

# Ship-Sister, Star-Sister

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Sixteen light-years from Earth today, in the fifth month of the voyage, and the silent throb of acceleration continues to drive the velocity higher. Three games of *go* are in progress in the ship's lounge. The year-captain stands at the entrance to the lounge, casually watching the players: Roy and Sylvia, Leon and Chiang, Heinz and Elliot. *Go* has been a craze aboard ship for weeks. The players—some eighteen or twenty members of the expedition have caught the addiction by now—sit hour after hour, contemplating strategies, devising variations, grasping the smooth black or white stones between forefinger and second finger, putting the stones down against the wooden board with the proper smart sharp clacking sound. The year-captain himself does not play, though the game once interested him to the point of obsession, long ago; he finds his responsibilities so draining that an exercise in simulated territorial conquest does not attract him now. He comes here often to watch, however, remaining five or ten minutes, then going on about his duties.

The best of the players is Roy, the mathematician, a large, heavy man with a soft sleepy face. He sits with his eyes closed, awaiting in tranquility his turn to play. "I am purging myself of the need to win," he told the year-captain yesterday when asked what occupies his mind while he waits. Purged or not, Roy wins more than half of his games, even though he gives most of his opponents a handicap of four or five stones.

He gives Sylvia a handicap of only two. She is a delicate woman, fine-boned and shy, a geneticist, and she plays well although slowly. She makes her move. At the sound of it Roy opens his eyes. He studies the board, points, and says, "*Atari*" the conventional way of calling to his opponent's attention the fact that her move will enable him to capture several of her stones. Sylvia laughs lightly and retracts her move. After a moment she moves again. Roy nods and picks up a white stone, which he holds for nearly a minute before he places it.

The year-captain would like to speak with Sylvia about one of her

experiments, but he sees she will be occupied with the game for another hour or more. The conversation can wait. No one hurries aboard this ship. They have plenty of time for everything: a lifetime, maybe, if no habitable planet can be found. The universe is theirs. He scans the board and tries to anticipate Sylvia's next move. Soft footsteps sound behind him. The year-captain turns. Noelle, the ship's communicator, is approaching the lounge. She is a slim, sightless girl with long, dark hair, and she customarily walks the corridors unaided: no sensors for her, not even a cane. Occasionally she stumbles, but usually her balance is excellent and her sense of the location of obstacles is superb. It is a kind of arrogance for the blind to shun assistance, perhaps. But also it is a kind of desperate poetry.

As she comes up to him she says, "Good morning, year-captain."

Noelle is infallible in making such identifications. She claims to be able to distinguish members of the expedition by the tiny characteristic sounds they make: their patterns of breathing, their coughs, the rustling of their clothing. Among the others there is some skepticism about this. Many aboard the ship believe that Noelle is reading their minds. She does not deny that she possesses the power of telepathy; but she insists that the only mind to which she has direct access is that of her twin sister Yvonne, far away on Earth.

He turns to her. His eyes meet hers: an automatic act, a habit. Hers, dark and clear, stare disconcertingly through his forehead. He says, "I'll have a report for you to transmit in about two hours."

"I'm ready whenever." She smiles faintly. She listens a moment to the clacking of the *go* stones. "Three games being played?" she asks.

"Yes."

"How strange that the game hasn't begun to lose its hold on them by this time."

"Its grip is powerful," the year-captain says.

"It must be. How good it is to be able to give yourself so completely to a game."

"I wonder. Playing *go* consumes a great deal of valuable time."

"Time?" Noelle laughs. "What is there to do with time, except to consume it?" After a moment she says, "Is it a difficult game?"

"The rules are quite simple. The application of the rules is another matter entirely. It's a deeper and more subtle game than chess, I think."

Her blank eyes wander across his face and suddenly lock into his. "How long would it take for me to learn how to play?"

"You?"

"Why not? I also need amusement, year-captain."

"The board has hundreds of intersections. Moves may be made at any of them. The patterns formed are complex and constantly changing. Someone who is unable to see—"

"My memory is excellent," Noelle says. "I can visualize the board and make the necessary corrections as play proceeds. You need only tell me where you put down your stones. And guide my hand, I suppose, when I make my moves."

"I doubt that it'll work, Noelle."

"Will you teach me anyway?"

The ship is sleek, tapered, graceful: a silver bullet streaking across the universe at a velocity that has at this point come to exceed a million kilometers per second. No. In fact the ship is no bullet at all, but rather something squat and awkward, as clumsy as any ordinary spacegoing vessel, with an elaborate spidery superstructure of extensor arms and antennae and observation booms and other externals. Yet the year-captain persists in thinking of it as sleek and tapered and graceful, because of its incredible speed. It carries him without friction through the vast empty gray cloak of nospace at a velocity greater than that of light. He knows better, but he is unable to shake that streamlined image from his mind.

Already the expedition is sixteen light-years from Earth. That isn't an easy thing for him to grasp. He feels the force of it, but not the true meaning. He can tell himself, *Already we are sixteen kilometers from home*, and understand that readily enough. *Already we are sixteen hundred kilometers from home*, yes, he can understand that too. What about *Already we are sixteen million kilometers from home*? That much strains comprehension—a gulf, a gulf, a terrible empty dark gulf—but he thinks he is able to understand even so great a distance, after a fashion. Sixteen light-years, though? How can he explain that to himself? Brilliant stars flank the tube of nospace through which the ship now travels, and he knows that his gray-flecked beard will have turned entirely white before the light of those stars glitters in the night sky of Earth. Yet only a few months have elapsed since the departure of the expedition. How miraculous it is, he thinks, to have come so far, so swiftly.

Even so, there is a greater miracle. He will ask Noelle to relay a message to Earth an hour after lunch, and he knows that he will have an acknowledgment from Control Central in Brazil before dinner. That seems an even greater miracle to him.

