think? What was the difference, in your dream, between being a bird and being an angel?"

"Oh, all the difference in the world! As a bird, my attention flitted around from one thing to another. All I could think of was where the next mouthful would come from, if you can call that thinking. I was constantly afraid something was going to pounce on me and tear me apart, so I was ceaselessly on the alert and darting about. Having eyes on the sides of my head made it easier to see all around, but also gave me a disoriented feeling. I suppose a real bird would be used to it, but I had just come from a very different state. With no body to feed and protect, there was no hunger and nothing to be afraid of. As an

angel I could never be in pain and there was nothing I needed. Everything was stillness itself, because there was no reason to move or get excited, and no body to swing into action. I could look on whatever was happening with complete equanimity and only the mildest interest. In fact I could look at it no other way. I was literally above it all, or beyond. I suppose the image people have of angels is ironic, because being a bird seemed the very opposite, except for the aerial view.”

“Sounds like you’ve changed your tune about not having a body, old chum. You used to complain about it so. It seems like you sort of worked your way up the evolutionary ladder, body-wise. Wasn’t that your dream come true, to have some meat on your bones?”

“All right, I admit I sometimes did get carried away. Perhaps this dream did help settle something for me. The truth is, now I feel more sorry for you than for myself. I can see now it’s no picnic being real.”

Alisha smiled at him. Now, at least she could feel guiltless about his disembodied state. Now she could listen to his dream with the same impartial attentiveness with which Miss Savanti listened to hers. “What was it like to be an amoeba?” she asked with genuine interest.

“I can’t say that amoebas are very bright. In truth, I don’t know if that was any kind of experience at all. It’s more like I just somehow know that I spent eons as an amoeba and that there wasn’t much to it from an angel point of view.”

“Okay, then, how about a rat?” she suggested.

“I suppose it was a rat I was, or perhaps a mouse. I had no *concept* of what I was, you see—or any other sort of concept. I couldn’t see terribly well, but the whole world sure was one big overwhelming smell! Aside from food, all I could think about was, uh, well... the scents of female rats. Danger smelled like a cat, but that isn’t how I met my horrifying end. I had a funny feeling about that cheese, but it smelled perfectly delicious and then WHAM! my neck was crushed and I flailed about in the worst agony you can imagine, until I passed out from exhaustion...”

“That’s terrible,” Alisha shuddered. “I don’t think I would care to be a rodent and, from what you said, I wouldn’t even notice being an amoeba. But what about being a monkey?”

“A young female chimpanzee, actually. That was quite a different story. Rather close to being a human, I’d say—not that I recommend either in the final analysis. What struck me most is how tuned to one another we were—about a dozen of us in all. This had its good and its bad points. I suppose I mean from a human perspective, since an angel couldn’t have cared less! We shared food and it was comforting to feel that the others kept a watchful eye out for dangers, taking some of the edge off terror for each of us. In some ways, we

had it made, a cushy life, but there were real threats and sometimes these came from other groups like ours. We did take care of each other, which strengthened our group, but there was a strict pecking order and you had to watch out for certain individuals, not to cross them or get in their way. You could improve your position in the group by kissing ass—and I do mean literally—and through a certain amount of conniving. Like people, we were clever enough to lie and cheat. On the other hand, we loved to play, especially the youngsters. Moreover, we were, uh, I should say entirely obsessed with sex. Unlike humans, this was limited to certain times for each female. And when my time came, all hell broke loose. My nether parts would swell up and, well, I confess I went about in the most provocative ways advertising my readiness to all indiscriminately, and the males simply jumped on me one after another.”

“I see,” Alisha blushed, a little taken aback. “That doesn’t sound very romantic or civilized. I guess you chimps don’t have marriage, or dating, or whatever.”

“Hey, it was only a dream, remember? But as a matter of fact, male and female chimps are about the same size, so it wasn’t as scary as you might imagine. Male gorillas, in contrast, are much bigger than females. A strong male gorilla will jealously lord it over a number of females he keeps for himself, fighting off all competitors and keeping his harem in line. He doesn’t make a very good stepfather and may kill any offspring he suspects are not his own. Does that sound more civilized?”

