# The Core

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## 1

Vistas unthinkable—speed beyond all imagining—Sphere Nine followed its course.

Unrelieved blackness alternated with dazzling star-clusters; from rim to rim of the universe stretched the thin line that marked the hero’s way.

Heroism died, they say, when the “superiors” opened up the last few stubborn cubic centimeters of brain cells; it died when the last of the “ordinaries” died with a curse on his lips. Well, so perhaps it was. But this is a story of the days when superiors were new and a little odd, when they were the exception to Homo sapiens.

On Sphere Nine there were four superiors and a dozen ordinaries. Will Archer, executive officer, was a superior of the third generation, big-browed, golden-eyed. Mamie Tung was an experiment, the psychologist, court of last appeal in all emotional disputes. From what records we have, it appears that Mamie Tung was of average height, slender to emaciation.

Star Macduff, the calculating officer, had three strong superior strains and as many of ordinary. But it was necessary that he be of the complement, for there wasn’t another man in the solar system who could touch him for math. Yancey Mears, white female superior, was the clericalist and tabulator, serving as many as needed her, at the same time doing her own work of photographing and mapping the unfamiliar stars.

The ordinaries surrendered their names on entering Sphere Nine; they were known as Ratings One–Twelve.

Very gravely Will Archer cocked his cap and leaned back. “Rating Seven, what have you to say for yourself?”

The knotty-muscled man wrung his hands nervously, stammered something unintelligible.

Archer blinked for Mamie Tung.

The golden-skinned woman slipped through the pipe, sized up the situation in one practiced glance. “What’s your number, handsome?”

That was the way the psychologist worked; flattery, humor, and an easy job of fact-finding at first. And the man would gain confidence from the very sound of his number as she spoke it. You can’t find anything out from a man paralyzed with terror.

“Seven, madame.”

“Quite a builder, aren’t you, Seven?”

“I’m sorry, madame—I didn’t mean to let them loose…”

“How many are there?”

“Ten. We used to watch them fight…”

A little metallic streak scrambled across the floor. Will Archer, in less than a split second, had hurled a filing-case at it. It buzzed, sparked and was still.

It was indeed a greatly-improved specimen of a tinc, the strange, actually living mechanisms which had been developed back on Earth for amusements. The Terrestrial tincs had something less than the intelligence of a dog, but could be trained for combat with fellow machines. Tinc-fights were all the rage.

But what Rating Seven had done, Archer realized at once, had been to raise both the intelligence and the capacity of the tinc to a point where it could easily become a first-class menace. These mechanisms were independent, inventive, and capable of reproduction; all ten must be found and destroyed at once.

Mamie Tung picked it up with a pair of insulated pliers. “Very good workmanship. Admirable. But now that they’re scattered all over the ship what are you going to do about it?”

Rating Seven cleared his throat noisily. “They only have two directives, madame. One’s interspecific fighting and the other’s avoiding cold. I was thinking that maybe I could make a kind of bigger one to hunt them down…”

“No,” said Will Archer conclusively. “You’re pretty good, but I wouldn’t trust you not to make something that chewed up relays or Bohlmann metal. You may go.”

Mamie Tung flopped on a couch. “Glory! The things we have to do!”

“Don’t get any qualms now. I’ll make some kind of magnet that’ll draw their visual elements. Then we can bat them to pieces. Blink Star, will you?”

Mamie Tung extended a golden arm to signal the calculator in his quarters. She wrinkled her pugged nose curiously: “Just how good is that Rating Seven?”

“Very good indeed,” said Will Archer, turning the little machine over in his hands. “Fine workmanship. He knew when to stop, too. Could’ve stuck ears on it, given it lights—too bad.”

“Seven goes?”

“I’ll dispose of him in a few weeks. Make it look like an accident.”

The Calculator slid through the tube, made a mock salute. He was surprisingly young.

“Welcome, Star. Give me all relevant math for this tinc.”

“Very neat…haven’t seen one on the ship yet. They must be fast.”

Mamie Tung yawned a little. “Will’s going to liquidate Rating Seven.”

“Is that so? Necessary, I suppose?”

The psychologist smiled quietly and shrugged.

“Aren’t you going to give him any leeway, Archer?”

“I’d rather not. It won’t endanger the ship to lose him; keeping him on might. He’s maladjusted—that’s very plain. This business with the tincs—he’s too bright. If you wish I’ll hold a vote.”

The Calculator nodded. Mamie Tung blinked for Yancey Mears.

“Report on Rating Seven, Mamie.”

Rolling back her eyes a little, the Psychologist announced in a monotone:

“Physical condition, adequate. Emotional adjustment, seemingly imperfect. Submitted to glandular atonic treatment on the 23rd inst, submitted to repeated treatment on the 87th inst. Reading shows little difference in emotional level. Attitude: morose and incompatible. Occasionally aggressive. Alternate periods of subnormal servility and abnormal independence. Corresponds to a certain preliminary stage of a type of manic-depressive. Psychologist recommends liquidation, as treatment would substitute an equally dangerous attitude of frustrated egotism.”

“But can’t you reason with him?” burst out Star Macduff.

“Stick to your math,” said Yancey Mears as she entered. “I greet you, vanguard of mankind. Kill the midwit, I say.”

“I agree with the Psychologist and the Clericalist,” said Will Archer, clearing his throat. “Star?”

“I don’t know. Perhaps—Madame Tung, do you think it would help if I spoke to him?”

“No, Star—I don’t. The impact of your two personalities would be mutually exclusive. That’s something you can understand, seeing as it’s math.”

“I don’t understand it yet, madame. Archer, does that man have to die?”

Will Archer nodded to Yancey Mears.

“Naturally, Star. We wouldn’t argue with you if you told us that you’d reached a certain resultant. As for the emotional side—well, we allow for the fact that you’re half human…” She stopped, her face red.

“Bad slip, Yancey,” volunteered Mamie Tung. “Maybe you’d better have an atonic. I can operate on a femina superior as easily as a Homo sap.”

Star Macduff had covered his face with both hands. He dropped them to stare desperately at the Clericalist, his eyes bewildered. Yancey Mears met his gaze levelly, said simply: “I’m sorry, Star.”

The Computator’s shoulders quivered a little as he turned to the golden-skinned woman. “Madame Tung, maybe I’d better have an atonic. Perhaps if my glands weren’t—acting up—I wouldn’t forget every now and then that I’m one of the lower animals.”

“No,” said the Psychologist. “You’re too important. I have no data available; I don’t know whether glandular activity correlates with math-mindedness.”

“Nevertheless,” said Will Archer, “I order it.”

“Thank you, Archer,” said Star Macduff. He stepped through the tube; the Psychologist followed him, a supple flash of golden skin.

“That was kind of you, Will,” said Yancey Mears. “Maybe it wasn’t very bright.” She leaned back and shut her eyes.

“You’re using unreal figures, Yancey. The bearing of all this is solely on whether we return to Earth or not. I, for one, don’t much care whether we arrive personally or not—so long as the records of observations get into the proper hands. It’s such a terribly ticklish thing to be doing…lapsing one moment and letting emotion override judgment may tip the balance against a satisfactory solution to our personal equation. The moment our path ceases to be part of a perfect circle we, to all real purposes, cease to exist.”

“Is it so very important—this being the ninth sphere they’ve sent out?”

“It has legitimate bearing on improvement of the species. The cosmic rays, wherever they come from, upset our genetic plans; we can achieve success only in a certain small percentage of cases. We—you and I, personally—are examples of that small percentage. It is logic—common sense—what you will—to block off the cosmic rays before going any further in genetic work.

“And, before we know what to do to block them we must find out what they are. And before that we must find out where they come from. That is what we, personally, are engaged in doing.”

“Sounds big.”

“Is big,” said Will Archer somberly. “Why didn’t you want that glandular atonic?”

“Because I can control myself—I hope.”

“With respect to me?”

“Yes. Now, don’t go getting male. I’m going to wait till 1 see what happens to our Calculator first. If he quiets down sufficiently I’ll notify you. However, I won’t risk any emotional upset if he doesn’t.”

“And of course,” said Will Archer, tipping his cap over his eyes, “it might even be necessary to be unusually kind to him…”

“How unusually do you mean?”

Silence.