Her cabin is neat, austere, underfurnished: no paintings, no light-sculptures, nothing to please the visual sense, only a few small sleek bronze statuettes, a smooth oval slab of green stone, and some objects evidently chosen for their rich textures—a strip of nubby fabric stretched across a frame, a sea-urchin's stony test, a collection of rough sandstone chunks. Everything is meticulously arranged. Does someone help her keep the place tidy? She moves serenely from point to point in the little room, never in danger of a collision; her confidence of motion is unnerving to the year-captain, who sits patiently waiting for her to settle down. She is pale, precisely groomed, her dark hair drawn tightly back from her forehead and held by an intricate ivory clasp. Her lips are full, her nose is rounded. She wears a soft flowing robe. Her body is attractive: he has seen her in the baths and knows of her high full breasts, her ample curving hips, her creamy perfect skin. Yet so far as he has heard she has had no shipboard liaisons. Is it because she is blind? Perhaps one tends not to think of a blind person as a potential sexual partner. Why should that be? Maybe because one hesitates to take advantage of a blind person in a sexual encounter, he suggests, and immediately catches himself up, startled, wondering why he should think of any sort of sexual relationship as *taking advantage*. Well, then, possibly compassion for her handicap gets in the way of erotic feeling; pity too easily becomes patronizing, and kills desire. He rejects that theory: glib, implausible. Could it be that people fear to approach her, suspecting that she is able to read their inmost thoughts? She has repeatedly denied any ability to enter minds other than her sister's. Besides, if you have nothing to hide, why be put off by her telepathy? No, it must be something else, and now he thinks he has isolated it: that Noelle is so self-contained, so serene, so much wrapped up in her blindness and her mind-power and her unfathomable communion with her distant sister that no one dares to breach the crystalline barricades that guard her inner self. She is unapproached because she seems unapproachable; her strange perfection of soul sequesters her, keeping others at a distance the way extraordinary physical beauty can sometimes keep people at a distance. She does not arouse desire because she does not seem at all human. She gleams. She is a flawless machine, an integral part of the ship.

He unfolds the text of today's report to Earth. "Not that there's anything new to tell them," he says, "but I suppose we have to file the daily communique all the same."

"It would be cruel if we didn't. We mean so much to them."

"I wonder."

"Oh, yes. Yvonne says they take our messages from her as fast as they come in, and send them out on every channel. Word from us is terribly important to them."

"As a diversion, nothing more. As the latest curiosity. Intrepid explorers venturing into the uncharted wilds of interstellar nospace." His voice sounds harsh to him, his rhythms of speech coarse and blurting. His words surprise him. He had not known he felt this way about Earth. Still, he goes on. "That's all we represent: novelty, vicarious adventure, a moment of amusement."

"Do you mean that? It sounds so awful cynical."

He shrugs. "Another six months and they'll be completely bored with us and our communiques. Perhaps sooner than that. A year and they'll have forgotten us."

She says, "I don't see you as a cynical man. Yet you often say such—" She falters. "Such—"

"Such blunt things? I'm a realist, I guess. Is that the same as a cynic?"

"Don't try to label yourself, year-captain."

"I only try to look at things realistically."

"You don't know what real *is*. You don't know what you are, year-captain."

The conversation is suddenly out of control: much too charged, much too intimate. She has never spoken like this before. It is as if there is a malign electricity in the air, a prickly field that distorts their normal selves, making them unnaturally tense and aggressive. He feels panic. If he disturbs the delicate balance of Noelle's consciousness, will she still be able to make contact with far-off Yvonne?

He is unable to prevent himself from parrying: "Do *you* know what I am, then?"

She tells him, "You're a man in search of himself. That's why you volunteered to come all the way out here."

"And why did you volunteer to come all the way out here, Noelle?" he

asks helplessly.

She lets the lids slide slowly down over her unseeing eyes and offers no reply. He tries to salvage things a bit by saying more calmly into her tense silence, "Never mind. I didn't intend to upset you, Shall we transmit the report?"

"Wait."

"All right."

She appears to be collecting herself. After a moment she says, less edgily, "How do you think they see us at home? As ordinary human beings doing an unusual job or as superhuman creatures engaged in an epic voyage?"

"Right now, as superhuman creatures, epic voyage."

"And later we'll become more ordinary in their eyes?"

"Later we'll become nothing to them. They'll forget us."

"How sad." Her tone tingles with a grace-note of irony. She may be laughing at him. "And you, year-captain? Do you picture yourself as ordinary or as superhuman?"

"Something in between. Rather more than ordinary, but no demigod."

"I regard myself as quite ordinary except in two respects," she says sweetly.

"One is your telepathic communion with your sister and the other—" He hesitates, mysteriously uncomfortable at naming it. "The other is your blindness."

"Of course," she says. Smiles. Radiantly. "Shall we do the report now?"

"Have you made contact with Yvonne?"

"Yes. She's waiting."

"Very well, then." Glancing at his notes, he begins slowly to read: "Shipday 117. Velocity. . . . Apparent location. . . ."

She naps after every transmission. They exhaust her. She was beginning to fade even before he reached the end of today's message; now, as he steps into the corridor, he knows she will be asleep before he closes the door. He leaves, frowning, troubled by the odd outburst of tension between them and by his mysterious attack of "realism." By what right does he say Earth will grow jaded with the voyagers? All during the years of

preparation for this first interstellar journey the public excitement never flagged, indeed spurred the voyagers themselves on at times when their interminable training routines threatened *them* with boredom. Earth's messages, relayed by Yvonne to Noelle, vibrate with eager queries; the curiosity of the homeworld has been overwhelming since the start. Tell us, tell us, tell us!

But there is so little to tell, really, except in that one transcendental area where there is so much. And how, really, can any of that be told?