“No,” she said softly, realizing he probably felt defensive. “I’m glad I’m not any kind of ape. Or other creature either. It doesn’t seem like much fun or even very interesting to be most animals.”

“There is something I haven’t mentioned yet,” he continued. Before I became you in the dream, I dropped into the bodies of a few other humans too. First, I was an Australian aborigine, about twenty thousand years ago. Then I was a slave girl in ancient Babylonia. Finally, I was a seventeen year old Russian soldier who died in a German prisoner of war camp in 1944. That wasn’t so much fun either. But actual experiences, however awful, were not the worst of it. The worst is something I can hardly put my finger on. Something about the whole business of having a human finger at all!”

“What do you mean, Zed?” she asked. “What could be wrong with having a finger?”

“You are quite right that the life of animals is unenviable,” he continued. “Mostly I found it painful, horrifying, and depressing to have any sort of body at all. If you aren’t being eaten alive, by predator or disease, then you are killing some other creature to feed yourself. It’s a disgraceful existence, brutal and messy from an angel’s point of view. You have no free will, and nothing much but sleep to fill any free time.

Love and romance and family life are not part of free time but part of survival, driven by instinct. The young may have play time, but it usually serves to train for adult survival. At the end of it all, one way or another, whatever body you have *dies*. Nature has no room for immortal creatures. Bodies are designed to live long enough to reproduce, since otherwise the system wouldn't continue. But anything more is gravy.

"What I've been learning, however, is that the life of a human body is not much better or so very different. You live a little longer than most animals, if lucky. Even though you've eliminated the great beasts who used to tear you limb from limb, you are still prey to disease and decay, in constant struggle against attack from within by tiny predators. The very moment your body relaxes its grip on life, it becomes food for flies and maggots. You are still driven by instincts, which lead on the one hand to overpopulation and, on the other, to wars that help alleviate overpopulation. Both bring starvation, misery, destruction and despair. You've created your own environments to get away from nature 'red in tooth and claw', but you carry that nature within you in spite of all the best intentions to become more like angels than beasts. But the worst of it is: while you have a limited and mortal body, you have unlimited imagination. This, I have found, is a devastating combination."

"Go on," she prompted. "This reminds me of something Miss Savanti said, but I still don't get your drift."

"Look. Remember Monopolyworld? The horrifying thing about human consciousness is that you are stuck with ready-made games, but your consciousness cannot be contained in any game. You are a *player*, right, not just a playing piece? That's the difference between a self-conscious creature and one that is not. You don't completely fit within any particular game. The whole universe is your playing field, but it's still too small. Your body is part of it, but you do not coincide perfectly with your body. You have a loose and shifting relationship with your body, which demands and shapes your attention in many ways, but not totally. Nature provides the playing field and the rules, but your relationship to the game is too loose for that to be a comfort when you need it. You can take refuge in a faith of some sort, but a part of you will always doubt. For nothing can be absolutely proven. Oh, you can prove things, given some assumptions—like proving theorems in geometry—but you can always question the assumptions."

"I'm afraid this is not getting any clearer, Zed. Come back to the human finger. What did you mean by that?"

"OK. The human hand is like the human consciousness. In fact, a huge amount of your brain is dedicated to the hand. You make things with that hand, you transform your whole environment. It's both the instrument and the symbol of your whole relationship with the

world. And it can point—both to things in the world and to things in your own imagination and experience. Your finger can point away from you, toward elements of the game, but it can also point beyond the game, reminding you that you are a player who is not properly an element of any game. What are you, then? You humans have made up the idea of ‘spirit’ as another thing to point to, as an element of some larger game. Forgive the expression, but this misses the point! Everything you can know about refers to some game or other, with structure and rules. That’s what knowledge can be for a creature with a body, even a self-conscious one. But add to this the fact that you always *know* this, because you are a player who stands outside the game, and then you have the basis for incredible suffering—not to mention dizziness. It is the suffering of knowing that you can never know anything with absolute certainty. You always suspect in your bones that anything you believe might be mere imagination, a game you’ve made up or decided to play as whimsically as Monopoly on a rainy afternoon. It’s the suffering of having no place where you really belong, no natural home. I’m convinced that’s why you’ve taken over your planet, to transform it into human habitat. Your species realized there is no home for you but one you make yourselves.”