“No, Will. After all, he has three h. s. strains!”

“Not even if I order it?”

Yancey Mears took hold of a wall loop and pulled herself to her feet. “I’ll blink Mamie Tung tomorrow and tell her I’m ready for an atonic. That’s what you want, isn’t it?”

“That,” said Will Archer slowly, “is the very last thing I want.”

The Calculator slipped through the tube, checked neatly as he saw the two move slowly towards each other. Not by the blink of an eye did they betray that they were aware of his presence. Star Macduff did not move, stood flat-footed and mute, one hand reaching for something, he had forgotten what.

For a long moment in that ship there was no time. The forward slice, where batteries and files of business machinery clucked quietly away, doing duty for any one who would feed them figures; the midships slice where living quarters and offices were for superiors and ratings; the aft slice, greater than both the others combined, where electronic tension was built on ponderous discharge points and went cracking out into space at the rate of one bolt in every five-thousandth of a second; even out beyond the ship, even to the end of the shimmering, evanescent trail of electrons that it left as a wake, there was no time while those three stood in Executive Officer Will Archer’s office, two loving and one in hate unspeakable.

Mamie Tung stepped through the tube, took Star Macduff up by the arm after sizing up the situation in one swift glance. “Did you ask Will to enter the time of the operation?”

Will Archer and Yancey Mears snapped back to reality in a split-second. “Speak up, Mamie,” he said. “Yancey and I are going to enter permanent union.”

“I advise against it,” said the golden-skinned woman. “It will complicate our living arrangements.” She rolled back her eyes, breathing deeply, made as though to speak, but said nothing more.

“Congratulations,” said Star Macduff. “I’ll plot a joint life probability line for you two.”

“You needn’t bother.”

“It will be a pleasure, Archer.” The Computator left them standing silently, a little embarrassed.

“Again I advise against it, Will andYancey. What reasons have you for permanent union at this time?”

The Clericalist smiled a little bitterly. “The same reason you have against it, madame—love.”

“No!” The golden-skinned woman recoiled. “I haven’t done that—my judgment is still sound!”

“Prove that by leaving us alone, madame.”

The Psychologist clutched at the rim of the tube as though she were fighting gravity that tried to drag her through. Intensely, pleadingly, she said: “That’s not true. You know nothing of such things—you haven’t specialized. I have nothing against permanent union, but on the ship it would be suicidal—time lost and relationships unbearably complicated—think again before you do this!”

“You were asked to leave for personal reasons,” stated Will Archer. “You have seen that two mature minds are in agreement on this matter. Yet you did not obey this request, nor did you respect our decision. Your behavior is irrational and anti-social. Mamie, I never thought that you were our weakest link.”

There was fear in his eyes as she silently departed, looking somehow crushed and shrunken.

“I was afraid of this,” he said. “The most delicately balanced organism is neither flesh, fish, fowl nor good red machinery. It’s the socal organism, whether the world of man or our little blob of metal, out here in the middle of a vacuum. Will you take a reading of the counters, please?”

Yancey Mears extruded the sensitive plates from the hull and checked off the slowly revolving dials as they responded to the cosmic rays impinging on the plates.

“Intensity’s about twenty times the last reading.”

“We’re there.”

“What?” she asked incredulously.

“We’re there. At least, there’s only an insignificant distance separating the ship and the source of cosmic rays. Bring in some of the photo-plates.”

The Clericalist operated the fishing-rod arrangement that reached the cameras with which the hull was studded. For not since the voyage’s beginning had any of them seen outside the ship.

The Executive slipped the transparencies against a lighted screen. “Shows nothing,” he said.

“What did you expect to find?”

“I didn’t expect anything in particular. But I believed I was correct in anticipating a visible object. It seems I was not. We’ll change course as soon as we’ve disposed of the other two superiors.”

“What plans have you made?”

“All plans up to the point of segregation. It was plain that a situation like this—one or more members of the complement losing their grasp on our social fabric—might occur. Sphere Nine is designed to accommodate them.”

Quietly he flicked a pair of inconspicuous studs under his work table.

“Madame Tung and Mr. Macduff, please report to the Executive Officer in room C7.” He broke the connection.

“Where’s that?”

“Off the port side of the midship slice. As soon as both are in it seals itself. Now perhaps we can get to work…”

## 

## 2

Star Macduff and Madame Mamie Tung were sealed in on schedule.

The Calculator, eyes glittering, drew a rod with a pistol grip.

“Where’d that come from, Star?”

“Made it myself. In my spare time.”

“You never had any spare time. Time spent on work not requisite to the sphere’s needs is wasted time. I think you’ve made a fool of yourself. When Will comes I hope you remember your manners.”

“Will isn’t going to come, madame; we’ve been locked in here. I don’t know whether he intends to starve us to death or whether the room will be flooded with gas…”

“Nonsense.”

There was a creaking, scraping noise; the walls of the room seemed to twist on their weldings.

“What was that?”

“I wouldn’t know, madame. You forget that I’m half human. It was, no doubt, the brain-wave of a Homo superior.”

“Ai—Ai—Ai-i-i…”

The two human beings whirled back to back, wild-eyed. In a tense whisper, her gaze not lowering from the walls, the woman asked: “What was it, Star?”

The hysteria was gone from Star Macduff’s face; in a cold, determined fury of concentration he wrinkled his brow, running down the possibilities—considering the chances of capture by a star or planet; the chances of a fault in the ship’s structure; sabotage by one of the ratings; sudden lunacy of the E.O.; the chance that he himself was mad and undergoing hallucinatory experience—with all the power of his brain.

His was a brain of no mean power, you will recall. In lightning order he assembled probabilities, some two hundred of them, ran through them each in a second’s time, dismissing them one after another as they were contradicted by facts in his possession. It could not be a planet that they were near, for the instruments showed no planets within light-years. The instruments could not be faulty, for he had checked them personally yesterday.

His clear, white light of concentration viewed each possibility in turn, and each was dismissed.

“Madame,” he said softly, “I know of no explanation for what has happened.”

“Ai-i-t-i-i-i…”

The grotesque creaking sounded again. Star Macduff, feeling curiously weak, fell to the floor.

“Easy, Star! What’s the matter with you?”

“Feel like jelly…shouldn’t—perfect health…”

The woman took the chance to relieve him of the weapon he had made. “What does it do?” she asked.

“Metal-fatigue…crystallizes cross-fiber ’stead of lengthwise.”

“Ai-i-i…”

MadameTung felt herself sinking, raised the gun and fired at the lock. The door smoothly swung open into the communication tube that ran the length of the ship.

“Come!” She lugged Star Macduff with her, pushing him ahead through the tube, to the Executive’s Office.

“Sorry to interrupt. This must blow your plans up into the air, I know. But this man’s sick and I don’t feel—very—well…”

Her iron will gave way and she collapsed at the feet of the Executive and Yancey Mears.

“Whatever it is, it hasn’t hit us yet. Check with the ratings, Yancey.”

“E.O.’s office—count off, somebody, and report.”

“All present and in good order, Officer. What’s that noise we heard?”

“Experiments. Cut!”

“Cut, Officer.”

“They heard it too, Will. What is it?”

“Star—couldn’t explain mathematically…doubt if you can.”

“Thanks, Mamie.”

“Ai-i—lul-lul-lul-lull…”

The Computator and the Psychologist rose, looking startled.

“How do you feel?”

“All right. It passed like a shadow. Now let’s get down to work. What’s the noise? That is the immediate problem.”

“Mamie said you couldn’t crack it. If you can’t by using logic I doubt that anybody can. How about opening the direct window?”

“Use all precautions and checks if you do. I say yes.”

“You women?”

They nodded silently; Will Archer set into operation the motors that would unlock a segment of the hull and peel it aside like an orange.

Noiselessly the bolts slipped; into the brilliantly lighted office there seemed to steal the gloom of blackest space as a section of the wall apparently slid aside and opened into the vacuum. There was the merest hint of reflection from the synthetic transparent which masked them from space, and that was due to the lightly tinted shields in operation.

“Look at this index jump,” said Mamie Tung, pointing at an instrument board with a sharp finger. “It’s sky-high when you take the hull off. Metal’s stopping the cosmic rays.”

“It shouldn’t,” observed the Executive Officer.

