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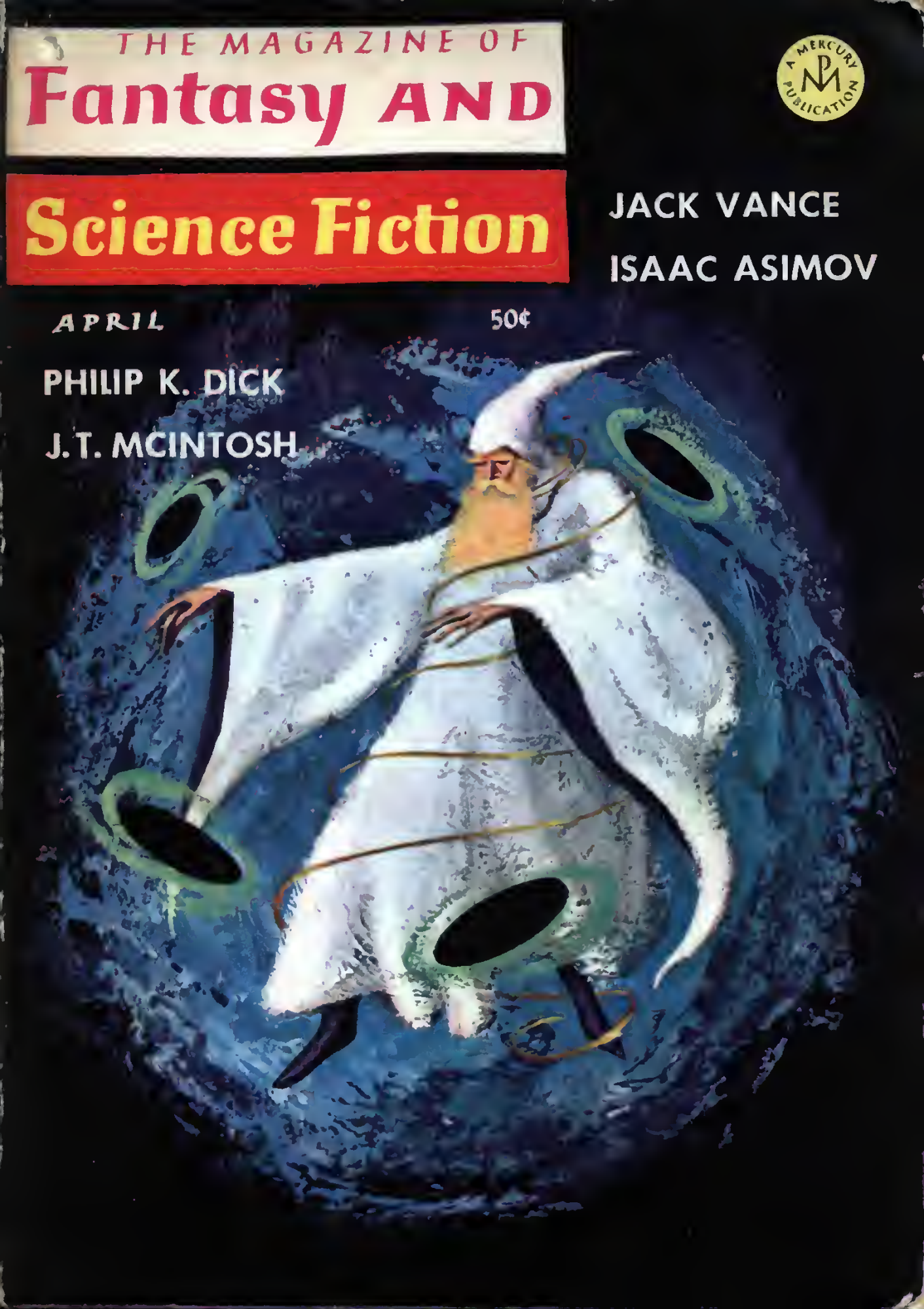

Fantasy and Science Fiction

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Surely one of man's most difficult tasks is to learn to live with his memories. When, as for Douglas Quail, those include a dull job, a wilting marriage and little else, then something must be done. As, for instance, changing those memories. If you are a new reader and this concept seems far-fetched to you, we suggest that you check Ted Thomas's column on page 62.

WE CAN REMEMBER IT FOR YOU WHOLESALE

by Philip K. Dick

HE AWOKE—AND WANTED Mars. The valleys, he thought. What would it be like to trudge among them? Great and greater yet: the dream grew as he became fully conscious, the dream and the yearning. He could almost feel the enveloping presence of the other world, which only Government agents and high officials had seen. A clerk like himself? Not likely.

"Are you getting up or not?" his wife Kirsten asked drowsily, with her usual hint of fierce crossness. "If you are, push the hot coffee button on the darn stove."

"Okay," Douglas Quail said, and made his way barefoot from the bedroom of their conapt to the kitchen. There, having dutifully pressed the hot coffee button, he seated himself at the kitchen table, brought out a yellow, small tin of fine Dean Swift snuff. He inhaled briskly, and the Beau Nash mixture stung his nose, burned the roof of his mouth. But still he inhaled; it woke him up and allowed his dreams, his noctural desires and random wishes, to condense into a semblance of rationality.

I will go, he said to himself. Before I die I'll see Mars.

It was, of course, impossible, and he knew this even as he dreamed. But the daylight, the mundane noise of his wife now brushing her hair before the bedroom mirror—everything conspired to remind him of what he was. A miserable little salaried employee, he said to himself with bitterness. Kirsten reminded him of this at least once a day and he did not blame her; it was a wife's job to bring her husband down to Earth. Down to Earth, he thought, and laughed. The figure of speech in this was literally apt.

"What are you sniggering about?" his wife asked as she swept into the kitchen, her long busy-pink robe wagging after her. "A dream, I bet. You're always full of them."

"Yes," he said, and gazed out the kitchen window at the hovercars and traffic runnels, and all the little energetic people hurrying to work. In a little while he would be among them. As always.

"I'll bet it has to do with some woman," Kirsten said witheringly.

"No," he said. "A god. The god of war. He has wonderful craters with every kind of plant-life growing deep down in them."

"Listen." Kirsten crouched down beside him and spoke earnestly, the harsh quality momentarily gone from her voice. "The bottom of the ocean—*our* ocean is much more, an infinity of times more beautiful. You know that; everyone knows that. Rent an artificial gill-outfit for both of us, take a week off from work, and we can descend and live down there at one of those year-round aquatic resorts. And in addition—" She broke off. "You're not listening. You should be. Here is something a lot better than that compulsion, that obsession you have about Mars, and you don't even listen!" Her voice rose piercingly. "God in heaven, you're doomed, Doug! What's going to become of you?"

"I'm going to work," he said, rising to his feet, his breakfast forgotten. "That's what's going to become of me."

She eyed him. "You're getting worse. More fanatical every day. Where's it going to lead?"

"To Mars," he said, and opened the door to the closet to get down a fresh shirt to wear to work.

Having descended from the taxi Douglas Quail slowly walked across three densely-populated foot runnels and to the modern, attractively inviting doorway. There he halted, impeding mid-morning traffic, and with caution read the shifting-color neon sign. He had, in the past, scrutinized this sign before . . . but never had he come so close. This was very different; what he did now was something else. Something which sooner or later had to happen.

REKAL, INCORPORATED

Was this the answer? After all,

an illusion, no matter how convincing, remained nothing more than an illusion. At least objectively. But subjectively—quite the opposite entirely.

And anyhow he had an appointment. Within the next five minutes.

Taking a deep breath of mildly smog-infested Chicago air, he walked through the dazzling polychromatic shimmer of the doorway and up to the receptionist's counter.

The nicely-articulated blonde at the counter, bare-bosomed and tidy, said pleasantly, "Good morning, Mr. Quail."

"Yes," he said. "I'm here to see about a Rekal course. As I guess you know."

"Not 'rekal' but *re*call," the receptionist corrected him. She picked up the receiver of the vidphone by her smooth elbow and said into it, "Mr. Douglas Quail is here, Mr. McClane. May he come inside, now? Or is it too soon?"

"Giz wetwa wum-wum wamp," the phone mumbled.

"Yes, Mr. Quail," she said. "You may go on in; Mr. McClane is expecting you." As he started off uncertainly she called after him, "Room D, Mr. Quail. To your right."

After a frustrating but brief moment of being lost he found the proper room. The door hung open and inside, at a big genuine walnut desk, sat a genial-looking man, middle-aged, wearing the latest Martian frog-pelt gray suit; his attire alone would have told Quail that he had come to the right person.

"Sit down, Douglas," McClane said, waving his plump hand toward a chair which faced the desk. "So you want to have gone to Mars. Very good."