There was a long period of silence while Alisha digested all this. It brought to mind Señor Borges and the projects of his ancestors. “Tell me about the slave girl,” she said quietly.

“Ah yes. As it turned out, her name was rather like yours, and she too was fifteen years old. But her circumstances were quite different. Women in that time and place mostly had a sad lot. Every female was the property of some man—either her father, or her husband, or some other master if she was a slave. There was one more possibility: she could be a prostitute, but that was little different than being a slave, and many female slaves were sold or rented for prostitution. Wives were encouraged to wear veils, much like wedding rings are used today. So it was a crime for a prostitute to wear the veil—to pretend, in other words, that she was under the protection of some particular man. And without that protection, she was fair game for all men—communal property, so to speak. The lot of children was not much better. A father could do what he liked with his property, which included his children. Under Babylonian law, a man could sell his whole family into slavery in order to pay off a debt.

“This girl, however, was from a conquered tribe, acquired in battle, a spoil of war. Her master was a high ranking soldier. The men under his command had killed her father and nearly everyone in their village. The bodies were left to rot in the sun, in great piles swarming with flies. She and her mother and a few other attractive or able bodied women and their children were spared to become domestic

servants. The goods and animals of the raided town were hauled off as well.

“Like you, at fifteen she was a strong, nice looking young woman. But several of her many siblings had died in birth or before or after—some deliberately allowed to perish simply because they were not male. Her older brothers were killed fighting along side their father. The girl survived because she was healthy and pretty.

“I’ve come to the conclusion that the experience of being ‘civilized’ has not been a pleasant one for most humans who have ever walked the earth. When not ravaged by wars, your kind have suffered terribly from droughts and starvation, epidemics and earthquakes. The great majority of people throughout history, if not literal slaves, have been serfs of one kind or another, working to enrich overlords few in number but powerful and ruthless. The more organized people have become, the better the few have been able to dominate the many. And I can’t help thinking this ‘progress’ is all in vain, all to flee an inescapable anxiety that is built into your double identity. On the one had you are driven by your genes—by the game. On the other, you are driven to try to transcend your genes with civilizing ways. But underlying all that, you are driven by an incurable uncertainty about what is really going on here in ‘existence’. Perhaps that’s why the aborigines didn’t bother pursuing agriculture and so-called civilization. Of course, forty thousand years ago it probably wasn’t a thought in anyone’s mind. And maybe the aborigines simply stuck with their hunting and foraging because that was all they knew and Australia was cut off from any outside influence until the arrival of Europeans. Who knows?”

“Well, Zed, I don’t know either. Thinking about all that just makes me tired. I’d like to know more, but I guess I’d rather hear, finally, what it’s like to be *me*—I mean according to you, of course.” The words came with increasing difficulty. She had to find each one from deep inside and pull it into the open with effort to hold the thought together. “This is what this has all led up to, no? What is it like for a fictitious... older male... angel, if you say so... to dream of himself as a fifteen year old girl... who invented *him* in her own nightmares? I suppose that, right now, what it is like to be me is pretty confused. But that’s it, isn’t it—the point of this dream... what I’m supposed to ask you and what you’re supposed to tell me before I...”

But already the question had slipped away and Zed was gone.

Certainly she had a great deal to discuss with Miss Savanti, and the sooner the better. The dreams had taken a whole new tack. They weren’t even *her* dreams anymore. There was a different tone now, of sadness. If there was no longer rhyme or reason, and if the world was really such a nasty place, what could she look forward to except losing

her mind? And one day... her body. That afternoon, she recounted the whole story to her mentor.

“Okay.” Miss Savanti commenced with her usual calm. “Let’s go back to the beginning and look at the structure of the whole dream. As you noted, it’s a progression through evolutionary time. What I find most interesting, philosophically, is the beginning point—which is altogether outside time. You must have been doing some pretty wide reading lately, because in this dream you explore the subjective experience of various creatures, move on to try out the experience of people through history, and end up with a paradoxical thought experiment about your own experience: what it would be like to be you from someone else’s perspective—a someone who happens to be a part of you and imaginary. The phases of the dream all have to do with having a body, but they are all approached from the ‘angel’s’ point of view. *He* has no body and no location in time. The dream seems to be not about particular experiences, as they happen to various creatures, so much as about what it means to have a body and live in this world at all. What strikes me is that, even in a dream, you are forced to take the same position to explore this question that mankind has always had to take.”