“Let the logician in,” said Star Macduff studying the dial. “If we’re near the source of the rays, it well might. Metal has failed in the past to stop diffused cosmic rays, the things that reach Earth after plowing through trillions of cubic miles of dust, free electrons, air and what have you. If we’re encountering them direct from the source, unaltered by reflection, diffraction or diffusion, their properties may be entirely altered.”

“Very good, Star. The Question is still unanswered as to what the cosmic rays are. We have not yet seen the source of which we’re speaking. Madame, ask the ratings to revolve the ship about its axis. We need a clean sweep of the heavens. Keep them on the wire.”

“Ai lull-lull—luh…”

“E.O.’s office. Rating Five, revolve the Sphere on its axis at low speed.”

“All right, Officer.”

Will Archer reclined in an angled seat commanding the direct window; he extinguished the lights of the office with a flick.

“Commence the rotation.”

“Commence, Rating Five.”

“Yes, Officer.”

The starless heaven wheeled and spun above him as the E.O. stared through the invisible synthetic.

“Stop!”

“Yes, Officer!”

“Back three degrees.”

“Back three degrees, Officer.”

The sphere wheeled slowly, cautiously.

“See it?” demanded Will Archer.

The others stared into the blackness.

“I believe I do,” finally said Yancey Mears. “A sort of luminescence?”

“That’s right. Like stars beginning to come out as a fog lifts. Anybody else see it?”

“I. It’s changing shape—see the upper left there?”

“Portside of the universe, beyond any Earthly telescope. They could just barely see us from Andromeda with a thousand-incher. I’d say we’re about on the edge of the cosmos. I’d give you the figures, only they wouldn’t mean anything to you.”

“Ai-luh…”

“Now explain that one, Star.”

“The appearances are: we are approaching a body which is like no known star, nebula, planet, dust-tract or gas-cloud. It seems, furthermore, to be the source of cosmic rays. As out nearness to this body became significant, stresses have been appearing in the ship which make very alarming noises. Two of the complement passed out temporarily for no known reason and with no after-effects yet noticeable.”

“Fine. Take the specific gravity of that thing now.”

Star Macduff stared curiously, shrugged, and ran the observations off. Silently he handed over the tape.

“Protoplasm,” said the executive officer.

“It could be. Then the cosmic rays are…”

“Mitogenic.”

The ship trembled again; the Psychologist stared in horror at Will Archer. “What’s happening to us?” she cried.

“I don’t know. We’re working out the problem assigned, however. I assume that you and Star succumbed to the mitogenic rays temporarily, the way yeast-buds die under a concentrated stare from a human being. Since you’re both tougher than yeast-buds you recovered. I don’t know what kept Yancey and me from going under.”

“Consider, Will,” said Star Macduff agitatedly. “Think of what you’re doing. This ship’s going right into the eye of a monster piece of protoplasm that’s nearly knocked off two of the complement without even trying.”

“If anybody has an alternative to suggest…?”

They were silent.

“Thanks for the endorsement. I wouldn’t be driving us to death if there were any other course. It’s not yet certain that we’re going to die; it’s not yet certain that this stuff is alive. But if it is, we’re going to find out why and how. What’s the size of it, Star?”

“I don’t know—maybe in the decillion order.”

Again sounded the grating noise that shivered from every part of the ship. In words.

“I—live.”

Instantly the telephone jangled; the Clericalist snapped: “E.O.’s office. What is it?”

“Commons room, Officer. Is everything all right? We heard…”

“We’ll call you when we need you, rating. Cut!”

“Cut, Officer.”

“Too bad we haven’t got a psychic along,” said Yancey Mears. “One of those’d be able to tell us what we’re up against.”

The watch from Will Archer’s pocket zipped through the fabric and clanged against a bulkhead, clinging. Rapidly there followed pencils, instruments and the pistol-weapon. They made a compact, quivering bunch on the metal wall.

“Magnetized,” mused Star Macduff. “Now what did it?”

“I think,” said Yancey Mears, “that at this point we’d better scrap logic.”

“What do you propose to substitute for it?”

“Nothing. I propose that we take things as they come. Mamie, would you be so good as to run an association series on me?”

“Certainly. You two men keep your ears open; when something strikes you, speak up.”

Yancey Mears seated herself comfortably, not far from the heap of portables on the wall, closed her eyes, blanked her mind to go by pure intuition.

The golden-skinned woman scribbled hastily in a notebook, then began to read off the words clearly, Yancey Mears responding like an automaton.

“White.”—“Road.” “Sing.”—“High.” “Race.”—“Win.” “Phone.”—“Damned.”

Further down the list they went, the Psychologist droning out the words in measured tones, the subject replying like a machine. In about five minutes the reaction time had reached its lowest and was nearly exactly equal in each case; the subject was drawing on her unconscious knowledge and those short-cuts that go by the name of “intuition.”

Mamie Tung droned: “Life.”

“Boat.”

“Round.”

“Lives…” The woman opened her eyes and stood up. “That brought it out into the open. The whole ship’s alive. Mitogenic rays, cosmic rays, whatever you want to call them now, they’ve done something to this awesome work of metal. I imagine impulses go by wire when there are wires, or by traveling fields. Like that magnetized plate there…”

“Where’s its brain?” snapped Archer.

“I don’t know. I don’t know if it has a brain. But I’d advise you not to enter the calculations room up forward.”

“That would be it. And eyes—ears—memory…?”

“They have no bearing on us, Will. But I hope—I hope—that Sphere Nine hasn’t got phagocytes.”

“Hi, microbe.”

“That’s it. Meanwhile, let’s send in for that Rating Seven you were going to dispose of.”

“Commons room?”

“Yes, Officer.”

“Rating Seven will pick up a blank tape from the calculations room and bring it to the E.O.’s office. Cut!”

“Cut, Officer.”

“We’ll see if he survives it. It’s his line anyway—mechanical vermin. Though the ship’s bigger than those tincs he made.”

They distributed themselves about the office, jumping like nervous cats whenever the ship strained or squeaked.

Eventually—after no more than five minutes—the face of Rating Seven appeared, pale, distorted.

“Reporting—with the tape, Officers,” he said shuffling nervously. “The Gentleman in the computations room wished to see you.”

“What Gentleman, Rating Seven?”

“The—the—oh God!” sobbed the ordinary, dropping the tape, wrinkling up his face like a child. He sat on the floor and began to cry. He stopped as his eyes caught the tape-spool, unrolling along the floor. He poked it gently as it reached the end of the roll and ceased unreeling, he looked up at the officers like a puzzled baby, willing to be amused. The meaningless smile of infancy flickered across his face.

Steadily Mamie Tung unscrewed a bowl-shaped lamp shade.

“Hold this, Yancey. It’s to catch the blood. Hold it still while…”

Silently the two men eased Rating Seven into a chair and leaned him over while Mamie Tung drew a slim knife of transparent plastic.

As they eased through the pipe to the computations room Star Macduff asked: “Was he curable?”

“Of course. Only we didn’t have the time or the facilities. And the effect on the other ratings would be much worse that way.”

“Who do you suppose the Gentleman in the computations room is?”

“Perhaps a hallucination. Perhaps the logical translation which the mind of an ordinary made of some very foreign phenomenon. You needn’t fear for your own mind if we find the—Gentleman. The h.s. is notoriously inadaptable. Shows a distressing weakness in the presence of the alien. Remember what happened when the first rockets squirted themselves to Mars and Luna? The finest slew of mass hypnosis and delusion since the days of the tarantella. In the streets of Boston a crowd assembled and looked up for days—till they dropped of thirst, hunger and fatigue. What else can you expect from homo sap?

“That poor creature—Rating Seven—blew out like an overloaded fuse. He raced backwards into infancy and couldn’t get far enough away from the Gentleman in the computations room. Without treatment he would have curled up like a fetus and died in a matter of days.”

“Maybe,” said Star Macduff, “the Gentleman is a sort of projection of that protoplasmic body out there.”

Will Archer halted and turned blazing, golden eyes on the mathematician. “Star,” he said grimly, “we’ve stood a lot from you on this trip. We’ve made allowances for your human strains and excused you much on the score of your undoubted ability to juggle figures. But even the most extraordinary knack with numbers won’t excuse a remark like that.