Quail seated himself, feeling tense. "I'm not so sure this is worth the fee," he said. "It costs a lot and as far as I can see I really get nothing." Costs almost as much as going, he thought.

"You get tangible proof of your trip," McClane disagreed emphatically. "All the proof you'll need. Here; I'll show you." He dug within a drawer of his impressive desk. "Ticket stub." Reaching into a manila folder he produced a small square of embossed cardboard. "It proves you went—and returned. Postcards." He laid out four franked picture 3-D full-color postcards in a neatly-arranged row on the desk for Quail to see. "Film. Shots you took of local sights on Mars with a rented movie camera." To Quail he displayed those, too. "Plus the names of people you met, two hundred poscreds worth of souvenirs, which will arrive—from Mars—within the following month. And passport, certificates listing the shots you received. And more." He glanced up keenly at Quail. "You'll

know you went, all right," he said. "You won't remember us, won't remember me or ever having been here. It'll be a real trip in your mind; we guarantee that. A full two weeks of recall; every last piddling detail. Remember this: if at any time you doubt that you really took an extensive trip to Mars you can return here and get a full refund. You see?"

"But I didn't go," Quail said. "I won't have gone, no matter what proofs you provide me with." He took a deep, unsteady breath. "And I never was a secret agent with Interplan." It seemed impossible to him that Rekal, Incorporated's extra-factual memory implant would do its job—despite what he had heard people say.

"Mr. Quail," McClane said patiently. "As you explained in your letter to us, you have no chance, no possibility in the slightest, of ever actually getting to Mars; you can't afford it, and what is much more important, you could never qualify as an undercover agent for Interplan or anybody else. This is the only way you can achieve your, ahem, life-long dream; am I not correct, sir? You can't be this; you can't actually do this." He chuckled. "But you can *have been* and *have done*. We see to that. And our fee is reasonable; no hidden charges." He smiled encouragingly.

"Is an extra-factual memory that convincing?" Quail asked.

"More than the real thing, sir. Had you really gone to Mars as an Interplan agent, you would by now have forgotten a great deal; our analysis of true-mem systems —authentic recollections of major events in a person's life—shows that a variety of details are very quickly lost to the person. Forever. Part of the package we offer you is such deep implantation of recall that nothing is forgotten. The packet which is fed to you while you're comatose is the creation of trained experts, men who have spent years on Mars; in every case we verify details down to the last iota. And you've picked a rather easy extra-factual system; had you picked Pluto or wanted to be Emperor of the Inner Planet Alliance we'd have much more difficulty . . . and the charges would be considerably greater."

Reaching into his coat for his wallet, Quail said, "Okay. It's been my life-long ambition and I can see I'll never really do it. So I guess I'll have to settle for this."

"Don't think of it that way," McClane said severely. "You're not accepting second-best. The actual memory, with all its vagueness, omissions and ellipses, not to say distortions—that's second-best." He accepted the money and pressed a button on his desk. "All right, Mr. Quail," he said, as the door of his office opened and two burly men swiftly entered. "You're on your way to Mars as a secret

agent." He rose, came over to shake Quail's nervous, moist hand. "Or rather, you have been on your way. This afternoon at four-thirty you will, um, arrive back here on Terra; a cab will leave you off at your conapt and as I say you will never remember seeing me or coming here; you won't, in fact, even remember having heard of our existence."

His mouth dry with nervousness, Quail followed the two technicians from the office; what happened next depended on them.

Will I actually believe I've been on Mars? he wondered. That I managed to fulfill my lifetime ambition? He had a strange, lingering intuition that something would go wrong. But just what—he did not know.

He would have to wait to find out.

The intercom on McClane's desk, which connected him with the work-area of the firm, buzzed and a voice said, "Mr. Quail is under sedation now, sir. Do you want to supervise this one, or shall we go ahead?"

"It's routine," McClane observed. "You may go ahead, Lowe; I don't think you'll run into any trouble." Programming an artificial memory of a trip to another planet—with or without the added fillip of being a secret agent—showed up on the firm's work-schedule with monotonous regularity. In one month, he calculated wryly, we must do twenty of these . . . ersatz interplanetary travel has become our bread and butter.

"Whatever you say, Mr. McClane," Lowe's voice came, and thereupon the intercom shut off.

Going to the vault section in the chamber behind his office, McClane searched about for a Three packet—trip to Mars—and a Sixty-two packet: secret Interplan spy. Finding the two packets, he returned with them to his desk, seated himself comfortably, poured out the contents—merchandise which would be planted in Quail's conapt while the lab technicians busied themselves installing the false memory.

A one-poscred sneaky-pete side arm, McClane reflected; that's the largest item. Sets us back financially the most. Then a pellet-sized transmitter, which could be swallowed if the agent were caught. Code book that astonishingly resembled the real thing . . . the firm's models were highly accurate: based, whenever possible, on actual U.S. military issue. Odd bits which made no intrinsic sense but which would be woven into the warp and woof of Quail's imaginary trip, would coincide with his memory: half an ancient silver fifty cent piece, several quotations from John Donne's sermons written incorrectly, each on a separate piece of

transparent tissue-thin paper, several match folders from bars on Mars, a stainless steel spoon engraved PROPERTY OF DOME-MARS NATIONAL KIBBUZIM, a wire tapping coil which—

The intercom buzzed. "Mr. McClane, I'm sorry to bother you but something rather ominous has come up. Maybe it would be better if you were in here after all. Quail is already under sedation; he reacted well to the narkidrine; he's completely unconscious and receptive. But—"

"I'll be in." Sensing trouble, McClane left his office; a moment later he emerged in the work area.

On a hygienic bed lay Douglas Quail, breathing slowly and regularly, his eyes virtually shut; he seemed dimly—but only dimly—aware of the two technicians and now McClane himself.

"There's no space to insert false memory-patterns?" McClane felt irritation. "Merely drop out two work weeks; he's employed as a clerk at the West Coast Emigration Bureau, which is a government agency, so he undoubtedly has or had two weeks vacation within the last year. That ought to do it." Petty details annoyed him. And always would.

"Our problem," Lowe said sharply, "is something quite different." He bent over the bed, said to Quail, "Tell Mr. McClane what you told us." To McClane he said, "Listen closely."

The gray-green eyes of the man lying supine in the bed focussed on McClane's face. The eyes, he observed uneasily, had become hard; they had a polished, inorganic quality, like semi-precious tumbled stones. He was not sure that he liked what he saw; the brilliance was too cold. "What do you want now?" Quail said harshly. "You've broken my cover. Get out of here before I take you all apart." He studied McClane. "Especially you," he continued. "You're in charge of this counter-operation."

Lowe said, "How long were you on Mars?"

"One month," Quail said gratingly.

"And your purpose there?" Lowe demanded.

The meager lips twisted; Quail eyed him and did not speak. At last, drawling the words out so that they dripped with hostility, he said, "Agent for Interplan. As I already told you. Don't you record everything that's said? Play your vid-aud tape back for your boss and leave me alone." He shut his eyes, then; the hard brilliance ceased. McClane felt, instantly, a rushing splurge of relief.

Lowe said quietly, "This is a tough man, Mr. McClane."

"He won't be," McClane said, "After we arrange for him to lose his memory-chain again. He'll be as meek as before." To Quail he said, "So *this* is why you wanted to go to Mars so terribly badly."

Without opening his eyes Quail said, "I never wanted to go to Mars. I was assigned it—they handed it to me and there I was: stuck. Oh yeah, I admit I was curious about it; who wouldn't be?" Again he opened his eyes and surveyed the three of them, McClane in particular. "Quite a truth drug you've got here; it brought up things I had absolutely no memory of." He pondered. "I wonder about Kirsten," he said, half to himself. "Could she be in on it? An Interplan contact keeping an eye on me . . . to be certain I didn't regain my memory? No wonder she's been so derisive about my wanting to go there." Faintly, he smiled; the smile—one of understanding—disappeared almost at once.

McClane said, "Please believe me, Mr. Quail; we stumbled onto this entirely by accident. In the work we do—"

"I believe you," Quail said. He seemed tired, now; the drug was continuing to pull him under, deeper and deeper. "Where did I say I'd been?" he murmured. "Mars? Hard to remember—I know I'd like to see it; so would everybody else. But me—" His voice trailed off. "Just a clerk, a nothing clerk."

Straightening up, Lowe said to his superior, "He wants a false memory implanted that corresponds to a trip he actually took. And a false reason which is the real reason. He's telling the truth; he's a long way down in the narkidrine. The trip is very vivid in his mind—at least under sedation. But apparently he doesn't recall it otherwise. Someone, probably at a government military-sciences lab, erased his conscious memories; all he knew was that going to Mars meant something special to him, and so did being a secret agent. They couldn't erase that; it's not a memory but a desire, undoubtedly the same one that motivated him to volunteer for the assignment in the first place."