How can *this*—

He pauses by the viewplate in the main transit corridor, a rectangular window a dozen meters long that gives direct access to the external environment. The pearl-gray emptiness of nospace, dense and pervasive, presses tight against the skin of the ship. During the training period the members of the expedition had been warned to anticipate nothing in the way of outside inputs as they crossed the galaxy; they would be shuttling through a void of infinite length, a matter-free tube, and there would be no sights to entertain them, no backdrop of remote nebulas, no glittering stars, no stray meteors, not so much as a pair of colliding atoms yielding the tiniest momentary spark, only an eternal sameness, like a blank wall. They had been taught methods of coping with that: turn inward, demand no delights from the universe beyond the ship, make the ship itself your universe. And yet, and yet, how misguided those warnings had been! Nospace was not a wall but rather a window. It was impossible for those on Earth to understand what revelations lay in that seeming emptiness. The year-captain, head throbbing from his encounter with Noelle, now revels in his keenest pleasure. A glance at the viewplate reveals that place where the immanent becomes the transcendent: the year-captain sees once again the infinite reverberating waves of energy that sweep through the grayness. What lies beyond the ship is neither a blank wall nor an empty tube; it is a stunning profusion of interlocking energy fields, linking everything to everything, it is music that also is light, it is light that also is music, and those aboard the ship are sentient particles wholly enmeshed in that vast all-engulfing reverberation, that radiant song of gladness, that is the universe. The voyagers journey joyously toward the center of all things, giving themselves gladly into the care of cosmic forces far surpassing human control and understanding. He presses his hands against the cool glass. He puts his face close to it. *What do I see, what do I feel, what am I experiencing?* It is instant revelation, every time. It is—almost, *almost!*—the sought-after oneness. Barriers remain, but yet he is aware of an altered sense of space and time, a knowledge of the

awesome something that lurks in the vacancies between the spokes of the cosmos, something majestic and powerful; he knows that that something is part of himself, and he is part of it. When he stands at the viewplate he yearns to open the ship's great hatch and tumble into the eternal. But not yet, not yet. Barriers remain. The voyage has only begun. They grow closer every day to that which they seek, but the voyage has only begun.

How could we convey any of this to those who remain behind? How could we make them understand?

Not with words. Never with words.

Let them come out here and see for themselves—

He smiles. He trembles and does a little shivering wriggle of delight. He turns away from the viewplate, drained, ecstatic.

Noelle lies in uneasy dreams. She is aboard a ship, an archaic three-master struggling in an icy sea. The rigging sparkles with fierce icicles, which now and again snap free in the cruel gales and smash with little tinkling sounds against the deck. The deck wears a slippery, shiny coating of thin hard ice, and footing is treacherous. Great eroded bergs heave wildly in the gray water, rising, slapping the waves, subsiding. If one of those bergs hits the hull, the ship will sink. So far they have been lucky about that, but now a more subtle menace is upon them. The sea is freezing over. It congeals, coagulates, becomes a viscous fluid, surging sluggishly. Broad glossy plaques toss on the waves: new ice-floes, colliding, grinding, churning; the floes are at war, destroying one another's edges, but some are making treaties, uniting to form a single implacable shield. When the sea freezes altogether the ship will be crushed. And now it is freezing. The ship can barely make headway. The sails belly out uselessly, straining at their lines. The wind makes a lyre out of the rigging as the ice-coated ropes twang and sing. The hull creaks like an old man; the grip of the ice is heavy. The timbers are yielding. The end is near. They will all perish. They will all perish. Noelle emerges from her cabin, goes above, seizes the railing, sways, prays, wonders when the wind's fist will punch through the stiff, frozen canvas of the sails. Nothing can save them. But now! Yes, yes! A glow overhead! Yvonne, Yvonne! She comes. She hovers like a goddess in the black star-pocked sky. Soft golden light streams from her. She is smiling, and her smile thaws the sea. The ice relents. The air grows gentle. The ship is freed. It sails on, unhindered, toward the perfumed tropics.



In late afternoon Noelle drifts silently, wraith-like, into the control room where the year-captain is at work; she looks so weary and drawn that she is almost translucent; she seems unusually vulnerable, as though a harsh sound would shatter her. She has brought the year-captain Earth's answer to this morning's transmission. He takes from her the small, clear data-cube on which she has recorded her latest conversation with her sister. As Yvonne speaks in her mind, Noelle repeats the message aloud into a sensor disk, and it is captured on the cube. He wonders why she looks so wan. "Is anything wrong?" he asks. She tells him that she had had some difficulty receiving the message; the signal from Earth was strangely fuzzy. She is perturbed by that.

"It was like static," she says.

"Mental static?"

She is puzzled. Yvonne's tone is always pure, crystalline, wholly undistorted. Noelle has never had an experience like this before.

"Perhaps you were tired," he suggests. "Or maybe she was."

He fits the cube into the playback slot, and Noelle's voice comes from the speakers. She sounds unfamiliar, strained and ill at ease; she fumbles words frequently and often asks Yvonne to repeat. The message, what he can make out of it, the usual cheery stuff, predigested news from the homeworld—politics, sports, the planetary weather, word of the arts and sciences, special greetings for three or four members of the expedition, expressions of general good wishes—everything light, shallow, amiable. The static disturbs him. What if the telepathic link should fail? What if they were to lose contact with Earth altogether? He asks himself why that should trouble him so. The ship is self-sufficient; it needs no guidance from Earth in order to function properly, nor do the voyagers really have to have daily information about events on the mother planet. Then why care if silence descends? Why not accept the fact that they are no longer Earthbound in any way, that they have become virtually a new species as they leap, faster than light, outward into the stars? No. He cares. The link matters. He decides that it has to do with what they are experiencing in relation to the intense throbbing grayness outside, that interchange of energies, that growing sense of universal connection. They are making discoveries every day, not astronomical but —well, spiritual—and, the year-captain thinks, what a pity if none of this can ever be communicated to those who have remained behind. We must keep the link open.

"Maybe," he says, "we ought to let you and Yvonne rest for a few days."

*They look upon me as some sort of nun because I'm blind and special. I hate that but there's nothing I can do to change it. I am what they think I am. I lie awake imagining men touching my body. The year-captain stands over me. I see his face clearly, the skin flushed and sweaty, the eyes gleaming. He strokes my breasts. He put his lips to my lips. Suddenly, terribly, he embraces me and I scream. Why do I scream?*

"You promised to teach me how to play," she says, pouting a little. They are in the ship's lounge. Four games are under way: Elliot and Sylvia, Roy and Paco, David and Heinz, Mike and Bruce. Her pout fascinates him: such a little-girl gesture, so charming, so human. She seems to be in much better shape today, even though there was trouble again in the transmission. Yvonne complaining that the morning report was coming through indistinctly and noisily. Noelle has decided that the noise is some sort of local phenomenon, something like a sunspot effect, and will vanish once they are far enough from this sector of nospace. He is not as sure of this as she is, but she probably has a better understanding of such things than he. "Teach me, year-captain," she prods. "I really do want to know how to play. Have faith in me."