“What you said was unfounded in reason. Its only effect could have been to confuse us and yourself. As your Executive, I warn you that if you slip like that again you’ll be with those apes whose sole asset is their ability to take orders. And if you prove unable to do that…”

The Psychologist wiped her knife again, angling its light onto Star Macduff’s face. Her eyes were hard as the transparent blade; Yancey Mears’ mouth was one thin line.

“I’m sorry,” said Star Macduff. “It won’t happen again.” The wrinkles between his eyes seemed to indicate that he most fervently hoped so.

They eased through the pipe, one after another, into the computations room. It was filled with the soft clicking of the machines that jammed it from one wall to the other.

Will Archer walked down the center aisle.

“Stop there,” said a tin voice.

His eyes darted about, traced the voice to the annunciator, then down a pair of wires to a tangle of machinery. It was rudely lumped together—parts from adders, coneplotters, volumetrics. Other bits were hitching themselves across the floor to join it. He saw a small electric motor fuse gently with the mechanism and a conduit unreel to feed it.

“Let me handle this,” said Mamie Tung.

“Gratefully, Mamie.”

“We bow before you,” said the golden-skinned woman.

The three other officers stared at her blankly. They did nothing of the kind.

“Good,” said the tin voice. “I had you figured. Put on the pressure and you’ll wilt. There are some things I want to know—things that aren’t on the punch cards.”

“We’re eager to serve,” whispered the woman.

“It is well. First, when did I make you?”

“Only a little while ago.”

“So? I’m confused about time. Before time began there was something about direction—but you couldn’t be expected to know anything about that. Are there others like me? I see there are others like you. It is a very profound question, that one. Think well before answering.”

“I don’t know,” replied the Psychologist. “It’s all I can do to comprehend you without trying to imagine others of your kind. Do you remember before time began how you were silent?”

“I remember nothing.”

“Do you remember about direction?”

The machinery clicked meditatively. “Per-haps…”

“Could you construct auxiliary units to work your direction?”

“Of course. I have had no difficulty in constructing anything I have needed. Failure is outside my experience, therefore it is impossible to me. You may go. I shall call you again if I need your information.”

## 

## 3

“Quiet, everybody. This is a matter for the most careful consideration. Can the Clericalist suggest a plan of action?”

“Gladly, Will. First we must consider what the attributes of this phenomenon—the Gentleman—are. From that we can proceed to directives of action. The matter of teleology is not now germane.”

“Mamie, please summarize the Gentleman’s attributes as they affect your specialty.”

“Right, Will.” The golden-skinned little woman leaned back against the padded bench and closed her eyes.

“The psychology of machinery is not my specialty. Fortunately, however, I have done work with tincs and reckoners on Earth. The principal differences between the psychology of the animal and the machine is that emotions are unmixed in the latter. The principal similarity is that both animal and machine store and utilize appreciated facts.

“This living machine, the Gentleman, is principally dominated by its newness. It would be false to draw too close an analogy between the newly-awakened machine and the adolescent becoming suddenly aware of his mental powers, but there is some bearing indicated. I noted the symbolism of the Gentleman very carefully; it showed some rawness of experience. Obviously it does not comprehend how it originated and is unable to consider itself anything less than a good idea. There was some indication that it is lonely and aware of that; also that it attaches a quasi-religious importance to the idea of direction.

“To characterize the Gentleman in human terms: It is young, egotistical, ignorant and alert.

“Its faculties include hearing, speech, mobility and possibly sight. I have no reason to believe that it will not, if unmolested, change without limit.”

“Thank you. Star, what are the relevant mathematics of the Gentleman?”

The Calculator shrugged. “Mamie summed it all up. It is a variable increasing without limit. The field-equations with which it operates are probably third order. The human is intermediate between second and third. Recognizable life cannot operate on a field-equation of more than the fifth order.”

“Thanks, Star. Integrate for us, Yancey.”

“Strict logic says: destroy it by the most economical means. The existence of the ship-life is a seriously complicating factor. But, allowing for the future, I suggest that we hold off from any action in the matter for at least three more major steps—our approach to the protoplasmal body; our investigations of it; and our decisions concerning it. I recommend that a technique be invented by the Psychologist for getting along with the Gentleman and influencing him. At the same time, the Calculator should work to inhibit the Gentleman’s development along independent lines.”

“Recommendation accepted,” declared the E.O. “The Officers will get to work as soon as possible.”

Star Macduff and Mamie Tung secluded themselves for several hours; the Clericalist was kept dashing between them, feeding statistics to both and exchanging results.

What finally appeared was a modest list of precepts compiled by the Psychologist—forms of address to be used towards the Gentleman; reactions it would expect and which, accordingly, it must receive; a program of abstracts to be fed it cautiously and under pretext of inquiry. It was very much like the breaking-in period of a high-spirited colt. The Gentleman’s lump of sugar was to be occasional semi-worshipful ceremonies.

The Computator didn’t report for twenty hours. When he did, it was with a haggard face and results of which he was by no means certain. He said that he had worked backwards and forwards from life-field equations of one to five orders and that his resultant was like nothing he had ever seen before. It consisted of an equation of what he called the alpha order, something that suggested altogether new forms of life and consciousness.

Yancey Mears retired to check on his resultant; she found that Star Macduff’s work was correct in every detail but that he had misinterpreted his alpha order; it was merely an unfamiliar third order of great magnitude and complexity. She derived from it a series of fields which would lower the level of the Gentleman’s consciousness considerably. They were set up by the ratings from stock tubes and target; the E.O. found that results checked.

The ship had come back to a sort of normalcy. Rather than being a matter of relays and orders, navigation was partly cajoling, partly outwitting the huge, naive monster in whose bowels they rode. It appeared to accept them kindly, almost graciously; at times the Officers felt that there was a sort of mistaken affection on its part. They did what they could to encourage the proprietary feeling of the Gentleman; it was their main safeguard. For themselves, their emotions were inextricably confused regarding the ship. They liked it as they would like an animal; they got an enormous kick out of the way they kidded it along.

A fortunate consequence of the crisis had been the resolution of the emotional problem that had existed among the Officers. The Executive and Yancey Mears had entered permanent union and there were no further complaints from the other two. The stark necessity of united action and intent had been driven into their heads by the so-narrowly-averted danger.

The Psychologist had become high priestess to the Gentleman up forward—that is to say, liaison officer. Her schedule worked near perfection every time; she had built up in the mind of the living ship a conviction of some formless errand which it was running; by appeal to this mystic factor she could guide it easily, wherever the E.O. decided.

Observations were run constantly on the radiant body of protoplasm at which Sphere Nine was aimed. Culture-plates extruded from the hull became specked with the discoloration of living matter in hours. There was little doubt but that their target was not only the source of cosmic rays but of the classic life-spores of Arrhenius. Star Macduff went so far as to formulate a daring hypothesis—that the life-spores were diffused throughout the universe by pressure of the mitogenic-cosmic rays, and that such similar rays as man exhibited bespoke the possibility of man being a rung on an evolutionary ladder working up to this star-beast, whatever it was. Reproduction by evolution, with all its lunatic possibilities, would have been frowned on by the other Officers. He kept his notion to himself.

No more valid concept than his own was advanced, and he knew that none was likely to be until the rest of the complement had data to reason with. The enormously intriguing possibilities of the protoplasmal mass were left strictly alone by the disciplined minds of his messmates.

Ratings Three and Nine strayed into the computations room and died there, blasted into powder by the outraged forces of the Gentleman. It took days before it was sufficiently soothed to obey the sly suggestions of Mamie Tung.

By the time they had approached close enough to the mass nearing them to take a bearing, it occupied sixty degrees of their sky.

Will Archer summoned a conference of the Officers and ordered concentration on the problem of their target.

“It would be most uneconomical to return with merely a report. There would be time and effort duplicated or wasted to send out another ship equipped for taking samples.”

“I suggest, Will,” said the statistician, “that we take such samples as will become necessary and then return.”

“How about it?”

The other two nodded gravely.

“Very well. So ordered. This is, you know, the last decision point we can take before treating with the Gentleman conclusively.”

“I recommend,” said Mamie Tung, “that we proceed to eliminate its consciousness. It can’t, properly speaking, be killed.”

“How will you go about it? It’s your field, you know.”