The other technician, Keeler, said to McClane, "What do we do? Graft a false memory-pattern over the real memory? There's no telling what the results would be; he might remember some of the genuine trip, and the confusion might bring on a psychotic interlude. He'd have to hold two opposite premises in his mind simultaneously: that he went to Mars and that he didn't. That he's a genuine agent for Interplan and he's not, that it's spurious. I think we ought to revive him without any false memory implantation and send him out of here; this is hot."

"Agreed," McClane said. A thought came to him. "Can you predict what he'll remember when he comes out of sedation?"

"Impossible to tell," Lowe said. "He probably will have some dim, diffuse memory of his actual trip, now. And he'd probably be in

grave doubt as to its validity; he'd probably decide our programming slipped a gear-tooth. And he'd remember coming here; that wouldn't be erased—unless you want it erased."

"The less we mess with this man," McClane said, "the better I like it. This is nothing for us to fool around with; we've been foolish enough to—or unlucky enough to—uncover a genuine Interplan spy who has a cover so perfect that up to now even he didn't know what he was—or rather is." The sooner they washed their hands of the man calling himself Douglas Quail the better.

"Are you going to plant packets Three and Sixty-two in his conapt?" Lowe said.

"No," McClane said. "And we're going to return half his fee."

"'Half'! Why half?"

McClane said lamely, "It seems to be a good compromise."

As the cab carried him back to his conapt at the residential end of Chicago, Douglas Quail said to himself, It's sure good to be back on Terra.

Already the month-long period on Mars had begun to waver in his memory; he had only an image of profound gaping craters, an ever-present ancient erosion of hills, of vitality, of motion itself. A world of dust where little happened, where a good part of the day was spent checking and rechecking one's portable oxygen source. And then the life forms, the unassuming and modest gray-brown cacti and maw-worms.

As a matter of fact he had brought back several moribund examples of Martian fauna; he had smuggled them through customs. After all, they posed no menace; they couldn't survive in Earth's heavy atmosphere.

Reaching into his coat pocket he rummaged for the container of Martian maw-worms—

And found an envelope instead.

Lifting it out he discovered, to his perplexity, that it contained five hundred and seventy poscreds, in cred bills of low denomination.

Where'd I get this? he asked himself. Didn't I spend every 'cred I had on my trip?

With the money came a slip of paper marked: *one-half fee ret'd. By McClane.* And then the date. Today's date.

"Recall," he said aloud.

"Recall what, sir or madam?" the robot driver of the cab inquired respectfully.

"Do you have a phone book?" Quail demanded.

"Certainly, sir or madam." A slot opened; from it slid a microtape phone book for Cook County.

"It's spelled oddly," Quail said as he leafed through the pages of the yellow section. He felt fear, then; abiding fear. "Here it is," he said. "Take me there, to Rekal, In-

corporated. I've changed my mind; I don't want to go home."

"Yes sir, or madam, as the case may be," the driver said. A moment later the cab was zipping back in the opposite direction.

"May I make use of your phone?" he asked.

"Be my guest," the robot driver said. And presented a shiny new emperor 3-D color phone to him.

He dialed his own conapt. And after a pause found himself confronted by a miniature but chillingly realistic image of Kirsten on the small screen. "I've been to Mars," he said to her.

"You're drunk." Her lips writhed scornfully. "Or worse."

"'S god's truth."

"When?" she demanded.

"I don't know." He felt confused. "A simulated trip, I think. By means of one of those artificial or extra-factual or whatever it is memory places. It didn't take."

Kirsten said witheringly, "You *are* drunk." And broke the connection at her end. He hung up, then, feeling his face flush. Always the same tone, he said hotly to himself. Always the retort, as if she knows everything and I know nothing. What a marriage. Keerist, he thought dismally.

A moment later the cab stopped at the curb before a modern, very attractive little pink building, over which a shifting, poly-chromatic neon sign read: REKAL, INCORPORATED.

The receptionist, chic and bare from the waist up, started in surprise, then gained masterful control of herself. "Oh hello Mr. Quail," she said nervously. "H-how are you? Did you forget something?"

"The rest of my fee back," he said.

More composed now the receptionist said, "Fee? I think you are mistaken, Mr. Quail. You were here discussing the feasibility of an extrafactual trip for you, but —" She shrugged her smooth pale shoulders. "As I understand it, no trip was taken."

Quail said, "I remember everything, miss. My letter to Rekal, Incorporated, which started this whole business off. I remember my arrival here, my visit with Mr. McClane. Then the two lab technicians taking me in tow and administering a drug to put me out." No wonder the firm had returned half his fee. The false memory of his "trip to Mars" hadn't taken—at least not entirely, not as he had been assured.

"Mr. Quail," the girl said, "although you are a minor clerk you are a good-looking man and it spoils your features to become angry. If it would make you feel any better, I might, ahem, let you take me out . . ."

He felt furious, then. "I remember you," he said savagely. "For instance the fact that your breasts are sprayed blue; that

stuck in my mind. And I remember Mr. McClane's promise that if I remembered my visit to Rekal, Incorporated I'd receive my money back in full. Where is Mr. McClane?"

After a delay—probably as long as they could manage—he found himself once more seated facing the imposing walnut desk, exactly as he had been an hour or so earlier in the day.

"Some technique you have," Quail said sardonically. His disappointment—and resentment—were enormous, by now. "My so-called 'memory' of a trip to Mars as an undercover agent for Interplan is hazy and vague and shot full of contradictions. And I clearly remember my dealings here with you people. I ought to take this to the Better Business Bureau." He was burning angry, at this point; his sense of being cheated had overwhelmed him, had destroyed his customary aversion to participating in a public squabble.

Looking morose, as well as cautious, McClane said, "We capitulate, Quail. We'll refund the balance of your fee. I fully concede the fact that we did absolutely nothing for you." His tone was resigned.

Quail said accusingly, "You didn't even provide me with the various artifacts that you claimed would 'prove' to me I had been on Mars. All that song-and-dance you went into—it hasn't materialized into a damn thing. Not even a ticket stub. Nor postcards. Nor passport. Nor proof of immunization shots. Nor—"

"Listen, Quail," McClane said. "Suppose I told you—" He broke off. "Let it go." He pressed a button on his intercom. "Shirley, will you disburse five hundred and seventy more 'creds in the form of a cashier's check made out to Douglas Quail? Thank you." He released the button, then glared at Quail.

Presently the check appeared; the receptionist placed it before McClane and once more vanished out of sight, leaving the two men alone, still facing each other across the surface of the massive walnut desk.

"Let me give you a word of advice," McClane said as he signed the check and passed it over. "Don't discuss your, ahem, recent trip to Mars with anyone."

"What trip?"

"Well, that's the thing." Doggedly, McClane said, "The trip you partially remember. Act as if you don't remember; pretend it never took place. Don't ask me why; just take my advice: it'll be better for all of us." He had begun to perspire. Freely. "Now, Mr. Quail, I have other business, other clients to see." He rose, showed Quail to the door.

Quail said, as he opened the door, "A firm that turns out such

bad work shouldn't have any clients at all." He shut the door behind him.

On the way home in the cab Quail pondered the wording of his letter of complaint to the Better Business Bureau, Terra Division. As soon as he could get to his typewriter he'd get started; it was clearly his duty to warn other people away from Rekal, Incorporated.

When he got back to his conapt he seated himself before his Hermes Rocket portable, opened the drawers and rummaged for carbon paper—and noticed a small, familiar box. A box which he had carefully filled on Mars with Martian fauna and later smuggled through customs.

Opening the box he saw, to his disbelief, six dead maw-worms and several varieties of the unicellular life on which the Martian worms fed. The protozoa were dried-up, dusty, but he recognized them; it had taken him an entire day picking among the vast dark alien boulders to find them. A wonderful, illuminated journey of discovery.

But I didn't go to Mars, he realized.

Yet on the other hand—

Kirsten appeared at the doorway to the room, an armload of pale brown groceries gripped. "Why are you home in the middle of the day?" Her voice, in an eternity of sameness, was accusing.

"Did I go to Mars?" he asked her. "You would know."

"No, of course you didn't go to Mars; *you* would know that, I would think. Aren't you always bleating about going?"

He said, "By God, I think I went." After a pause he added, "And simultaneously I think I didn't go."

"Make up your mind."