Alisha looked puzzled. “What position is that?”

“Well, who do you know who doesn’t have a body? It seems that the particular body and brain we have shapes our ‘movie’, as we’ve called it. But the only way to really get a handle on *how* it is shaped in each case is by trying to imagine what it would be like to have no body at all, to start from zero, so to speak.”

“I guess I see what you mean. We have to have some outside point of reference. But even then we can still only *imagine* what it is like to be other creatures or even other people. We can’t really know. So how does it help to imagine being nobody at all?”

“A good question, Alisha. Okay, here’s what I’m getting at: as soon as people grasped the idea of experience itself, they must have felt compelled to try to understand the experience of others, which certainly would have helped them to get along. In any case, they were led to the idea of *subjectivity*—that there might be an inner world behind each person’s eyes, and that each person or creature might see the outer world differently. And that must have been a very confusing thought, in a way, because then what is the world *really* like? Whose perception is right? Every point of view is tied to a body. That body’s point of view is from a particular place in time and space, and depends on a particular biology and life history. This must have led people to think that an *objective* point of view would be a disembodied one, and outside of time. A view from nowhere and by nobody in particular.”

“But that’s impossible, right? Unless you do believe in spirits and angels...or God...” Alisha fell thoughtfully silent and her teacher regarded her affectionately a few moments before answering.

“I’m sure that the longing for a point of view ‘above it all’ is a very human motivation for belief in God. But certainly not the only one. I won’t presume to judge whether God exists—that’s a whole other question. But I will say that people have every reason to hope so. For one thing, we are creatures who grew up in families, with parents who cared for us, provided for us, protected us. It would be very natural for such creatures to hope for a big invisible parent to continue looking after them even as adults. But there are other reasons for believing in life beyond the body’s life. People find it hard to come to terms with death. Or disease and pain. Because we have also experienced ease and tranquility, and life that goes on and on, day after day and generation after generation. We can imagine and wish for these as permanent states, as permanent happiness, an escape from suffering. Most important of all, we cannot really imagine ourselves coming to an *end*. Even if we picture the death of our beloved and familiar body, already that picture is part of a continuing awareness. We can grasp the material body passing away, but not our very consciousness. It is easy to jump from there to the idea that the *real* self is nonmaterial and eternal. You could say that the soul immortalizes the human personality and God *idealizes* it. You could also say that people are strongly motivated to deny mortality and their whole dependence on the frail body.”

“But do animals worry about death, or think they will live in an afterlife, or be reborn in some other form? Do they see themselves as separate from their bodies?”

“First tell me what *you* think, Alisha.” This was Miss Savanti’s standard tactic in philosophical discussions. Alisha collected her thoughts and then replied.

“Well, no, I guess not. We can’t be really certain of any experience but our own. But judging by how they act, most animals don’t seem to have a concept of themselves at all. Maybe chimpanzees do, and maybe whales and dolphins, and elephants. Sometimes I think our dog does—but probably not the cat! Maybe the main question is whether creatures are aware of time and how their lives inevitably will come to an end—if they aren’t killed and eaten by something else first.”

“That’s very well put.” Miss Savanti paused to see if Alisha would continue, then resumed herself. “Another aspect of this problem is language. Probably what we call thinking depends on using language the way that people do—not just as communication with others but also with ourselves. It seems that the ability to think abstractly may depend on language or be modeled on it. Animals