"All right," he says. The game may prove valuable to her, a relaxing pastime, a timely distraction. "This is the board. It has 19 horizontal lines, 19 vertical lines. The stones are played on the intersections of these lines, not on the squares that they form." He takes her hand and traces, with the tips of her fingers, the pattern of intersecting lines. They have been printed with a thick ink, easily discernible against the flatness of the board. "These nine dots are called stars," he tells her. "They serve as orientation points." He touches her fingertips to the nine stars. "We give the lines in this direction numbers, from 1 to 19, and we give the lines in the other direction letters, from A to T, leaving out I. Thus we can identify positions on the board. This is B10, this is D18, this is J4, do you follow?" He feels despair. How can she ever commit the board to memory? But she looks untroubled as she runs her hand along the edges of the board, murmuring, "A, B, C, D...."

The other games have halted. Everyone in the lounge is watching them. He guides her hand toward the two trays of stones, the white and the black, and shows her the traditional way of picking up a stone between two fingers and clapping it down against the board. "The stronger player

uses the white stones," he says. "Black always moves first. The players take turns placing stones, one at a time, on any unoccupied intersection. Once a stone is placed it is never moved unless it is captured, when it is removed at once from the board."

"And the purpose of the game?" she asks.

"To control the largest possible area with the smallest possible number of stones. You build walls. The score is reckoned by counting the number of vacant intersections within your walls, plus the number of prisoners you have taken." Methodically he explains the technique of play to her: the placing of stones, the seizure of territory, the capture of opposing stones. He illustrates by setting up simulated situations on the board, calling out the location of each stone as he places it: "Black holds P12, Q12, R12, S12, T12, and also P11, P10, P9, Q8, R8, S8, T8. White holds—" Somehow she visualizes the positions; she repeats the patterns after him, and asks questions that show she sees the board clearly in her mind. Within twenty minutes she understands the basic ploys. Several times, in describing maneuvers to her, he gives her an incorrect coordinate—the board, after all, is not marked with numbers and letters, and he misgauges the points occasionally—but each time she corrects him, gently saying, "N13? Don't you mean N12?"

At length she says, "I think I follow everything now. Would you like to play a game?"

Consider your situation carefully. You are twenty years old, female, sightless. You have never married or even entered into a basic pairing. Your only real human contact is with your twin sister, who is like yourself blind and single. Her mind is fully open to yours. Yours is to hers. You and she are two halves of one soul, inexplicably embedded in separate bodies. With her, only with her, do you feel complete. Now you are asked to take part in a voyage to the stars, without her, a voyage that is sure to cut you off from her forever. You are told that if you leave Earth aboard the starship there is no chance that you will ever see your sister again. You are told, also, that your presence is important to the success of the voyage, for without your help it would take decades or even centuries for news of the starship to reach Earth, but if you are aboard it will be possible to maintain instantaneous communication across any distance. What should you do? Consider. Consider.

You consider. And you volunteer to go, of course. You are needed: how can you refuse? As for your sister, you will naturally lose the opportunity

to touch her, to hold her close, to derive direct comfort from her presence. Otherwise you will lose nothing. Never "see" her again? No. You can "see" her just as well, certainly, from a distance of a million light-years as you can from the next room. There can be no doubt of that.

The morning transmission. Noelle, sitting with her back to the year-captain, listens to what he reads her and sends it coursing over a gap of more than sixteen light-years. "Wait," she says. "Yvonne is calling for a repeat. From '*metabolic*'" He pauses, goes back, reads again: "*Metabolic balances remain normal, although, as earlier reported, some of the older members of the expedition have begun to show trace deficiencies of manganese and potassium. We are taking appropriate corrective steps, and—*" Noelle halts him with a brusque gesture. He waits, and she bends forward, forehead against the table, hands pressed tightly to her temples. "Static again," she says. "It's worse today."

"Are you getting through at all?"

"I'm getting through, yes. But I have to push, to push, to push. And still Yvonne asks for repeats. I don't know what's happening, year-captain."

"The distance—"

"No!"

"Better than sixteen light-years."

"No," she says. "We've already demonstrated that distance effects aren't a factor. If there's no falling-off of signal after a million kilometers, after one light-year, after ten light-years, no perceptible drop in clarity and accuracy whatever, then there shouldn't be any qualitative diminution suddenly at sixteen light-years. Don't you think I've thought about this?"

"Noelle—"

"Attenuation of signal is one thing, and interference is another. An attenuation curve is a gradual slope. Yvonne and I have had perfect contact from the day we left Earth until just a few days ago. And now—no, year-captain, it can't be attenuation. It has to be some sort of interference. A local effect."

"Yes, like sunspots, I know. But—"

"Let's start again. Yvonne's calling for signal. Go on from '*manganese and potassium.*'"

"—*manganese and potassium. We are taking appropriate corrective*

*steps—*"

Playing *go* seems to ease her tension. He has not played in years, and he is rusty at first, but within minutes the old associations return and he finds himself setting up chains of stones with skill. Although he expects her to play poorly, unable to remember the patterns on the board after the first few moves, she proves to have no difficulty keeping the entire array in her mind. Only in one respect has she overestimated herself: for all her precision of coordination, she is unable to place the stones exactly, tending rather to disturb the stones already on the board as she makes her moves. After a little while she admits failure and thenceforth she calls out the plays she desires —M17, Q6, P6, R4, C11—and he places the stones for her. In the beginning he plays unaggressively, assuming that as a novice she will be haphazard and weak, but soon he discovers that she is adroitly expanding and protecting her territory while pressing a sharp attack against his, and he begins to devise more cunning strategies. They play for two hours and he wins by 16 points, a comfortable margin but nothing to boast about, considering that he is an experienced and adept player and that this is her first game.