"How can I?" He gestured. "I have both memory-tracks grafted inside my head; one is real and one isn't but I can't tell which is which. Why can't I rely on you? They haven't tinkered with you." She could do this much for him at least—even if she never did anything else.

Kirsten said in a level, controlled voice, "Doug, if you don't pull yourself together, we're through. I'm going to leave you."

"I'm in trouble." His voice came out husky and coarse. And shaking. "Probably I'm heading into a psychotic episode; I hope not, but—maybe that's it. It would explain everything, anyhow."

Setting down the bag of groceries, Kirsten stalked to the closet. "I was not kidding," she said to him quietly. She brought out a coat, got it on, walked back to the door of the conapt. "I'll phone you one of these days soon," she said tonelessly. "This is goodbye, Doug. I hope you pull out of this eventually; I really pray you do. For your sake."

"Wait," he said desperately. "Just tell me and make it absolute; I did go or I didn't—tell me which one." But they may have altered your memory-track also, he realized.

The door closed. His wife had left. Finally!

A voice behind him said, "Well, that's that. Now put up your hands, Quail. And also please turn around and face this way."

He turned, instinctively, without raising his hands.

The man who faced him wore the plum uniform of the Interplan Police Agency, and his gun appeared to be UN issue. And, for some odd reason, he seemed familiar to Quail; familiar in a blurred, distorted fashion which he could not pin down. So, jerkily, he raised his hands.

"You remember," the policeman said, "your trip to Mars. We know all your actions today and all your thoughts—in particular your very important thoughts on the trip home from Rekal, Incorporated." He explained, "We have a telep-transmitter wired within your skull; it keeps us constantly informed."

A telepathic transmitter; use of a living plasma that had been discovered on Luna. He shuddered with self-aversion. The thing lived inside him, within his own brain, feeding, listening, feeding. But the Interplan police used them; that had come out even in the homeopapes. So this was probably true, dismal as it was.

"Why me?" Quail said huskily. What had he done—or thought? And what did this have to do with Rekal, Incorporated?

"Fundamentally" the Interplan cop said, "this has nothing to do with Rekal; it's between you and us." He tapped his right ear. "I'm still picking up your mentational processes by way of your cephalic transmitter." In the man's ear Quail saw a small white-plastic plug. "So I have to warn you: anything you think may be held against you." He smiled. "Not that it matters now; you've already thought and spoken yourself into oblivion. What's annoying is the fact that under narkidrine at Rekal, Incorporated you told them, their technicians and the owner, Mr. McClane, about your trip; where you went, for whom, some of what you did. They're very frightened. They wish they had never laid eyes on you." He added reflectively, "They're right."

Quail said, "I never made any trip. It's a false memory-chain improperly planted in me by McClane's technicians." But then he thought of the box, in his desk drawer, containing the Martian life forms. And the trouble and hardship he had had gathering them. The memory seemed real. And the box of life forms; that certainly was real. Unless McClane had planted it. Perhaps this

was one of the "proofs" which McClane had talked glibly about.

The memory of my trip to Mars, he thought, doesn't convince me—but unfortunately it has convinced the Interplan Police Agency. They think I really went to Mars and they think I at least partially realize it.

"We not only know you went to Mars," the Interplan cop agreed, in answer to his thoughts, "but we know that you now remember enough to be difficult for us. And there's no use expunging your conscious memory of all this, because if we do you'll simply show up at Rekal, Incorporated again and start over. And we can't do anything about McClane and his operation because we have no jurisdiction over anyone except our own people. Anyhow, McClane hasn't committed any crime." He eyed Quail. "Nor, technically, have you. You didn't go to Rekal, Incorporated with the idea of regaining your memory; you went, as we realize, for the usual reason people go there—a love by plain, dull people for adventure." He added, "Unfortunately you're not plain, not dull, and you've already had too much excitement; the last thing in the universe you needed was a course from Rekal, Incorporated. Nothing could have been more lethal for you or for us. And, for that matter, for McClane."

Quail said, "Why is it 'difficult' for you if I remember my trip—my alleged trip—and what I did there?"

"Because," the Interplan harness bull said, "what you did is not in accord with our great white all-protecting father public image. You did, for us, what we never do. As you'll presently remember—thanks to narkidrine. That box of dead worms and algae has been sitting in your desk drawer for six months, ever since you got back. And at no time have you shown the slightest curiosity about it. We didn't even know you had it until you remembered it on your way home from Rekal; then we came here on the double to look for it." He added, unnecessarily, "Without any luck; there wasn't enough time."

A second Interplan cop joined the first one; the two briefly conferred. Meanwhile, Quail thought rapidly. He did remember more, now; the cop had been right about narkidrine. They—Interplan—probably used it themselves. Probably? He knew darn well they did; he had seen them putting a prisoner on it. Where would *that* be? Somewhere on Terra? More likely Luna, he decided, viewing the image rising from his highly defective—but rapidly less so—memory.

And he remembered something else. Their reason for sending him to Mars; the job he had done.

No wonder they had expunged his memory.

"Oh god," the first of the two Interplan cops said, breaking off his conversation with his companion. Obviously, he had picked up Quail's thoughts. "Well, this is a far worse problem, now; as bad as it can get." He walked toward Quail, again covering him with his gun. "We've got to kill you," he said. "And right away."

Nervously, his fellow officer said, "Why right away? Can't we simply cart him off to Interplan New York and let them—"

"*He* knows why it has to be right away," the first cop said; he too looked nervous, now, but Quail realized that it was for an entirely different reason. His memory had been brought back almost entirely, now. And he fully understood the officer's tension.

"On Mars," Quail said hoarsely, "I killed a man. After getting past fifteen bodyguards. Some armed with sneaky-pete guns, the way you are." He had been trained, by Interplan, over a five year period to be an assassin. A professional killer. He knew ways to take out armed adversaries . . . such as these two officers; and the one with the ear-receiver knew it, too.

If he moved swiftly enough—

The gun fired. But he had already moved to one side, and at the same time he chopped down the gun-carrying officer. In an instant he had possession of the gun and was covering the other, confused, officer.

"Picked my thoughts up," Quail said, panting for breath. "He knew what I was going to do, but I did it anyhow."

Half sitting up, the injured officer grated, "He won't use that gun on you, Sam; I pick that up, too. He knows he's finished, and he knows we know it, too. Come on, Quail." Laboriously, grunting with pain, he got shakily to his feet. He held out his hand. "The gun," he said to Quail. "You can't use it, and if you turn it over to me I'll guarantee not to kill you; you'll be given a hearing, and someone higher up in Interplan will decide, not me. Maybe they can erase your memory once more; I don't know. But you know the thing I was going to kill you for; I couldn't keep you from remembering it. So my reason for wanting to kill you is in a sense past."

Quail, clutching the gun, bolted from the conapt, sprinted for the elevator. If you follow me, he thought, I'll kill you. So don't. He jabbed at the elevator button and, a moment later, the doors slid back.

The police hadn't followed him. Obviously they had picked up his terse, tense thoughts and had decided not to take the chance.

With him inside the elevator descended. He had gotten away—for a time. But what next? Where could he go?

The elevator reached the ground floor; a moment later Quail had

joined the mob of peds hurrying along the runnels. His head ached and he felt sick. But at least he had evaded death; they had come very close to shooting him on the spot, back in his own conapt.

And they probably will again, he decided. When they find me. And with this transmitter inside me, that won't take too long.

Ironically, he had gotten exactly what he had asked Rekal, Incorporated for. Adventure, peril, Interplan police at work, a secret and dangerous trip to Mars in which his life was at stake—everything he had wanted as a false memory.

The advantages of it being a memory—and nothing more—could now be appreciated.

On a park bench, alone, he sat dully watching a flock of perts: a semi-bird imported from Mars' two moons, capable of soaring flight, even against Earth's huge gravity.

Maybe I can find my way back to Mars, he pondered. But then what? It would be worse on Mars; the political organization whose leader he had assassinated would spot him the moment he stepped from the ship; he would have Interplan and *them* after him, there.

Can you hear me thinking? he wondered. Easy avenue to paranoia; sitting here alone he felt them tuning in on him, monitoring, recording, discussing . . . he shivered, rose to his feet, walked aimlessly, his hands deep in his pockets. No matter where I go, he realized. You'll always be with me. As long as I have this device inside my head.

I'll make a deal with you, he thought to himself—and to them. Can't you imprint a false-memory template on me again, as you did before, that I lived an average, routine life, never went to Mars? Never saw an Interplan uniform up close and never handled a gun?

A voice inside his brain answered, "As has been carefully explained to you: that would not be enough."

Astonished, he halted.

"We formerly communicated with you in this manner," the voice continued. "When you were operating in the field, on Mars. It's been months since we've done it; we assumed, in fact, that we'd never have to do so again. Where are you?"