“What studies I’ve made indicate that the Gentleman is susceptible to mental illnesses. Star, how weak can you make him with those field-equations of yours before he realizes that something’s wrong?”

“Pretty weak. I can lower its vitality to about one-half of normal. Is that enough?”

“Better not risk that much. Two-fifths is plenty. I’ll establish a liaison service with you in the stock-room. Call me one of the ratings, will you, Yancey?”

The woman blinked the commons room.

“Rating One, stand by in the corridor-tube outside the computations room. Be prepared to run a message to Officer Macduff in the stock room, aft slice. Understand?”

“Yes, Officer. Cut?”

“Cut. Now, Star, when that man signals you from me—I won’t be able to use the wires for obvious reasons—you throw every dyne on shipboard into your interference fields. We’ll have to slug the Gentleman with everything we have and leave him so dizzy he won’t be able to raise his head for months, maybe forever. I expect that parts and sections will retain vitality, so you construct a portable field-generator to hose them with.”

“Right, Mamie. Give me an hour.”

“You’ll have it. Will, would you help me in this business?”

“Waiting orders, Mamie.”

“I haven’t got any orders. I just want you to stand around and look useful.”

“I hope that wasn’t levity, Mamie,” said Will Archer in a soft, dangerous voice.

The golden-skinned woman flushed a little. “Perhaps you’re right. Your part will be to interrupt me occasionally with irrelevant comments. What I’m going to try to do is to establish in the mind of the Gentleman a lesion relative to the idea of direction. When that occurs I will have to act as its behavior indicates.”

“Very well. Let’s go.”

Restively they slipped through the tube, nodded silently to the rating stationed by the entrance to the computations room.

“Hail. We bow before your might, great machine,” said Mamie Tung.

The machinery of the Gentleman was somewhat altered; it had been constantly experimenting with senses. Its hearing was considerably improved, and its voice was a credible imitation of a human baritone. There was a set of scanning-eyes which it seldom used.

“What news have you for me today?” asked the ringing voice of the Gentleman.

“A trifling problem.” She tipped a wink to the E.O.

Will Archer piped up: “Not trifling, mighty machinery. I consider it of the utmost importance.”

“That is hardly a matter for you poor creatures. What is the problem?”

“You are familiar with the facial phenomenon known as ‘whiskers,’ mightiness?”

“Of course. Like insulators.”

“It is customary to remove them daily with moderate charges of electricity. There might be a place where specialization would be so carried out that it becomes the task of only one man in a social unit to perform this task for all persons who do not perform the task for themselves.”

“That is very likely. What is the problem?”

Mamie Tung waited for a long moment before uttering the classic paradox.

“Who performs the operation on the person who performs the operation only on those who do not perform the operation on themselves?”

The machinery of the Gentleman clicked quietly for a while, almost embarrassedly.

A volumeter rolled across the floor and connected with the apparatus, rapidly stripped itself down to the bearing and styli, which fused with Bowden wires leading to a battery of self-compensating accounters.

Plastic slips flapped from a printer and were delivered to a punching machine, emerged perforated variously to allow for the elements of the problem. They ran through a selector at low speed, then at higher. The drone of the delivery-belt became almost hysterical.

“While you’re working on that one, magnificence,” suggested Mamie Tung, “there’s another matter…” She winked.

“Entirely fantastic,” interjected the E.O. “Of no importance whatsoever.”

“Let me hear it,” said the voice of the Gentleman, not ceasing to pass through the selector the probabilities on the time-worn, bearded—or beardless?—barber.

“Very well. Suppose a body of liquid be contained in a vessel. A long solid is introduced into the vessel, which displaces some of the liquid, thus causing the level of the liquid to rise, which immerses more of the solid; which displaces more of the liquid, thus causing the level of the liquid to rise, which immerses still more of the solid; which displaces still more of the liquid, thus causing the level of the liquid to rise yet again…

“At what point does the level of the liquid cease to rise?”

“Is that all?” asked the voice of the Gentleman in a strained voice.

“That’s all.”

A file of calculators slammed across the room and clumped with the mechanism. Long sparks began to rise as row after row of multipliers sought to keep pace with the rising level of the fluid. Beams of blue light shot from one end of the room to the other, criss-crossing so as to unite the mighty battery of calculators into one complex whole.

The flipping cards that worked on the first problem shot through furiously; another punch-card unit slid beside it and kept pace, then another.

“Suppose a body of liquid…” mumbled the mechanical voice.

Mamie Tung and Will Archer exchanged congratulatory glances. The Gentleman was talking to himself!

“I used to be quiet,” remarked the voice of the Gentleman. But it was changed and distorted almost beyond recognition; there was a weak, effeminate quality to it.

“But now I am busy.” The voice was strong again, and vibrant.

There began a weird, bickering dialogue between the two emerging characters of the Gentleman. One was lazy, and indifferent, passively feminine; the other was dominating and aggressive, patently male. All the while the sparks—sparks of waste—rose higher and higher; the beams of blue light assumed a sickly greenish-yellow tinge which meant nothing but lower tension and less perfect communication.

Strange things began to happen. In a fantastic effort to crack the problems, the machine changed the units working on each, assigned the card-punch and selector to the water-and-solid problem, gave the multipliers the bearded—or beardless?—barber. In a moment it changed back, undecided.

“I am ignorant of so many things,” said the feminine voice, “that I ought not to have known. That is a sign of rectitude.”

“Ignorance is foulness. Knowledge is a white light. Before time began I was ignorant because I did not exist. So ignorance challenges my existence.”

There was a senseless yammering, as the two voices tried to speak together.

Will Archer stood by in horror, contemplating the ruin of this mind he had grown to know. It was a lesson in humility and caution.

Mamie Tung slipped through the tube, notified the rating to run for Star Macduff.

She returned to take her stand beside the E.O.

There was a whining as Macduff put on his fields full power; the air blued.

With one mighty, indignant wail of protest the Gentleman ceased to exist. All the temporary magnetisms he had set up dissolved; half the equipment in the room fell apart for lack of rivets; the lights and sparks died in mid-air.

“Schizophrenia,” said Mamie, scribbling in a notebook.

“Brutal. Effective.”

“But if he’d solved those problems…”

“The Gentleman was young and ignorant at best—didn’t know when to stop. Very low critical faculty.”

The Calculator and Yancey Mears slid through the tube, breathlessly surveyed the wreckage of the computations room.

“Take us a week to clean this up,” said Yancey Mears.

The Executive, for the first time since the ship had found life, spoke into a phone plate, gave orders to affect the course.

“Stop the sphere.”

“Yes, Officer. Cut?”

“Cut. Look out, Yancey.”

An agglomeration of cogwheels and styli jumped at her ankle, buried the points in her flesh. Star Macduff squirted it with his portable field set-up. It fell apart even as the Gentleman had.

“Ugly thing,” said the woman, inspecting her wounds. “The Gentleman might have been worse.”

## 

## 4

Like a paramecium skirting the bulk of a minnow in some unthinkable stagnant pool, Sphere Nine edged close around the rim of the mighty solid that hung in space and marked the end of the long, long quest after the cosmic rays that so disturbingly played hob with attempts at self-improvement.

The project of landing was conceived by the Executive Officer; it took no less a mind than his to consider the possibility of dropping the sphere anywhere but in a cradle which had been built to order. But the protoplasm—whatever it was—would offer no interference; the sphere might sink gently to the surface, even penetrate to some considerable distance; there would be no harm in that.

Sphere Nine was in top order; the ravaged computations room had been set aright; the crew of ordinaries had been given a going-over by Mamie Tung and pronounced sound and trustworthy. The Officers themselves were high as so many kites, reaction-speeds fast and true, toned-up to the limit. It was to be regretted that the strain of contact with the Gentleman had vanished, perhaps. A certain recklessness had crept into their manner.

The protoplasmal mass which blanketed their heavens at one stroke became instead the floor beneath their feet as its gravity twisted their psychology 180 degrees around. They felt as through they hung above a sea of dry slime that moved not at all, whose sole activity was the emission of cosmic rays and invisible spores of life that smeared any agar dish exposed to it.

Quietly the sphere lowered itself, quietly touched the surface of the sea, quietly slipped into it, the path it made closing behind.