The others are skeptical of her instant ability. "Sure she plays well," Heinz mutters. "She's reading your mind, isn't she? She can see the board through your eyes and she knows what you're planning."

"The only mind open to her is her sister's," the year-captain says vehemently.

"How can you be sure she's telling the truth?"

The year-captain scowls. "Play a game with her yourself. You'll see whether it's skill or mind-reading that's at work."

Heinz, looking sullen, agrees. That evening he challenges Noelle; later he comes to the year-captain, abashed. "She plays well. She almost beat me, and she did it fairly."

The year-captain plays a second game with her. She sits almost motionless, eyes closed, lips compressed, offering the coordinates of her moves in a quiet bland monotone, like some sort of game-playing mechanism. She rarely takes long to decide on a move and she makes no blunders that must be retracted. Her capacity to devise game-patterns has grown astonishingly; she nearly shuts him off from the center, but he recovers the initiative and manages a narrow victory. Afterward she loses once more to Heinz, but again she displays an increase of ability, and in

the evening she defeats Chiang, a respected player. Now she becomes invincible. Undertaking two or three matches every day, she triumphs over Heinz, Sylvia, the year-captain, and Leon; *go* has become something immense to her, something much more than a mere game, a simple test of strength; she focuses her energy on the board so intensely that her playing approaches the level of a religious discipline, a kind of meditation. On the fourth day she defeats Roy, the ship's champion, with such economy that everyone is dazzled. Roy can speak of nothing else. He demands a rematch and is defeated again.

Noelle wondered, as the ship was lifting from Earth, whether she really would be able to maintain contact with Yvonne across the vast span of interstellar space. She had nothing but faith to support her belief that the power that joined their minds was wholly unaffected by distance. They had often spoken to each other without difficulty from opposite sides of the planet, yes, but would it be so simple when they were half a galaxy apart? During the early hours of the voyage she and Yvonne kept up a virtually continuous linking, and the signal remained clear and sharp, with no perceptible falling off of reception, as the ship headed outward. Past the orbit of the moon, past the million-kilometer mark, past the orbit of Mars: clear and sharp, clear and sharp. They had passed the first test: clarity of signal was not a quantitative function of distance. But Noelle remained unsure of what would happen once the ship abandoned conventional power and shunted into nospace in order to attain faster-than-light velocity. She would then be in a space apart from Yvonne; in effect she would be in another universe; would she still be able to reach her sister's mind? Tension rose in her as the moment of the shunt approached, for she had no idea what life would be like for her in the absence of Yvonne. To face that dreadful silence, to find herself thrust into such terrible isolation—but it did not happen. They entered nospace and her awareness of Yvonne never flickered. *Here we are, wherever we are*, she said, and moments later came Yvonne's response, a cheery greeting from the old continuum. Clear and sharp, clear and sharp. Nor did the signal grow more tenuous in the weeks that followed. Clear and sharp, clear and sharp, until the static began.

The year-captain visualizes the contact between the two sisters as an arrow whistling from star to star, as fire speeding through a shining tube, as a river of pure force coursing down a celestial waveguide. He sees the

joining of those two minds as a stream of pure light binding the moving ship to the far-off mother world. Sometimes he dreams of Yvonne and Noelle, Noelle and Yvonne, and the glowing bond that stretches between the sisters gives off so brilliant a radiance that he stirs and moans and presses his forehead into the pillow.

The interference grows worse. Neither Noelle nor Yvonne can explain what is happening; Noelle clings, without conviction, to her sunspot analogy. They still manage to make contact twice daily, but it is increasingly a strain on the sisters' resources, for every sentence must be repeated two or three times, and whole blocks of words now do not get through at all. Noelle has become thin and haggard. *Go* refreshes her, or at least diverts her from this failing of her powers. She has become a master of the game, awarding even Roy a two-stone handicap; although she occasionally loses, her play is always distinguished, extraordinarily original in its sweep and design. When she is not playing she tends to be remote and aloof. She is in all aspects a more elusive person than she was before the onset of this communications crisis.

Noelle dreams that her blindness has been taken from her. Sudden light surrounds her, and she opens her eyes, sits up, looks about in awe and wonder, saying to herself, this is a table, this is a chair, this is how my statuettes look, this is what my sea urchin is like. She is amazed by the beauty of everything in her room. She rises, goes forward, stumbling at first, groping, then magically gaining poise and balance, learning how to walk in this new way, judging the positions of things not by echoes and air currents but rather by using her eyes. Information floods her. She moves about the ship, discovering the faces of her shipmates. You are Roy, you are Sylvia, you are Heinz, you are the year-captain. They look, surprisingly, very much as she had imagined them: Roy fleshy and red-raced, Sylvia fragile, the year-captain lean and fierce, Heinz like this, Elliot like that, everyone matching expectations. Everyone beautiful. She goes to the window of which the others all talk, and looks out into the famous grayness. Yes, yes, it is as they say it is: a cosmos of wonders, a miracle of complex pulsating tones, level after level of incandescent reverberation sweeping outward toward the rim of the boundless universe. For an hour she stands before that dense burst of rippling energies, giving herself to it and taking it into herself, and then, and then, just as the ultimate moment of illumination is coming over her, she realizes that something is wrong.

Yvonne is not with her. She reaches out and does not reach Yvonne. She has somehow traded her power for the gift of sight. Yvonne? Yvonne? All is still. Where is Yvonne? Yvonne is not with her. This is only a dream, Noelle tells herself, and I will soon awaken. But she cannot awaken. In terror she cries out. It's all right, Yvonne whispers. I'm here, love, I'm here, I'm here, just as always. Yes. Noelle feels the closeness. Trembling, she embraces her sister. Looks at her. I can see, Yvonne! I can see! Noelle realizes that in her first rapture she quite forgot to look at herself, though she rushed about looking at everything else. Mirrors have never been part of her world. She looks at Yvonne, which is like looking at herself, and Yvonne is beautiful, her hair dark and silken and lustrous, her face smooth and pale, her features fine of outline, her eyes— her blind eyes—alive and sparkling. Noelle tells Yvonne how beautiful she is, and Yvonne nods, and they laugh and hold one another close, and they begin to weep with pleasure and love, and Noelle awakens, and the world is dark around her.