"Walking," Quail said, "to my death." By your officers' guns, he added as an afterthought. "How can you be sure it wouldn't be enough?" he demanded. "Don't the Rekal techniques work?"

"As we said. If you're given a set of standard, average memories you get—restless. You'd inevitably seek out Rekal or one of its competitors again. We can't go through this a second time."

"Suppose," Quail said, "once my

authentic memories have been cancelled, something more vital than standard memories are implanted. Something which would act to satisfy my craving." he said. "That's been proved; that's probably why you initially hired me. But you ought to be able to come up with something else—something equal. I was the richest man on Terra but I finally gave all my money to educational foundations. Or I was a famous deep-space explorer. Anything of that sort; wouldn't one of those do?"

Silence.

"Try it," he said desperately. "Get some of your top-notch military psychiatrists; explore my mind. Find out what my most expansive daydream is." He tried to think. "Women," he said. "Thousands of them, like Don Juan had. An interplanetary playboy—a mistress in every city on Earth, Luna and Mars. Only I gave that up, out of exhaustion. Please," he begged. "Try it."

"You'd voluntarily surrender, then?" the voice inside his head asked. "If we agreed to arrange such a solution? *If* it's possible?"

After an interval of hesitation he said, "Yes." I'll take the risk, he said to himself. That you don't simply kill me.

"You make the first move," the voice said presently. "Turn yourself over to us. And we'll investigate that line of possibility. If we can't do it, however, if your authentic memories begin to crop up again as they've done at this time, then—" There was silence and then the voice finished, "We'll have to destroy you. As you must understand. Well, Quail, you still want to try?"

"Yes," he said. Because the alternative was death now—and for certain. At least this way he had a chance, slim as it was.

"You present yourself at our main barracks in New York," the voice of the Interplan cop resumed. "At 580 Fifth Avenue, floor twelve. Once you've surrendered yourself we'll have our psychiatrists begin on you; we'll have personality-profile tests made. We'll attempt to determine your absolute, ultimate fantasy wish—and then we'll bring you back to Rekal, Incorporated, here; get them in on it, fulfilling that wish in vicarious surrogate retrospection. And—good luck. We do owe you something; you acted as a capable instrument for us." The voice lacked malice; if anything, they—the organization—felt sympathy toward him.

"Thanks," Quail said. And began searching for a robot cab.

"Mr. Quail," the stern-faced, elderly Interplan psychiatrist said, "you possess a most interesting wish-fulfillment dream fantasy. Probably nothing such as you consciously entertain or suppose. This is commonly the way; I hope it

won't upset you too much to hear about it."

The senior ranking Interplan officer present said briskly, "He better not be too much upset to hear about it, not if he expects not to get shot."

"Unlike the fantasy of wanting to be an Interplan undercover agent," the psychiatrist continued, "which, being relatively speaking a product of maturity, had a certain plausibility to it, this production is a grotesque dream of your childhood; it is no wonder you fail to recall it. Your fantasy is this: you are nine years old, walking alone down a rustic lane. An unfamiliar variety of space vessel from another star system lands directly in front of you. No one on Earth but you, Mr. Quail, sees it. The creatures within are very small and helpless, somewhat on the order of field mice, although they are attempting to invade Earth; tens of thousands of other such ships will soon be on their way, when this advance party gives the go-ahead signal."

"And I suppose I stop them," Quail said, experiencing a mixture of amusement and disgust. "Single-handed I wipe them out. Probably by stepping on them with my foot."

"No," the psychiatrist said patiently. "You halt the invasion, but not by destroying them. Instead, you show them kindness and mercy, even though by telepathy—their mode of communication—you know why they have come. They have never seen such humane traits exhibited by any sentient organism, and to show their appreciation they make a covenant with you."

Quail said, "They won't invade Earth as long as I'm alive."

"Exactly." To the Interplan officer the psychiatrist said, "You can see it does fit his personality, despite his feigned scorn."

"So by merely existing," Quail said, feeling a growing pleasure, "by simply being alive, I keep Earth safe from alien rule. I'm in effect, then, the most important person on Terra. Without lifting a finger."

"Yes indeed, sir," the psychiatrist said. "And this is bedrock in your psyche; this is a life-long childhood fantasy. Which, without depth and drug therapy, you never would have recalled. But it has always existed in you; it went underneath, but never ceased."

To McClane, who sat intently listening, the senior police official said, "Can you implant an extra-factual memory pattern that extreme in him?"

"We get handed every possible type of wish-fantasy there is," McClane said. "Frankly, I've heard a lot worse than this. Certainly we can handle it. Twenty-four hours from now he won't just *wish* he'd saved Earth; he'll devoutly believe it really happened."

The senior police official said, "You can start the job, then. In preparation we've already once again erased the memory in him of his trip to Mars."

Quail said, "What trip to Mars?"

No one answered him, so, reluctantly, he shelved the question. And anyhow a police vehicle had now put in its appearance; he, McClane and the senior police officer crowded into it, and presently they were on their way to Chicago and Rekal, Incorporated.

"You had better make no errors this time," the police officer said to heavy-set, nervous-looking McClane.

"I can't see what could go wrong," McClane mumbled, perspiring. "This has nothing to do with Mars or Interplan. Singlehandedly stopping an invasion of Earth from another star-system." He shook his head at that. "Wow, what a kid dreams up. And by pious virtue, too; not by force. It's sort of quaint." He dabbed at his forehead with a large linen pocket handkerchief.

Nobody said anything.

"In fact," McClane said, "it's touching."

"But arrogant," the police official said starkly. "Inasmuch as when he dies the invasion will resume. No wonder he doesn't recall it; it's the most grandiose fantasy I ever ran across." He eyed Quail with disapproval. "And to think we put this man on our payroll."

When they reached Rekal, Incorporated the receptionist, Shirley, met them breathlessly in the outer office. "Welcome back, Mr. Quail," she fluttered, her melon-shaped breasts—today painted an incandescent orange—bobbing with agitation. "I'm sorry everything worked out so badly before; I'm sure this time it'll go better."

Still repeatedly dabbing at his shiny forehead with his neatly-folded Irish linen handkerchief, McClane said, "It better." Moving with rapidity he rounded up Lowe and Keeler, escorted them and Douglas Quail to the work area, and then, with Shirley and the senior police officer, returned to his familiar office. To wait.

"Do we have a packet made up for this, Mr. McClane?" Shirley asked, bumping against him in her agitation, then coloring modestly.

"I think we do." He tried to recall; then gave up and consulted the formal chart. "A combination," he decided aloud, "of packets Eighty-one, Twenty, and Six." From the vault section of the chamber behind his desk he fished out the appropriate packets, carried them to his desk for inspection. "From Eighty-one," he explained, "a magic healing rod given him—the client in question, this time Mr. Quail—by the race of beings from another system. A token of their gratitude."

"Does it work?" the police officer asked curiously.

"It did once," McClane explained. "But he, ahem, you see, used it up years ago, healing right and left. Now it's only a momento. But he remembers it working spectacularly." He chuckled, then opened packet Twenty. "Document from the UN Secretary General thanking him for saving Earth; this isn't precisely appropriate, because part of Quail's fantasy is that no one knows of the invasion except himself, but for the sake of verisimilitude we'll throw it in." He inspected packet Six, then. What came from this? He couldn't recall; frowning, he dug into the plastic bag as Shirley and the Interplan police officer watched intently.

"Writing," Shirley said. "In a funny languauge."

"This tells who they were," McClane said, "and where they came from. Including a detailed star map logging their flight here and the system of origin. Of course it's in *their* script, so he can't read it. But he remembers them reading it to him in his own tongue." He placed the three artifacts in the center of the desk. "These should be taken to Quail's conapt," he said to the police officer. "So that when he gets home he'll find them. And it'll confirm his fantasy. SOP—standard operating procedure." He chuckled apprehensively, wondering how matters were going with Lowe and Kecler.

The intercom buzzed. "Mr. McClane, I'm sorry to bother you." It was Lowe's voice; he froze as he recognized it, froze and became mute. "But something's come up. Maybe it would be better if you came in here and supervised. Like before, Quail reacted well to the narkidrine; he's unconscious, relaxed and receptive. But—"

McClane sprinted for the work area.

On a hygienic bed Douglas Quail lay breathing slowly and regularly, eyes half-shut, dimly conscious of those around him.

"We started interrogating him," Lowe said, white-faced. "To find out exactly when to place the fantasy-memory of him single-handedly having saved Earth. And strangely enough—"

"They told me not to tell," Douglas Quail mumbled in a dull drug-saturated voice. "That was the agreement. I wasn't even supposed to remember. But how could I forget an event like that?"