communicate with signals of various sorts—cries and growls and so forth—but not *symbols* as humans do. Words are symbols of concepts, and concepts may be combined in imagination the way that words can be combined in sentences. A statement does not have to be true or even sensible. Remember that *Jabberwocky* poem? All those are perfectly good sentences, even though they are complete nonsense. And I don't think it is any coincidence that we can invent things to say and also invent things to build. Both are structures that come from imagination and both feed imagination in turn. In other words, I'm not convinced a creature can grasp something as abstract as mortality or eternity without having the structured sort of language that humans have. After all, built-in mortality is not so obvious, even as an outcome of aging. We still don't fully understand it scientifically. In ancient times, people were used to dying from disease, mishap, starvation, or by being killed by a beast or another human being, long before they could die of 'old age'. They were used to seeing death *caused* and must have thought that if someone died it could only be because someone or something had killed them deliberately. When there was no apparent cause, it was easier to believe in magic than in an 'automatic' end. And easier to believe that the end of the body is not a final end of consciousness. Most religions hold that our consciousness or soul will either be reincarnated in a new body or else continue after death in a disembodied state. It is interesting that the religions most concerned with a life separate from the body are also most obsessed with mortality. The body becomes a temporary prison, the enemy, while *real* life only starts after death! It seems that the hardest thing for people to stomach is the absolute end of their existence." Miss Savanti paused, but Alisha said nothing, and after a moment her teacher resumed:

"Well, it's getting late. I guess we should call it a day. There is one more thing I should mention, though, just to be fair. I don't myself believe in a God or the soul or that our consciousness can exist without the brain and body. But those are *my* beliefs, and they reflect an attitude that is generally called Materialism, in the philosophical sense, which is the belief that what is real is matter and physical events. The opposite view is called Idealism—the belief that what is real is mind or thought or ideas or 'spirit'. It just as well could be that we are spiritual or mental beings who made up the sense of living in a material world to help explain this rather bizarre hallucination called life! There is no way to prove one or the other, because there is no higher ground to stand on than these two perspectives offer. I think this is what your Zed friend was getting at when he talked about the inescapable uncertainty at the root of human suffering. Your dream reminds me of an ancient one reported by a Chinese philosopher, a dream so convincing that he woke up wondering whether he was a man dreaming that he was a

butterfly or whether he was really a butterfly dreaming he was a man. His point was that you can't really tell for sure. And so some people will be convinced one way and some the other."

Chapter Fourteen: The End

The end was like the beginning. It had been exactly one year since Alisha turned fifteen and it had been the most unusual and serious year of her life. It had all started with a fortune cookie. Her dreams had been filled with strange explorations and an odd character named Zed. Her days, it is true, had been challenging too. That was the year of her mind's awakening, with long hours of eager study and intense chats with her favorite teacher, which were either the cause or the effect of her fantastic adventures—it now hardly seemed to matter which. But, of course, they were both! Fondly, she remembered Zed's "thing" about "either/or".

And Zed? Well, she'd seen nothing of him for quite a while. He seemed to have disappeared back into whatever compartment of her seething imagination he'd come from. If the genie was back in the bottle, maybe it was because he'd taken up dreaming himself and couldn't any longer be bothered to haunt *her* dreams. Or perhaps he'd outgrown his envy of mortal creatures. Or maybe it was just because her own brain had settled down some. No longer afraid of losing her mind, she wondered more at the madness of other people's so-called sanity. At the accepted craziness of a world where many people starved because a few had too much, and where people *didn't* think every day about their own inevitable end. Just then, as she lay in bed in the dark with her eyes closed, after a full and fun day on which it was her sixteenth birthday in the world, a familiar tune drifted into her head. "*Row, row, row your boat, gently down the stream. Merrily, merrily, merrily, merrily, life is but a dream...*" And down that river she pleasantly drifted.

She dreamt of herself lying there in her room, cozy under the covers, and through her closed eyelids she could see the red light blinking. *Exit*, it flashed. Without even opening her eyes, she looked around the room for Zed. Nothing. This was the first *Zed* dream she'd had in weeks, but no Zed. There was only one thing to do. Without hesitation, and without, in fact, even moving a muscle, she rose from the bed toward the red light and gave it a firm push.

Nothing happened, except the red light disappeared. She noticed a subtle difference though. The room seemed darker, stiller, if that was possible. In fact, absolutely dark and absolutely still. With a start, she opened her eyes—or thought she did—but couldn't feel them opening or see anything at all. Once again she rose—or thought she did—but hadn't felt her hands grasp the covers to throw them aside nor the pressure of her body against the bed. She reached down and thought her hands passed right through where the bed should be, and could not feel her palms touching each other when she put them

together—or thought she did. The silence was absolute. She could not hear or feel her own blood pulsing. Nor smell or taste anything. *I can't see, I can't hear, I can't feel anything at all*, she thought, but without panic. *Could I be... dead, then?* No, she answered her own question: *I'm still thinking. Good old Descartes!* she mused. Then, after a moment more of pondering the novelty of the situation, *But what if life really is a dream? Am I a live Materialist dreaming she is dead, or an Idealist who dreamt of being alive and now the dream has simply changed?* Just then the lights went on and there was Zed sitting at the foot of the bed, smiling broadly.