"I have the day's report," the year-captain says wearily. "Do you feel like trying again?"

"Of course I do." She gives him a ferocious smile. "Don't even hint at giving up, year-captain. We're going to find some way to get around this interference."

"I hope you're right." He rustles his papers. "Okay. Let's go, Noelle. Shipday 128. Velocity. ..."

"Give me another moment to get ready," Noelle says.

He falls silent. She closes her eyes and prepares to send. She is conscious, as ever, of the presence of Yvonne. Even when no specific information is flowing between them, there is perpetual contact, there is the sense of the other's being near, that warm proprioceptive awareness such as one has of one's own arm or leg or lip. But between that impalpable subliminal contact and the transmission of specific content must come several steps. Yvonne and Noelle are human biopsychic resonators constituting a communications network; there is a tuning procedure for them as for any transmitters and receivers. Noelle opens herself to the radiant energy spectrum, vibratory, pulsating, that will carry her message to her Earthbound sister. As the transmitting circuit in this interchange she must be the one to attain maximum energy flow. Quickly, intuitively, she activates her own energy centers, the one in the spine, the one in the solar plexus, the one at the top of the skull; energy pours from her and instantaneously spans the galaxy. But today there is an odd and



troublesome splashback effect: monitoring the circuit, she is immediately aware that the signal has failed to reach Yvonne. Yvonne is there, Yvonne is tuned and expectant, yet something is jamming the channel and nothing gets through, not a single syllable. "The interference is worse than ever," she tells the year-captain. "I feel as if I could put my hand out and *touch* Yvonne. But she's not reading me and nothing's coming back from her." With a little shake of her shoulders Noelle alters the sending frequency; she feels a corresponding adjustment at Yvonne's end of the connection; but again they are thwarted, again there is total blockage. Her signal is going forth and is being soaked up by—what? How can such a thing happen?

Now she makes a determined effort to boost the output of the system. She addresses herself to the neural center in her spine, exciting its energies, using them to drive the next center to a more intense vibrational tone, harnessing that to push the highest center of all to its greatest harmonic capacity. Up and down the energy bands she roves. Nothing. Nothing. She shivers; she huddles; she is physically emptied by the strain. "I can't get through," she murmurs. "She's there, I can feel her there, I know she's working to read me. But I can't transmit any sort of intelligible coherent message."

Almost seventeen light-years from Earth and the only communication channel is blocked. The year-captain is overwhelmed by frosty terrors. The ship, the self-sufficient autonomous ship, has become a mere gnat blowing in a hurricane. The voyagers hurtle blindly into the depths of an unknown universe, alone, alone, alone. He was so smug about not needing any link to Earth; but now that the link is gone he shivers and cowers. Everything has been made new. There are no rules. Human beings have never been this far from home. He presses himself against the viewplate and the famous grayness just beyond, swirling and eddying, mocks him with its immensity. Leap into me, it calls, leap, leap, lose yourself in me, drown in me.

Behind him: the sound of soft footsteps. Noelle. She touches his hunched, knotted shoulders. "It's all right," she whispers. "You're over-reacting. Don't make such a tragedy out of it." But it is. Her tragedy, more than anyone's, hers and Yvonne's. But also his, theirs, everybody's. Cut off. Lost in a foggy silence.

Down in the lounge people are singing. Boisterous voices, Elliot, Chiang, Leon.

Travelin' Dan was a spacefarin' man  
He jumped in the nospace tube.

The year-captain whirls, seizes Noelle, pulls her against him. Feels her trembling. Comforts her, where a moment before she had been comforting him. Yes, yes, yes, yes, he murmurs. With his arm around her shoulders he turns, so that both of them are facing the viewplate. As if she could see. Nospace dances and churns an inch from his nose. He feels a hot wind blowing through the ship, the khamsin, the sirocco, the simoom, the leveche, a sultry wind, a killing wind coming out of the gray strangeness, and he forces himself not to fear that wind. It is a wind of life, he tells himself, a wind of joy, a cool sweet wind, the mistral, the tramontana. Why should he think there is anything to fear in the realm beyond the viewplate? How beautiful it is out there, how ecstatically beautiful! How sad that we can never tell anyone about it, now, except one another. A strange peace unexpectedly descends on him. Everything is going to be all right, he insists. No harm will come of what has happened. And perhaps some good. And perhaps some good. Benefits lurk in the darkest places.

She plays *go* obsessively, beating everyone. She seems to live in the lounge twenty hours a day. Sometimes she takes on two opponents at once—an incredible feat, considering that she must hold the constantly changing intricacies of both boards in her memory—and defeats them both: two days after losing verbal-level contact with Yvonne, she simultaneously triumphs over Roy and Heinz before an audience of thirty. She looks animated and buoyant; the sorrow she must feel over the snapping of the link she takes care to conceal. She expresses it, the others suspect, only by her manic *go*-playing. The year-captain is one of her most frequent adversaries, taking his turn at the board in the time he would have devoted to composing and dictating the communiques for Earth. He had thought *go* was over for him years ago, but he, too, is playing obsessively now, building walls and the unassailable fortresses known as eyes. There is reassurance in the rhythmic clacking march of the black and white stones. Noelle wins every game against him. She covers the board with eyes.

Who can explain the interference? No one believes that the problem is a function of anything so obvious as distance. Noelle has been quite

convincing on that score: a signal that propagates perfectly for the first sixteen light-years of a journey ought not suddenly to deteriorate. There should at least have been prior sign of attenuation, and there was no attenuation, only noise interfering with and ultimately destroying the signal. Some force is intervening between the sisters. But what can it be? The idea that it is some physical effect analogous to sunspot static, that it is the product of radiation emitted by some giant star in whose vicinity they have lately been traveling, must in the end be rejected. There is no energy interface between realspace and nospace, no opportunity for any kind of electromagnetic intrusion. That much had been amply demonstrated long before any manned voyages were undertaken. The nospace tube is an impermeable wall. Nothing that has mass or charge can leap the barrier between the universe of accepted phenomena and the cocoon of nothingness that the ship's drive mechanism has woven about them, nor can a photon get across, nor even a slippery neutrino.