I guess it would be hard, McClane reflected. But you did—until now.

"They even gave me a scroll," Quail mumbled. "of gratitude. I have it hidden in my conapt; I'll show it to you."

To the Interplan officer who had followed after him, McClane said, "Well, I offer the suggestion that you better not kill him. If you do they'll return."

"They also gave me a magic invisible destroying rod," Quail

mumbled, eyes totally shut, now. "That's how I killed that man on Mars you sent me to take out. It's in my drawer along with the box of Martian maw-worms and dried-up plant life."

Wordlessly, the Interplan officer turned and stalked from the work area.

I might as well put those packets of proof-artifacts away, McClane said to himself resignedly. He walked, step by step, back to his office. Including the citation from the UN Secretary General. After all—

The real one probably would not be long in coming.

COMING NEXT MONTH

When Miss Mildred Boltz returned from twenty-five years of teaching on colonial Mars, she could only laugh when she was told she was unfit and unsuited for continued teaching.

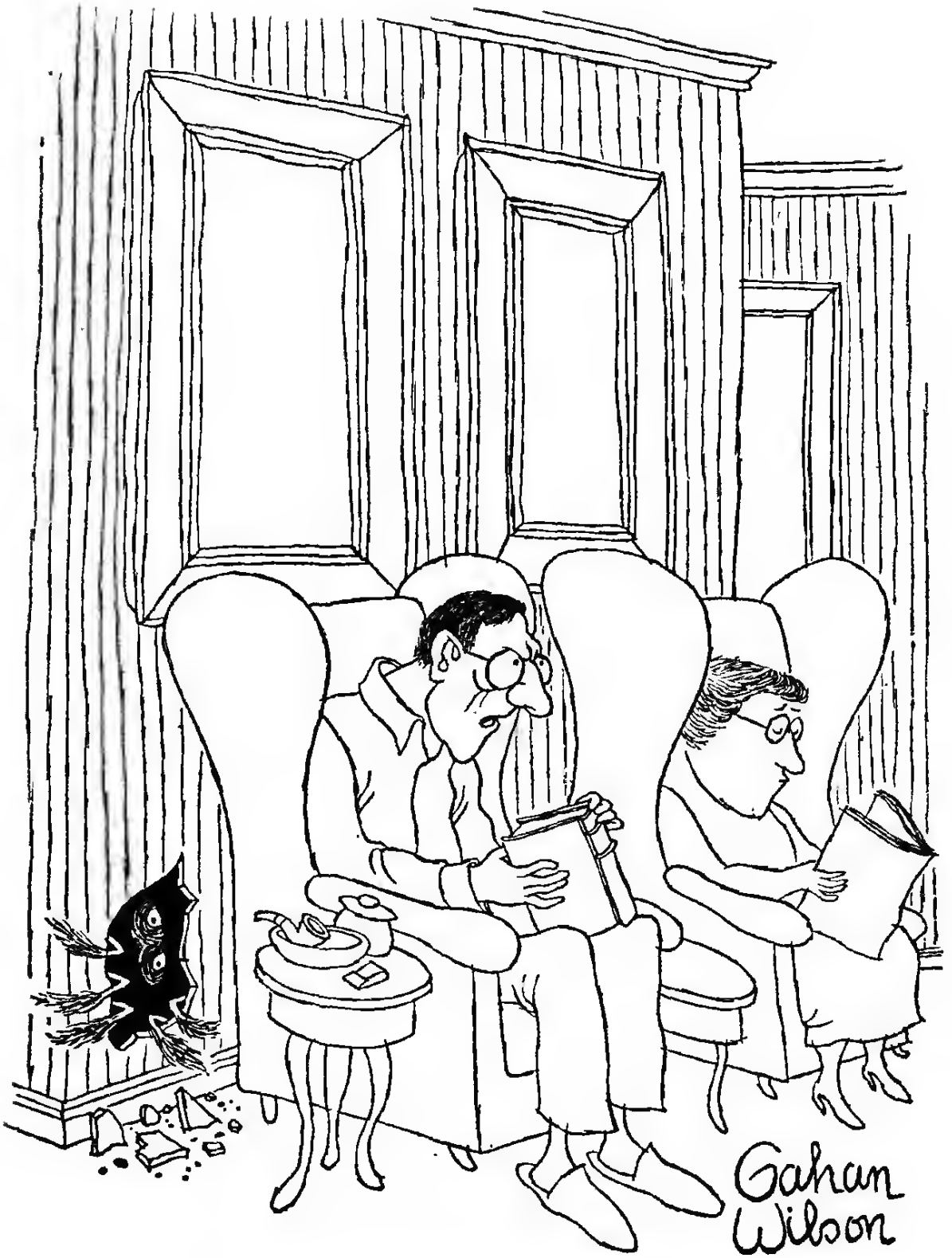
But when she insisted upon taking over her new post, as her contract called for, she began to wonder if indeed she could.

Teaching had changed since she had left Earth. The great megopolises covered whole states, and in order to meet the growing demand and expense of teaching, a revolution had occurred.

Teachers were performers now, standing before television cameras, competing in Trendex ratings for their students.

When Miss Boltz tuned in her opposition, she was confronted by the sight of a Marjorie McMillan, eleventh grade English, Trendex 6. Miss McMillan was taking her clothes off. Her halter came unfastened. Its ends flapped loosely, and Miss McMillan snatched at it just at is started to fall. "Nearly lost it that time," she said. "Maybe I will lose it, one of these days. And you wouldn't want to miss that, would you? Better pay attention. Now let's take another look at that nasty old predicate."

In **AND MADLY TEACH,** LLOYD BIGGLE, JR. has caught the threads of today's teaching problems and woven them into a nightmare.



"There's that funny noise again!"

A. M. (Anne) Marple writes that "my work has appeared in magazines as different as Jack and Jill *and* Gentlemen's Quarterly, Teen *and* The New Republic. *Fascinated with the anachronism of royalty, I have 10 file drawers of clippings and over a hundred books on the descendents of Queen Victoria. Currently writing a gourmet cookbook and a murder mystery." Her first story for F&SF is about a good natured flea who lives on the back of a philosophical cat and who, for one brief and shining moment, attains more success and insight than any flea has a right to hope for.*

APPOGGIATURA

by A. M. Marple

ROLLO WAS A GOOD NATURED flea who lived on the back of a philosophical cat named Arnold. Both bachelors, the association had been formed in their youth when it was discovered they shared a love of Italian opera. While Arnold dearly loved the lyric theatre and had an unusually sensitive ear, he was so completely lacking in vocal ability that even his purr was peculiarly unresonant with a strangely staccato vibrato.

"Papiloma on the vocal cord," he was wont to explain with an offhand air that gave no hint that he would have sacrificed eight of his lives for one blessed with a voice of beauty. Rollo on the other hand was endowed with a fine flea tenor, and if he did not completely share the excesses of his friend's fervor, it in no way affected the purity of his tone.

"Opera is the only creation of man that justifies his existence," Arnold would sigh. It was a familiar opening for one of his pessimistic soliloquies on the nature of man, and Rollo cooperatively asked,

"But do *they* understand it?"

"Of course they don't," rumbled Arnold. "Opera isn't highbrow. It has guts and excitement—like a warm spring night when some green-eyed feline spits a little less at me than she does the others, and I know it's just a question of a few more alleys."

"But of course the Italians . . ." Rollo would add at this point, humming *La Donna e Mobile* to distract his friend who was prone to high blood pressure. "Viva

l'Italia!" agreed Arnold, lapsing into a private reverie.

Thus the two might have lived tranquilly the remainder of their days, had not Arnold's philosophical mind pondered overlong upon the waywardness of mankind.

"I have decided," he remarked abruptly one day, after listening to a particularly disturbing newscast, "that your voice is deserving of a greater destiny than my own selfish enjoyment." He brushed aside Rollo's faint objection with a paw. "If man were able to hear you in the proper setting, a certain lesson for his ego might help turn the tide. We needn't belabor the point . . . a few appearances . . . then back to our good life."

Rollo lapsed into an immediate dream not in keeping with his friend's idealism. He was in the midst of the sixteenth encore after his debut as Pagliacci before Arnold's voice recalled him to reality.

"A prophet being without honor in his own alley, a European background seems indicated," Arnold continued. "But we will not go as stowaways. That sort of thing is for rats."

"And the sort of fleas one finds on rats." Rollo shuddered delicately.

In the days that followed, Arnold proceeded to become acquainted with a ship's cook on the Italian Line. And thus on the next sailing, he and Rollo watched the New York skyline fade from sight. Arnold was immediately at home at sea, but Rollo was slightly seasick. More than half the voyage passed before he found his sea legs.