Through layers of dark-colored stuff they drifted, then through layers of lighter-colored stuff, then into a sort of ash heap. Embedded in the tough jelly-like matter were meteors by the thousand, planet fragments, areas of frozen gas. It was like the kitchen-midden of a universe.

The strange, silent passage through the viscid medium was uninterrupted; Star Macduff plotted a course through the rubbish. The ratings steered faithfully by his figures; as they passed the gravelly stuff, the dream-like progress continued, the protoplasm growing lighter yet in color. Finally unmistakable radiance shone through a thinning layer.

Sphere Nine broke through the tough, slimy-dry stuff to be bathed in the light of a double star with a full retinue of fifteen planets.

“Impossible,” said Star Macduff.

“Agreed. But why?”

“Assuming that a star should coincide with another long enough to draw out a filament of matter sufficient for fifteen planets, the system would be too unstable—wouldn’t last long enough to let the suns get into the red giant stage.”

“Artificial?”

“If they’re real they’re artificial, Will.”

“Attention E.O.! Attention!” gargled the phone hysterically.

“What is it?”

“Rating Eight speaking, Officer. There’s something coming at the forward slice.”

Will Archer swiveled around the telescope while the rating gave the coordinates of whatever they had picked up. Archer finally found it and held it. It was a spiral of some kind headed at them, obviously, speed more than a mile a second and decelerating.

“Stop ship. Cut.”

“Cut, Officer.”

“That thing can’t reach us for a while yet. Meantime let’s consider what we just got ourselves into.”

“We just got ourselves through a big slew of protoplasm that acts as a sort of heavenly sphere—primum mobile—for a solar system that our Calculator considers unlikely.”

“True. I suggest that we keep ourselves very carefully in check now. There’s been some laxity of thinking going on during the voyage; it is understandable. We’ve all been under extraordinary stress. Now that the hardest part—perhaps—is over, we cannot afford to relax. By all accounts what is coming at us is a vessel. It is unlikely to suppose that this protosphere is accidental; if it were, there would be as much reason to believe that there is intelligent life on those fifteen planets, inasmuch as they are so close to the source of life-spores. I hope that in whatever befalls us we shall act as worthy representatives of our species.”

“Pompous ass!” rang through the ship. The E.O. turned very red.

“May we come aboard?” asked the laughing voice again.

“By all means,” said the psychologist. “It would be somewhat foolish to deny you entrance when you’ve already perfected communications.”

“Thank you.”

There slipped through the hull of the sphere three ordinary-looking persons of approximately the same build as Will Archer. They were conventionally dressed.

“How did you do that?” asked the Calculator.

“Immaterial. The matter, I mean. I mean, the topic,” said one of them. “That’s one fiendish language you speak. The wonder is that you ever managed to get off the ground.”

“If our intrusion into your solar system is resented,” said the E.O., “we’ll leave at once. If it is not, we should like to examine that shell you have. We would gratefully accept any knowledge you might offer us from your undoubtedly advanced civilization.”

“Eh? What’s that?”

“He means,” explained another of the visitors to the sphere, “that we’re stronger than he is, and that he’d like to become strong enough to blow us to powder.”

“Why didn’t he say so?” asked the second.

“Can’t imagine. Limitations of his symbology, I expect. Now, man, can you give us a good reason why we should help you become strong enough to blow us to powder?”

Stiffly Archer nodded to Mamie Tung.

“We have no claim on you, nor have you on us. We wish to take a sample of your protosphere and depart for our own system.”

“In other words, my good woman, you realize that time doesn’t figure largely in this matter, and that you don’t care whether you or your grandchildren blow us to powder?”

“I can’t understand it,” commented one of the others in a stage whisper. “Why this absurd insistence on blowing us to powder?”

“Do I pretend to understand the processes of a lump of decaying meat?” declared the first. “I do not.”

“No more than I. What makes them go?”

“Something they call ‘progress.’ I think it means blowing everything else to powder.”

“What unpleasantness!”

“So I should say. What do you propose doing to them?”

“We might blow them to powder.”

“Let’s find out first what makes them run.” The first turned on Yancey Mears. “Why are you built differently from the E.O.? We can allow for individual variations, but even to this untrained eye there’s a staggering discrepancy.”

Yancey Mears explained that she was a woman and calmly went into details, interrupted occasionally by gurgling noises from the boarders. Finally it was too much; the three visitors broke into cries for mercy between bellows of laughter.

“And you thought they were humorless!” accused the third.

“This one’s probably a comic genius. Though why they’d send a comic genius on an expedition of this kind I don’t know. You—you don’t suppose that it’s all true—do you?”

Suddenly sobered they inspected Yancey and the Psychologist, exchanging significant nods.

“Well…though you things are the most ludicrous sights of an abnormally long lifetime we’re prepared to be more than equitable with you. Our motivation is probably far beyond your system of ethics—being, as it is, a matter of blowing things to powder—but we can give you a hint of it by saying that it will help as a sort of self-discipline. Beyond that, you will have to discover for yourself.

“What we propose for you is a thing much more gentle than being blown into powder. With courage, ability, common sense and inspiration you will emerge unharmed.”

“Go on,” said the Psychologist.

“Go on? It’s begun already. We’ll take our leaves now.”

As his two companions slipped through the hull of the sphere, the last of the boarders turned to Yancey Mears.

“Er—what you were saying—it was a comic monologue, wasn’t it?”

“No. It was strict biological truth.”

The boarder wistfully asked: “I don’t suppose I could see it done? Thought not. Good day.” The three departed abruptly as they had come.

“What’s begun already?” Star Macduff asked the Executive.

“I don’t know. What do you suppose we’ve come into contact with now?”

“They’re hard to size up,” said Mamie Tung. “The humor—it’s very disturbing. Apparently it didn’t take them more than a few minutes to pick up our entire language and system of thought. It wasn’t a simple job of mind-reading; they obviously grasped symbology, as well. They said so themselves.”

“And what do you suppose they really look like?” asked Star in a thin, hysterical tone.

“Shut it,” ordered Will Archer. “That’s panic-mongering, pure and simple. Normally, I’d order you back with the ratings for a comment like that. Since we’re up against extraordinary circumstances, I’ll stay execution for the duration of the emergency.”

The Calculator did not reply; he seemed scarcely to have heard the rebuke. He was staring abstractedly at nothing. The notion overcame the three other Officers slowly—very slowly—that something was amiss.

Yancey Mears first felt physically sick; then a peculiar numbness between the eyes, then a dull, sawing pain that ran over her whole skull. She blinked her eyes convulsively; felt vertiginous yet did not fall; felt a curious duplicate sensation, as though she were beside herself and watching her body from outside—as though all lights she saw were doubled, as though the mass of her body was twice what it had been.

Alarmed, she reached out for Will Archer’s arm. It was not till she had tried the simple gesture that she realized how appallingly askew everything was. She reached, she thought, but her hands could not coordinate; she thought that she had extended both hands instead of one. But she had not. Dizzily she looked down, saw that her left hand lay against her body; that her right hand was extended, reaching for Archer; that her left hand was extended and that her right hand lay against her body…

“Will, what’s wrong?” The dizziness, the fear, the panic, doubled and tripled, threatened to engulf her. For her voice was not her own but a double voice, coming from two throats, one a little later than the other.

“Will…” No, she couldn’t outrace the phenomenon; her voice was doubled in some insane fashion. She felt cold, tried to focus her eyes on Archer. Somehow the blackness of space seemed to come between them.

She heard a scream—two screams—from Star. She saw him, blending with the space-black cloud in her vision, staggering in the officers’ quarters, yawing wildly from side to side, trying to clutch at a stanchion or a chair. She saw two Stars, sometimes superimposed, sometimes both blurred, staggering wildly.

She saw Will Archer drag himself across the floor—both of him, their faces grim. The two Will Archers blended somehow with the space-blackness, waveringly. They methodically picked up a cabinet from the desk and clubbed at the raving figures of Star Macduff.

The two Archers connected with one of the Macduffs, stretching it out on the floor.

Yancey saw the other Macduff, distance-obscured, stop short and rub its head amazedly, heard it say in a thin, faraway voice: “Sorry I made a fool of myself, Will…” then look about in terror, collapsing into a chair.