Many speculations excite the voyagers. The one force that *can* cross the barrier, Roy points out, is thought: intangible, unmeasurable, limitless. What if the sector of realspace corresponding to this region of the nospace tube is inhabited by beings of powerful telepathic capacity whose transmissions, flooding out over a sphere with a radius of many light-years, are able to cross the barrier just as readily as those of Yvonne? The alien mental emanations, Roy supposes, are smothering the signal from Earth.

Heinz extends this theory into a different possibility: that the interference is caused by denizens of nospace. There is a seeming paradox in this, since it has been shown mathematically that the nospace tube must be wholly matter-free except for the ship that travels through it; otherwise a body moving at speeds faster than light would generate destructive resonances as its mass exceeds infinity. But perhaps the equations are imperfectly understood. Heinz imagines giant incorporeal beings as big as asteroids, as big as planets, masses of pure energy or even pure mental force that drift freely through the tube. These beings may be sources of bio-psychic transmissions that disrupt the Yvonne-Noelle circuit, or, maybe, they are actually *feeding* on the sisters' mental output, Heinz postulates. "Angels," he calls them. It is an implausible but striking concept that fascinates everyone for several days. Whether the "angels" live within the tube as proposed by Heinz, or on some world just outside it as pictured by Roy, is unimportant at the moment; the consensus aboard ship is that the interference is the work of an alien intelligence, and that arouses wonder in all.

What to do? Leon, inclining toward Roy's hypothesis, moves that they leave nospace immediately and seek the world or worlds where the "angels" dwell. The year-captain objects, noting that the plan of the voyage obliges them to reach a distance of one hundred light-years from Earth before they begin their quest for habitable planets. Roy and Leon argue that the plan is merely a guide, arbitrarily conceived, and not received scriptural writ; they are free to depart from it if some pressing reason presents itself. Heinz, supporting the year-captain, remarks that there is no need actually to leave nospace regardless of the source of the alien transmissions; if the thoughts of these creatures can come in from beyond the tube, then Noelle's thoughts can surely go outward through the tube to them, and contact can be established without the need of deviating from the plan. After all, if the interference is the work of beings sharing the tube with them, and the voyagers seek them in vain outside the tube, it may be impossible to find them again once the ship returns to nospace. This approach seems reasonable, and the question is put to Noelle: Can you attempt to open a dialogue with these beings?

She laughs. "I make no guarantees. I've never tried to talk to angels before. But I'll try, my friends. I'll try."

BLACK	WHITE	Black remains on offen-
(Year- Captain)	(Noelle)	sive through Move 89. White then
R16	Q4	breaks through weak north
C4	E3	stones and encloses a
D17	D15	major center territory,
E16	K17	Black is unable to reply
O17	E15	adequately and White
H17	M17	runs a chain of stones
R6	Q6	along the 19th line.
Q7	P6	At Move 141 Black
R5	R4	launches a hopeless at-
D6	C11	tack, easily crushed by
K3	H3	White, inside White's
N4	O4	territory. Game ends at

N3	O3	Move 196 after Black
R10	C8	is faced with the cat-
O15 ...	M15 ...	in-the-basket trap, by which it will lose a large group in the process of capturing one stone. Score: White 81, Black 62.

She has never done anything like this before. It seems almost an act of infidelity, this opening of her mind to something or someone who is not Yvonne. But it must be done. She extends a tenuous tendril of thought that probes like a rivulet of quicksilver. Through the wall of the ship, into the surrounding grayness, upward, outward, toward, toward—

—angels?—

Angels. Oh. Brightness. Strength. Magnetism. Yes. Awareness now of a fierce roiling mass of concentrated energy close by. A mass in motion, laying a terrible stress on the fabric of the cosmos: the angel has angular momentum. It tumbles ponderously on its colossal axis. Who would have thought an angel could be so huge? Noelle is oppressed by the shifting weight of it as it makes its slow heavy axial swing. She moves closer. Oh. She is dazzled. *Too much light! Too much power!* She draws back, overwhelmed by the intensity of the other being's output. Such a mighty mind: she feels dwarfed. If she touches it with her mind she will be destroyed. She must step down the aperture, establish some kind of transformer to shield herself against the full blast of power that comes from it. It requires time and discipline. She works steadily, making adjustments, mastering new techniques, discovering capacities she had not known she possessed. And now. Yes. Try again. Slowly, slowly, slowly, with utmost care. Outward goes the tendril.

Yes.

Approaching the angel.

*See? Here am I. Noelle. Noelle. Noelle. I come to you in love and fear. Touch me lightly. Just touch me—*

Just a touch-Touch—

Oh. Oh.

*I see you. The light—eye of crystal—fountains of lava —oh, the light—  
your light—I see—I see—*

Oh, like a god—

*—and Semele unshed to behold Zeus in all his brightness, and Zeus  
would have discouraged her; but Semele insisted and Zeus who loved her  
could not refuse her; so Zeus came upon her in full majesty and Semele  
was consumed by his glory, so that only the ashes of her remained, but  
the son she had conceived by Zeus, the boy Dionysus, was not destroyed,  
and Zeus saved Dionysus and took him away sealed in his thigh,  
bringing him forth afterward and bestowing godhood upon him—*

—oh God I am Semele—

She withdraws again. Rests, regroups her powers. The force of this being is frightening. But there are ways of insulating herself against destruction, of letting the overflow of energy dissipate itself. She will try once more. She knows she stands at the brink of wonders. Now. Now. The questing mind reaches forth.

*I am Noelle. I come to you in love, angel.*

Contact.