Aside from this initial discomfort, fate seemed to favor the venture from the beginning. Shortly after docking in Genoa, Rollo and Arnold were fortunate in attracting the interest of Nino Tosca, impressario of the greatest flea circus in Europe. He was a compassionate man, attuned to the flea culture as few human beings ever have been. While not a music lover himself, he could well appreciate the commercial possibilities of a tenor flea. He agreed to become Rollo's agent and drew up a contract. Arnold was touched when Rollo insisted the document include them both, explaining to Signor Tosca that they were inseparable. The impressario agreed and wired *La Scala* for an appointment with the director. This secured, the three departed by train to Milano in a private compartment.

"Private!" sniffed Rollo sarcastically after a walk through the red plush upholstery.

The director of *La Scala,* though somewhat skeptical, was cordial in his reception of the trio, and throughout Rollo's audition, uncontrolled tears of joy ran

down the man's cheeks. They dried soon enough, however, when he realized his hands were tied by the contracts already signed for the coming season. He swore on the blood of picturesque ancestors that he led an accursed life.

He threatened to kill himself in seventeen original ways, but being a realist at heart, he secured Rollo's promise for the next season. He then wired the General Manager of the Met, conveniently in Europe conducting his annual quest for talent. This was not entirely generosity on his part, for once his initial disappointment was past, he rationalized that it was a touch of genius on his part to side step the technical difficulties, the touchy public relations attending such a debut. He would be well content to reap the reward at a later date.

The General Manager of the Met, on the other hand, seized the opportunity with no concern for such details. Sufficient unto him was the first note that issued from Rollo's golden throat. He put Rollo and Arnold under immediate contract and invited them both to join him at Rapallo for the summer. There, he pointed out tactfully, Rollo could lose the last vestiges of American inflection that faintly marred his Italian. But the Manager's real object was the concealment of his new star. He well realized that utmost secrecy must be maintained until after the debut.

The summer passed quickly for the two friends, and at Rollo's request, the trip home was made by air. Thereafter, the secret became harder to keep. The entire rehearsal cast and stage crew were sworn to secrecy, a senseless endeavor. One week before opening night, an irate tenor, whose best roles had been assigned to Rollo, sold out to a Broadway columnist, who in turn rasped to the world that an unnamed manager of a world renowned opera house in New York City had returned home from his annual search for talent with a homegrown flea who would make his debut as Rhadames. Public reaction lacked neither passion nor fire.

The General Manager could not be legally ousted. An emergency meeting of the board of directors issued a dignified statement that they left the matter to the discriminating public, and let it be generally known that they had subscribed privately to barrels of tar and feathers which would be strategically located on opening night.

An eminent psychiatrist said an illusion of this sort was the logical result of irritation caused by over association with tenors. An entomologist, author of the current best seller "Twenty-five years of Ants in my Slacks," stated

publicly, firmly, that fleas have no vocal cords, but added cautiously, "as yet." Cartoonists showed prominent members of the diamond horseshoe scratching.

The whole idea of a flea with a voice suitable for a Metropolitan debut was so preposterous that no one would openly admit belief in such a possibility; it was predicted that on opening night the golden curtain would open upon row upon row of empty seats. The pessimists had not reckoned with the human desire to believe in fairy tales.

Tickets sold out within an hour of the opening of the box office. Riots in the ticket line followed. Scalpers had a holiday. Tickets went underground to be sold at sums never heard of in Broadway's history. Pickpockets extracted tickets but left wallets otherwise intact. A man slew his wife in a most bizarre manner merely because she forgot where she had hidden their tickets. The tension increased to an unbearable point right up to opening night. That night could have made history for one fact alone: everyone was on time and seated an hour before curtain time.

There was a carnival feeling in the air. The top music critic arrived carrying a 14 carat Flit gun. The audience was ready to riot or be thrilled; it didn't matter which. Arnold, peeping through a slit in the curtain, was content. This was as it should be.

The audience chattered hysterically through the entire overture, but as the curtains parted a hush swept the house. Center stage was dominated by an enormous sheet of especially ground glass magnifying Rollo to a full six feet. So compelling was his mien that not a sound was made as the first notes of the high priest began. Then, while the audience was still held in awe, Rollo sang his first note. From that moment on, the audience was at his mercy. As Rollo sang of his love for Aida, nothing in the world seemed as desirable as the celestial Aida herself. His love became theirs. When he finished the aria, every rule was broken, union and otherwise. What had been an opera became a concert of encores. Other singers were tolerated on stage only because they were instrumental in progressing the plot to the point where Rollo would sing again. Curtain calls were innumerable, and it is warming to note that Rollo shared them all—either with the other members of the cast or with his friend Arnold, who had not been forgotten in this hour of glory.

It was several hours later before Rollo and Arnold could be whisked away under armed police escort, but within the opera house itself, the audience continued to scream until hoarse, pounded their hands until they were raw. Fanatic music lovers in the gal-

lery had to be routed next morning with tear gas. Success was complete when the former leader of the opposition within the board of directors sweetly inquired if Rollo and his delightful friend Arnold would care to drop in on a champagne supper given in his honor. But the greatest triumph of all, for a tenor, was that no one compared Rollo to Caruso. Caruso had been forgotten.

In the days that followed Rollo signed a new contract at an unbelievable salary. Looking up at the newsreel camera, he remarked for posterity,

"*Now* perhaps the bassos will find something else to sing about other than 'the flea, ha ha ha ha, the flea'."

Rollo graciously granted interviews. No he would not sing Wagner.

"There are things even a flea will not attempt. "Rossini, now, Rossini *understood* the flea."

Rollo and Arnold were given a penthouse apartment, and a tailor called to fit Arnold for tails. Arnold flatly refused.

"Why should I cover fur with clothing when humans go to unbelievable lengths to do the reverse?" he asked dryly, and the matter was not mentioned again. Rollo, quite the reverse, accepted anything and everything that was given him. He began wearing a microscopic monocle; he drove a miniature Cadillac about the apartment, to the delight of General Motors' publicity men.

Somewhere along the way, Rollo lost sight of the original purpose of the venture. To Arnold it was obvious within the first few days that they had failed. Mankind had felt no humility. It had seized upon Rollo's talent as a novelty to distract itself from the results of its folly. Arnold suggested tentatively that they return to their former mode of life, but Rollo preferred to assume he was joking, so Arnold let the matter drop. If Rollo had not been so absorbed with his new role, he would have noticed his old friend grew more and more silent as the days went by, his coat becoming dull and lusterless.

It was at the height of Rollo's success—when Hollywood contracts lay in unread stacks about them—that Rollo, waking one morning with a champagne hangover, found Arnold missing. Nor could he be found anywhere, and since Rollo refused to sing until he was, New York was turned upside down. No cat was above suspicion. Queues of people with cats under their arms stood outside the opera house. But Arnold was not among them.

He walked in unannounced the afternoon of the third day, gaunt and shabby. As long as there were others in the room, he refused to explain. Only when he was left alone with Rollo, did he

reluctantly answer the insistent questions of his small friend.

"I realized we were selling out," he said quietly. "I felt if I slipped quietly away you would forget me in time. Perhaps you would have; but I couldn't. Even if you want to live in that intellectual desert and sign autographs, I'll go with you."

"Dear friend," said Rollo, deeply moved, "we stay in New York; give it no further thought."

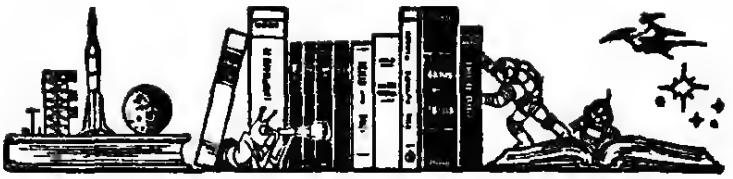
The expression of resignation did not leave Arnold's face.

"As you like," he said, as he walked to the windows and looked out. "Our friendship means more to me than my birthright."

At the word birthright, Rollo started. Glancing about the apartment, he caught a glimpse of himself in the mirror-paneled walls. He adjusted the sash of his gold lame dressing gown. But then as he raised his eyes he noticed an expression about his mouth . . . he hopped closer to the mirror . . . his face . . . yes, his face looked almost human. For one stunned moment he stared, and then he flung the dressing gown to the floor. He tore the monocle from his eye . . . hesitated . . . gently placed it back.

"A souvenir," he murmured, as he leaped across the room and into his friend's thick fur. "Andiamo," he said quietly, and they were never seen again.