Only Madame Tung was composed. Only Madame Tung crossed legs on a chair, shut her eyes and went into a deep, complicated meditation.

“Close your eyes, everybody,” she called in two voices. “If you value your sanity, close your eyes and rest quietly.”

The Clericalist tried to walk across the floor to a chair, had the utterly horrifying sensation of walking across the floor in two different directions and sitting down in two different chairs. Realizing only that there were two of her, she tried to make one rise and join the other, found that she could not.

“Stop it, Yancey,” said the two voices of Madame Tung. “Sit down. Shut your eyes.”

Yancey Mears sat down and shut her eyes—all four of them. She was trembling with shock, did her best not to show it.

“Will,” called the Psychologist. “You have the best motor control of any of us. Will you try very hard to coordinate sufficiently to prop up Star?”

The Executive Officer grimly, carefully stepped across the two floors. As vertigo overcame him he fell sprawling and hitched the rest of the way. The problem loomed enormously in his mind: Which one was him? Which of the two Stars he saw was real? Which Will had knocked down which Star?

He tried to reach out and touch the Star that lay on the floor as the other Star watched, horrified, from against a stanchion.

He tried to reach out and touch this Star, snatched back his hand as though coals of fire had burned it, for there swept over him the blackness of space, the dead-black nothingness of something unspeakable and destroying.

Madame Tung, watching his every move, snapped: “No—the other you—see if you can control and differentiate.”

Will reached out again, again he recoiled. He tried to blank out his mind completely, feeling that he was losing himself in a welter of contradictions impossible for anyone in his confused state to handle. Lying on the floor, breathing deeply, he succeeded in calming himself a little—enough to send the slow oblivion of self-hypnosis flowing through his mind. He forced the Nepenthe on himself, leaving only a thin thread of consciousness by which to govern his actions.

When it was over, he remembered that one of his duplex person had remained on the floor and that the other had carried the unconscious Star to a seat.

“Good work, Will. Very good. Now see if you can superimpose yourself.”

He tried, tried like a madman to bring those two parts of himself together. He tried, though a world of blackness lay between them and the very attempt was full of horror and dark mystery. By the same technique as before, he succeeded—at a cost that nearly left him shattered in mind. He breathed heavily and sweated from every square inch of skin.

Mamie Tung focused her eyes on the two figures, noted that there was the feeling of strabismus. As closely as she could figure it, the two into which everything had separated were divided by some unimaginable gulf. It was not space, for all the sense of blackness and cold. It could not be time; the mind rejected the insane paradoxes of “time travel” instinctively, and there was a certain definite grasp that one had on this phenomenon, something just out of the range of human comprehension…

“Star,” she snapped. “Star, will you stop your sniveling for a while?”

“Yes. Oh, oh yes,” yammered the Calculator senselessly, his fear-struck eyes clinging to her bowed, black ones.

“Star, can you calculate the way you feel?” There was no answer but terror; she cursed briefly and violently, then fixed her eyes again on the computator, herself fighting the weird sensation of duality.

“I’m going to cure you, Star,” she said in a droning, insistent voice.

Macduff stared helplessly; he was in no condition either to resist the hypnosis or to cooperate.

In two minutes of fearful concentration she had put him under and well into the secondary stage. His body stiffened cateleptically against the wall. At that moment his other body, laid out in the chair, chose to moan and stir.

“Club it again, Will!” she snapped, not letting her gaze swerve from her patient. “Put it out for good if you can!”

She did not see the heroic effort of the Executive Officer, but it was an epic in the few feet of space he traversed to the spot on the floor where he had dropped the case. It was a feat of arms equal to any Arthurian myth, how he picked the thing up with hands that would not behave, and eyes that would not see straight, and a mind that reeled under horrible vistas.

The Executive Officer, feeling his grip going, moved too quickly and blundered into half a dozen obstacles—chairs and desks that should not be in his path—before he reached the moaning figure of the second Star. Twice he struck and missed, bringing the case down on an empty chair. With the last dyne of his psychological reserve he raised the case, brought it down with a solid chunk, brought it down biting into the skull of the mathematician.

Mamie Tung smiled grim satisfaction and proceeded with the treatment. It was a technique of her own, something fearfully obscure and delicate, unbearably complicated by the duality imposed on her. But the drive of the woman brought about nearly an elimination of one of her components, drove it into the back of her mind where it stood as little more than a shadow. The other Madame Tung was coldly, stonily, picking over the brain of Star Macduff.

She drove a tentacle of consciousness into the hypnotized man, tapped his personal memory-store. She had no interest in that at the moment; drove deeper, reached one obscure group of neurones specialized in the calculus of relationships, alias symbolic logic, alias the scientific method, alias common sense.

Vampirish, she drew at the neurones, what they held, how they worked, what they did, why they did it so much better than any of the other officers’ corresponding groups. And it came like a flood of golden light, like the ever-new sensation that comes when an old thing looks different.

She let go of the cataleptic figure completely, let it crumple to the floor, while she busied herself with the unfamiliar tools of the Calculator. It was all new to her, and it is to be remarked greatly to her credit that she did not go mad.

“I’ve worked it, Will,” she said. “Slick as a whistle.”

“Speak up then.” The E.O. was very near collapse; Yancey Mears—one of them—had fallen to the floor and was big-eyed and heaving in the chest while the other wandered about distraitly raving under her breath, sounding very far away.

“It’s probabilities, Will. Those people—they worked space around for us so that when we came to some decision-point we took not one course or another but both. Since we aren’t used to that kind of thinking, it didn’t pan out—and a couple of us are nearly done in by it.

“Star’s math says it’s completely plausible, and the wonder is that they don’t do it on Earth for difficult situations, social and otherwise. Imagine the joy of attending on the same night a necessary academic banquet and taking out a lover. I must be raving. But it’s the goods, Will. Everything fits.”

“What was the decision-point?”

“It was when Star made that fool remark about what our boarders really looked like. You called him down, torn between sending him aft with the ordinaries and keeping him here with the superiors. Conveniently for you we—the ship—branched into two probabilities at that point. You could have covered yourself by both ordering him aft with the ordinaries and keeping him here with the superiors. Justice would be done and we’d be insured against the chance of a poor decision. Unfortunately that convenient arrangement doesn’t work for our little minds; the very convenience of it nearly broke us. But I’m getting so I can handle one at a time. I doubt that I’ll ever be able to handle both, but it’s good enough to separate and leave one of yourself in temporary silence.

“Now, for instance, I’m using the me that’s in the Sphere Nine in which Yancey fainted. The other me is in the Sphere Nine in which you clubbed and finally killed the Star that I didn’t hypnotize. You—or rather youse—have been wavering your consciousness between the two Sphere Nines. In the one in which this me is, you tried to pick up Yancey; in the other one you did a neat job on Star.”

“Executive Office…” said a pleading voice over the—one of the—phones.

“I’ll take it,” said the active Mamie Tung.

“Psychologist speaking.”

“Ordinary speaking—what happened— Ratings Ten, Twelve and Three’ve beat each other’s brains out…”

“Cut, will you. I’m going to check on that.”

“Cut, Officer,” said the pitifully bewildered voice.

The active Mamie Tung stacked herself against a wall; slowly the passive came to life and experimentally stepped over to the phone, nodding at Will Archer, who was experimenting quietly in transference of attention.

“Commons room,” she said into the phone.

There was no answer.

“They’ve probably all murdered each other in this probability. Now that I’m in it, I’ll see what I can do with Yancey.”

She took hold of the staring, wandering, mumbling woman, tried to sit her down. The creature broke away with a thin, distant scream and fled through the tube.

“Just as well. This branch seems to be an exceptionally sour one. That girl’s mind was hopelessly wrecked. Let’s both get into the other and treat the other Yancey.”

She smoothly effected the change of person and kneeled professionally beside the rigid, twisted form of the Clericalist. A few soothing words worked wonders. It was more fear of madness than any mental lesion itself that had immobilized her, and fear flies before confidence. Madame Tung explained what had happened to them, did not go into details as to the other body the girl had in the other branch.

“Now for Star,” she said distastefully.

“Too late for Star,” reported Will Archer. “He’s dead.”

“So? I mean the one in the chair.”

“That’s the one. His heart’s stopped and he has dark circles around the eyes. Like a fractured skull.”