The universe is burning. Bursts of wild silver light streak across the metal dome of the sky. Words turn to ash. Walls smoulder and burst into flames. There is contact. A dancing solar flare—a stream of liquid fire—a flood-tide of brilliant radiance, irresistible, unendurable, running into her, sweeping over her, penetrating her. Light everywhere.

—*Semele.*

The angel smiles and she quakes. *Open to me*, cries the vast tolling voice, and she opens and the force enters fully, sweeping through her

optic chiasma

sylvian fissure

medulla oblongata

pons varolii

corpus callosum

cuncus

cingulate gyrus

— cerebrum! —

claustrum

operculum

putamen

fornix

choroid glomus

medial lemniscus

—MESENCEPHALON!—

dura mater

dural sinus

arachnoid granulation

subarachnoid space

pia mater

cerebellum

cerebellum

cerebellum

\* \* \*

She has been in a coma for days, wandering in delirium. Troubled, fearful, the year-captain keeps a somber vigil at her bedside. Sometimes she seems to rise toward consciousness; intelligible words, even whole sentences, bubble dreamily from her lips. She talks of light, of a brilliant, unbearable white glow, of arcs of energy, of intense solar eruptions. A star holds me, she mutters. She tells him that she has been conversing with a star. How poetic, the year-captain thinks: what a lovely metaphor. Conversing with a star. But where is she, what is happening to her? Her face is flushed; her eyes move about rapidly, darting like trapped fish beneath her closed lids. Mind to mind, she whispers, the star and I, mind to mind. She begins to hum—an edgy, whining sound, climbing almost toward inaudibility, a high-frequency keening. It pains him to hear it: hard aural radiation. Then she is silent.

Her body goes rigid. A convulsion of some sort? No. She is awakening. He sees lightning-bolts of perception flashing through her quivering

musculature: the galvanized frog, twitching at the end of its leads. Her eyelids tremble. She makes a little moaning noise.

She looks up at him.

The year-captain says gently, "Your eyes are open. I think you can see me now, Noelle. Your eyes are tracking me, aren't they?"

"I can see you, yes." Her voice is hesitant, faltering, strange for a moment, a foreign voice, but then it becomes more like its usual self as she asks, "How long was I away?"

"Eight ship-days. We were worried."

"You look exactly as I thought you would look," she says. "Your face is hard. But not a dark face. Not a hostile face."

"Do you want to talk about where you went, Noelle?"

She smiles. "I talked with the—angel."

"Angel?"

"Not really an angel, year-captain. Not a physical being, either, not any kind of alien species. More like the energy-creatures Heinz was discussing. But bigger. Bigger. I don't know what it was, year-captain."

"You told me you were talking with a star."

"—a star!"

"In your delirium. That's what you said."

Her eyes blaze with excitement, "A star! Yes! Yes, year-captain! I think I was, yes!"

"But what does that mean: talking to a star?"

She laughs. "It means talking to a star, year-captain. A great ball of fiery gas, year-captain, and it has a mind, it has a consciousness. I think that's what it was. I'm sure, now. I'm sure!"

"But how can a—"

"The light goes abruptly from her eyes. She is traveling again; she is no longer with him. He waits beside her bed. An hour, two hours, half a day. What bizarre realm has she penetrated? Her breathing is a distant, impersonal drone. So far away from him now, so remote from any place he comprehends. At last her eyelids flicker. She looks up. Her face seems transfigured. To the year-captain she still appears to be partly in that other world beyond the ship. "Yes," she says. "Not an angel, year-captain. A sun. A living intelligent sun." Her eyes are radiant. "A sun, a star, a sun,"



she murmurs. "I touched the consciousness of a sun. Do you believe that, year-captain? I found a network of stars that live, that think, that have minds, that have souls. That communicate. The whole universe is alive."

"A star," he says dully. "The stars have minds."

"Yes."

"All of them? Our own sun too?"

"All of them. We came to the place in the galaxy where this star lives, and it was broadcasting on my wavelength, and its output began overriding my link with Yvonne. That was the interference, year-captain. The big star, broadcasting."

This conversation has taken on for him the texture of a dream. He says quietly, "Why didn't Earth's sun override you and Yvonne when you were on Earth?"

She shrugs. "It isn't old enough. It takes—I don't know —billions of years until they're mature, until they can transmit. Our sun isn't old enough, year-captain. None of the stars close to Earth is old enough. But out here—"

"Are you in contact with it now?"

"Yes. With it and with many others. And with Yvonne."

"Yvonne too?"

"She's back in the link with me. She's in the circuit." Noelle pauses. "I can bring others into the circuit. I could bring you in, year-captain."

"Me?"

"You. Would you like to touch a star with your mind?"

"What will happen to me? Will it harm me?"

"Did it harm me, year-captain?"

"Will I still be me afterward?"

"Am I still me, year-captain?"

"I'm afraid."

"Open to me. Try. See what happens."

"I'm afraid."

"Touch a star, year-captain."

He puts his hand on hers. "Go ahead," he says, and his soul becomes a solarium.

Afterward, with the solar pulsations still reverberating in the mirrors of his mind, with blue-white sparks leaping in his synapses, he says, "What about the others?"

"I'll bring them in too."

He feels a flicker of momentary resentment. He does not want to share the illumination. But in the instant that he conceives his resentment, he abolishes it. *Let them in.*

"Take my hand," Noelle says.

They reach out together. One by one they touch the others. Roy. Sylvia. Heinz. Elliot. He feels Noelle surging in tandem with him, feels Yvonne, feels greater presences, luminous, eternal. All are joined. Ship-sister, star-sister: all become one. The year-captain realizes that the days of playing *go* have ended. They are one person; they are beyond games.

"And now," Noelle whispers. "Now we reach toward Earth. We put our strength into Yvonne, and Yvonne—"

Yvonne draws Earth's seven billion into the network.

The ship hurtles through the nospace tube. Soon the year-captain will initiate the search for a habitable planet. If they discover one, they will settle there. If not, they will go on, and it will not matter at all, and the ship and its seven billion passengers will course onward forever, warmed by the light of the friendly stars.