“What are you grinning about?” she frowned, trying to adjust her eyes to the light.

“Well, for one thing I’m pleased to see you’re still with us. I thought you were a goner there for a moment. So, tell me, what’s it like to have no body—according to *you*.” He was also obviously pleased to put the shoe on the other foot at last, so to speak.

“You should know,” Alisha retorted, glad for this familiar exchange of wit. “You know everything I know even before I do! And anyway, I thought *you* were the goner. Where have you been? Well, never mind—I guess I know that. But why have you come back now?”

“Oh, just to say goodbye, really. To wrap things up. To tie up loose ends. To close the deal? To nail the coffin? To make sure bygones are really gone? To...”

“Okay, I get it. Thanks for dropping by. This isn’t maybe the best time, though. After all, I *was* right in the middle of being dead, or whatever.”

“Shall I come back later, then? Just kidding...”

“Me too, I was just kidding. I really am glad to see you. As glad as a person can be while dreaming they have no body! I haven’t figured out this Idealism and Materialism thing yet. What would you say about it?”

“What *can* I say? I don’t even exist. I’m your creation. I have to think whatever you want me to think. I’m the one who has no body, and no mind of his own either. Let me tell you, it’s a rotten deal being a program, and one who’s only a figment at that...”

“Okay, Zed, I didn’t mean to get you started,” she interrupted. “I was just wondering if some remote corner of my mind might condescend to shed some light on this question that the rest of me hasn’t thought of yet.”

“Since you put it that way... I can’t really see the sense of dwelling on *nothing*.” Alisha rolled her eyes at this, but he continued: “I mean, when you die, either that’s the end of your experience or its not. And if it’s not, then you will continue to experience *something*, and it won’t be just you alone in a pitch-black void talking to yourself forever, will it? On the other hand, I think that may just be my old envy

speaking. It's *me*, you know, who has to return to the silent void and suffer his own boring company for all eternity, just because you don't need me any more. There's nothing ideal about that—and certainly nothing material! You humans are always trying to get out of your bodies, while I—deluded, to be sure—only ever wished I had one! You're all terribly materialistic, though, always wanting more, more, more of things, things, things. Even newer and better bodies. And at the same time you're deeply threatened by anything you haven't invented yourselves. That's your Idealism for you! But have you ever thought what it's like to *be* one of your creations? Especially one that will never be more than an idea, a passing thought? We deserve better treatment, you know, some respect. After all, we are the dreams that stuff is made of. It's fine for you people to make robots and all to keep you company or whatever. Maybe one day they will be able to think and feel and be *real*—all because they too have bodies. Better steel and plastic and wires and computer chips than nothing at all! Or so you let me believe all this time. But what about us poor A's through Z's who are the mere thoughts behind inventions, not even *words* yet, just the flimsy imaginary pets you let out of your unconscious to stretch their legs, at your whim, during a pleasant sleep?"

"Calm down, Zed, I'll never get a pleasant sleep like this. Maybe it is a little unfair that I can take your suggestions seriously but not your whining. But please, can we stick to the point?"

"Your point, you mean?" he said petulantly. "Well, at least you *do* listen to me. Lord knows no one else does. Come to think of it, no one else *can*! Is that fair? I don't even *know* anyone else! Alright," he said after a moment. "I'll pull myself together. After all, this is our farewell. Our grand finale. The end of the line. The last of the Mohicans. The..."

"Zed! Enough!"

"Okay," he squeaked in a tiny voice. He seemed to be shrinking and she thought she saw a glimmer of tears in his eyes.

"Are you really sad, Zed? I'll miss you too, you know." She reached out to give him a hug but her arms passed right through him. They both laughed. "One of us, at the very least, is not real," she said, and they laughed again.

The End (really)