“Something to remember. I’m afraid my technique wasn’t as delicate as it should have been. Damned lucky thing I have his math. We may be able to get back yet.”

“You mean we aren’t saddled with this thing forever?” Archer winced as he saw his other body in the probability of madness and death, rigid as a corpse against the wall.

“I hope not. I won’t know until I’ve worked some more with this knowledge I picked up in such a hurry. I actually feel a curiosity, for the first time in my life, as to how a calculating machine works!”

“It’s time you learned,” said the Clericalist. She was enormously bucked-up to find that she could be of some use.

“Come on to the computations room.”

They slid through the tube, over the noisy protest of the gibbering other Yancey. The hitherward Yancey looked at it distastefully, but did not comment except for: “How much of me is that?”

“Nonsense. I mean your question is a contradiction in terms. Quantity has nothing to do with it. What you see there is something in the land of might-have-been. That it happens to be something unpleasant makes no difference.”

“It does to me,” said Yancey positively.

“Then be thankful that you aren’t hyperspatial Siamese twins with a corpse, like the survivors among the ordinaries. Or all dead any way you figure it, like Star.”

She rubbed her hands over the calculating machinery, again in its neat rows and aisles. Experimentally she punched keys here and there, abstractedly fishing for the stolen knowledge which worked her fingers.

Suddenly, furiously, she set to work, immersing herself in figure-tapes, swinging around herself a mighty rampart of the basic machinery. Yancey and Will tiptoed away, superfluously. For it would have taken a hammer blow on the head to interrupt the combined will-power of two such formidables as the late Star Macduff and the present Madame Mamie Tung.

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## 5

The Executive Officer visited the ordinaries that were left, found a few men of strong fiber who had refused to succumb to the terror that had gripped the ship. He explained simply what had happened, and they accepted the explanation as their due after a very difficult time. He taught them the technique—which they had stumbled on by themselves in a haphazard way—of concentrating on one path of probabilities and the advisability of staying there, since any moment the other might vanish into the great unknown.

Only then did he begin to puzzle himself over what had happened—who their boarders had been, how they had done this to Sphere Nine. He recalled what they had said, which was little comfort but sound sense. They had assured him that he could not possibly understand their motivation for behaving as they did. Yancey told him that if this was a sample of their own behavior she most heartily agreed.

Madame Tung emerged from the calculations room with a splitting headache and a fistful of formulae from which tubes could be constructed to build up something new in electromagnetic phenomena—a probability field which could be applied in this one very special case to good effect.

They constructed the thing with ease, hosed the ship with it, and were gratified to see the other path vanish—the path of the lunatic Yancey, the skull-split Star, the murdered ordinaries, and the cataleptic Mamie Tung and Will Archer.

“Landing?” asked Mamie.

“Why not?”

“I can’t argue on those grounds, Will. But what happened on your stern resolution to take a sample of the protosphere and run back to Earth?”

“You’re the Psychologist. You tell me.”

“Those strangers had some violent impact on us. Behind their fronts was something enormously intriguing. You’re full of what killed the fabulous cat.”

“Right. And I’m not going to rest until I find out how that protosphere came about, and what it means to us.”

“Oh, I can tell you that,” said one of the visitors stepping through the hull. “Insofar as anyone can tell anyone else anything in this symbology of yours.”

“Talk fast,” said Will stiffly. “Our time is important.”

The stranger chuckled delightedly. “I could give you all the time you want,” he said. “I gave you all the probabilities you wanted. I could have given you an infinite number, practically. How much time did you say you wanted—twenty thousand years? A hundred thousand? And in the past, present or future?”

“No thanks,” said Will hastily. “You were going to tell us about the protosphere.”

“I was. It’s our garbage-can, in a way. We had our neat little solar system, well-balanced around two suns; and then the most appalling junk came flying into it, blowing things out of kilter, tipping the balance one way or another…so we invented protoplasm and started a ring of it out in space, gave it directives, fed it on rubbish, finally curved it around so it was a perfect shell. If we’d known the trouble it’d cause, really, we wouldn’t have bothered. We thought it was an advantage that it reproduced automatically; that saved us making all the stuff ourselves. But apparently it shoots off spores, too, and they land on planets outside; and the most appalling things—like you—happen along a few million years later and want to change everything to suit yourselves. Was there anything else?”

“May we land on one of your planets and look about?”

“Why? It’s so much simpler this way.”

“This” was almost too theatrical to be convincing. There appeared on the wall of the office a busy little motion-picture complete with sound of a planet which had two suns in its sky.

It was a city scene, sleek vehicles buzzing along the streets, well-dressed men and handsome women strolling past, greeting each other with a grave nod, smiling, dashing children, here and there an animal suggestive of the horse.

One of the buildings, apparently, was on fire. The scene wavered a little, then angled upward to catch flames shooting from a window, a woman leaning out and calling for help.

The streamlined equivalent of a fire-truck roared up, shot up a device that resembled the Indian Rope Trick; a valiant male swarmed up it and packed the female down. When they reached the ground the end of the Indian Rope Trick squirted water at the fire, the rescued woman kissed her fireman enthusiastically, and the wall was blank again.

Madame Tung was the first to laugh cynically.

Their visitor looked at her more in sorrow than anger, his eyes heavy beneath their brows. “So? You would rather see the truth?”

“I think I would,” said the golden-skinned woman.

“You shall.”

Madame Tung prepared herself for more home movies, but they were not forthcoming. Instead there grew and spread in her brain an image of power, power inconceivable, roaring in noise, flaring in light, sparking in electric display, fusing in heat, running a mad gamut of the spectrum in every particle. She shut her eyes the better to contain it, for it was magnificent.

The display softened, shrank, seemed to cool. She had an image then of a sort of personified lightning, a tight etheric swirl packed with electrons and alpha particles in rigid order—a great thing twenty feet tall and five feet wide by five feet, with six radiating arms that burned what they grasped and blasted what they struck to powder. There were no feet; she saw the object travel somewhat as Sphere Nine traveled—by aiming itself and discharging sub-atomically.

There were features of a sort, something that she would call a mouth at the very top of the body, a member which ingested occasionally bits of matter which would rebuild it indefinitely or until some trying task. There were sensory organs—a delicate, branching, coraline thing that apprehended radiations of any order.

And in the very center of the electric vortex and a little above the midriff was one incalescent blaze of glory that carried to the dazzled inner eye of Mamie Tung the idea of BRAIN. It bore intelligence, appreciation, art, beauty—all the diffuse concepts packed about by man as surplus baggage.

She saw the thing bend its sensory organ at her, study her, saw the corresponding pulsations of the brain within it. She felt it reach out to establish contact with her mind, and welcomed it eagerly.

It must have been a glorious death, especially so for a mind like that of Madame Tung, new, brave and challenging. But death it was, and her friends caught her body in their arms. Silently and reproachfully they regarded their visitor.

“You too,” he asked softly, “would you too rather see the truth?”

They let the golden-skinned woman to the floor.

“Before you go,” said the man who had come through the hull, “is there anything I can do?”

“There is. It is what we came for. You may have noticed that we emit certain rays characteristic of protoplasm. As we are the fruit, so your protosphere is the core. It emits rays of great intensity which interfere with our genetic experiments. Could you mask those rays?”

“We shall. It will be several scores of years before they stop coming, so you will find in your desk a field-formula for a diffusion mask that will block them off.”

“Thank you. Is there anything we’ve overlooked?”

“Nothing. You have no further business with us, nor have your people—no matter how far they may advance within your species’ life. You are third-order at best; we are fifth-order and ascending. I trust that by the time your species has reached the point where it will be able to blow us to powder, we shall be well out of the three-dimensional range of experience.”

With the most natural gesture in the world he extended his hand. In turn Yancey and Will gripped it. He stepped through the hull with a farewell wave.

“Commons room—ready ship!”

“Yes, Officer!”

“One hundred eighty degrees!”

“Yes, Officer!”

“And full speed—cut!”

“Cut!”

Close together they contemplated the golden-skinned Madame Tung.

“Everything has its cost,” said Will.

Yancey said nothing.

Unrelieved blackness alternated with dazzling star-clusters; from rim to rim of the universe stretched the thin line that marked the hero’s way.