BOOKS



UNDER TWO HATS—OR WOULD bi-focals be the better image?—I have, I suspect, the dubious distinction of being *the* Compleat S-F Reader. And every now and then I get fed up: I mean, to *here.*

If this tends to happen fairly regularly in November (see last month's angry column, written Thanksgiving week), it may have something to do with the surfeit of reading connected with the preparation of each annual volume of THE YEAR'S BEST SF. (See page 38.) And now, with the profusion of fall book publishing. . . .

Well, this year, as has happened before, I was just about set to take the pledge, convinced I would never do another anthology, already mentally writing letters of application for a decent, honest, job in say, advertising, or some intellectually stimulating spot in English teaching, when they pulled the switch on me. Just why it is that December and January magazines carry more good stories than other issues, I have never figured out; but I have now discovered that the winter books are better too.

(Of course I have *theories*: they have to be better, to get published at all in the "off-season"? Or the editors figure there's nothing to lose, and take a chance on the books that are just a bit *different?* Or they were supposed to be fall books, but the authors insisted on taking that extra bit of time for revisions?)

Possibly this annual renewal of faith has some connection with my tendency to read a lot more *outside* the field in December. (Partly reaction; partly anthology story-hunting through mainstream and afar fields; partly Christmas-coming, which brings on one of my semi-annual bouts of purely masochistic newspaper reading—studying splendrous ads for things I can't afford, and clipping reports on plays, concerts, and art shows I'll never get to.) One way and another, my horizons expand; and somheow or other, the hills of home look better.

Last year, the December Fling went to extreme lengths: I joined book clubs. (But that is another story, for a month with more space and less to say in it.) Among other results, I eventually came into possession of a book called LSD[1],

[1]LSD: THE CONSCIOUSNESS-EXPANDING DRUG, Ed., David Solomon; Putnam, 1964; $5.95; 273 pp. incl. index and Introduction by Timothy Leary; 15 articles by Aldous Huxley, Alan Watts, Huston Smith, William S. Burroughs, Leary, Roy R. Grinker, Jonathan O. Cole, and others.

which I will pause here to recommend heartily, if belatedly, to anyone interested in a thoughtful, literate, unbejargoned discussion of contemporary approaches to psychology. Far from limiting itself to a discussion of the psychedelic drugs, the book is a symposium considering the relationship of the drugs to a variety of viewpoints on personality structure and human behavior.

I was especially intrigued by Timothy Leary's article setting forth the "games analysis" approach to behavior with uncommon clarity, compassion, and common sense. So when I noticed GAMES PEOPLE PLAY[2] listed as a bestseller, I asked for a copy to review, thinking it would probably interest readers of this magazine. And well it may, if for other reasons than I anticipated. Dr. Berne has set up his book with "transactional analyses" (descriptions) of such familiar "life games" as *Kick Me, Let's You and Him Fight, Rapo, Ain't It Awful,* and lots more, in such a way that it is easy to play that other popular do-it-yourself home-analysis game, *Let's Find Me;* you don't even have to answer the usual ten to twenty quiz questions.

The same oversimplification of structure and content (Please note: *not* of language. Speaking of jargon, which I wasn't before, try *ipisexual* or *paraphraxes* or even *eidetic imagery* on your home dictionary; perhaps they should have been meaningful in context, but I wasn't even always sure what meanings words like *choice* and *equilibrium* and *intimacy* had in Berne's dictionary.) contribute another serendipitous value: the outlines of perhaps twenty or more of the most basic plot situations, with suggested variants, in stripped-down "transactional analysis" form—a boon to the new (or tired) writer, and much cheaper than the classic PLOTTO.

Actually, with all its inadequacies, the book does convey enough information about this surprisingly sensible approach, so that one might expect its popularity to have given the general reading public some awareness of new advances in psychotherapy. But one might also assume that the readers of best sellers, or of *Life* and the *Saturday Evening Post,* (or habitual moviegoers or tv-viewers) would also have a nodding acquaintance by now with such widely publicized investigations in psychology as the sensory deprivation experiments; e.g. dream recordings; electrode stimulation of brain centers; the role of RNA in memory; subliminal perception techniques; the scientific use of visual and seman-

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[2]GAMES PEOPLE PLAY, Eric Berne, M.D.; Grove Press, 1964; $5.00; 184 pp. plus appendix and indexes.

tic symbols in advertising and packaging; the uses of tranquillizers and psychedelics in connection with personality disturbance, creativity, and intelligence.

And yet just this week an editorial writer in the *Washington Star* discovered the "vistas of Orwellian horror" ahead, in the urgings of a psychologist at the annual meeting of the A.A.A.S. for "advance consideration of the ethical, political, and social problems" that will arise from the fact that "biochemists, chemists, pharmacologists, geneticists, anatomists and psychologists have been banding together in an attempt to understand the operations of the brain. And this has happened with unprecedented speed."

"Such mind controls," says the *Star* (aghast!) "will have profound effects on the administration of justice, on psychological welfare, on education, on medicine."

Well, maybe they see the pieces, but they just don't put them together. (Not to mention the psychologist who left—at least—mathematicians and cyberneticists and zoologists and ethologists off his list.)

Happily, in my own moment of (aghast) horror at the prevalent lack of thought control, I had John Brunner, Alan Nourse, Rick Raphael and Mack Reynolds to fall back on. *Some* human brains, even today, are capable of putting jig saw puzzle pieces together and seeing the picture they make.

There are two new Brunner novels, and the lesser of the two is up with the best of his earlier work. THE DAY OF THE STAR CITIES[3] is a carefully thought-out, colorfully written sci-fic puzzle story, dealing with the contrasting reactions of conformists and rebels to an alien invasion. But it is also more than that. For one thing, the conflicting reactions occur within individuals as well as groups. Nor has the 'conquest' of Earth occurred in any usual manner: the aliens came and established a few isolated and invulnerable Cities, completely disorganizing and disarming Earth's armies in the process—somewhat offhandedly turning back offensive weapons with no effort at retaliation. They have no interest in the exploitation—or welfare—of Earth outside their own cities. The responses of humanity, in humiliation rather than actual defeat, are varied and credible. Some scenes and incidents (the religious sects, the "weirdos", the mobster's castle) are especially well done.

More than anything else, it is

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[3]THE DAY OF THE STAR CITIES, John Brunner; Ace #F-361, 1965; 40¢; 158 pp.

the painstaking application of interior logic that makes this book *work;* and it is applied to the background situation, the interaction between characters, and the thematic material with equal rigor and comprehension. In THE SQUARES OF THE CITY,[4] this same discipline is even more necessary, and more notable.

STAR CITIES deals with problems of multidimensional perception, and the capacity for adaptation to an alien environment. SQUARES turns (squarely) to what is essentially Brunner's major topic: government and politics. But more than anything else, it is a Games book—a novel about the many kinds of games that people play, and the many levels on which they play them, written by a shrewd gamesman and games analyst, for gameplayers and gamewatchers both.

(Do not be misled: I am not talking about games/amusements; this is no trick-gimmick book. It is a serious novel which makes use of game analogies, games analyses, *and* game amusement to make its points.)

To begin with, the book is built on a chess game—a real game, which the reader is invited to follow as he reads, if he likes. (Being a dilettante at chess, I kept both eyes on the page, and took Brunner's—and Edward Lasker's—word for it that the Steinitz-Tchigorin game cited would play out if tried.)

Then, it is set in "an imaginary South American country somewhere around the place Venezuela holds on the map," where chess is *the* national pastime: as widely played and watched as baseball here, with its champions reaping the kind of homage only a heavyweight champ, or top pop singer or Liz Taylor could get here.

One level deeper: —

The hero is a "traffic analyst" whose work involves not just movements of hardware but of populations as well—specifically, a designer of the boards and fields on which the basic industrial and sociological games of society must be played. The villain is a former professor of theory of government who has found a live laboratory to work in, and boasts of having created "the most governed country" in history. (Among other things, Brunner presents an exposition of the potential of currently known techniques of thought control that would make Orwell look positively cuddly to that man on the *Star.*) Most of the other major characters are prominently active in political, military, religious, or economic roles in the life-and-death game dynamics of modern society.

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[4]THE SQUARES OF THE CITY, John Brunner; Ballantine #U6035, 1965; 75¢; 319 pp. incl. author's notes and Introduction by Edward Lasker.

And then, between individuals, there is the constant interplay of the familiar personality games Berne discusses in his book.

All these relationships are further exposed and clarified by the fact that these characters also function (unknown to them) as living pieces in a monumental chess strategy being worked out between Vados, the dictator, and his chief domestic opponent.

The book is complex, but the complexities add richness rather than spread confusion. It is probably true, however, that the demands of the elaborate structure are responsible for one weakness of the novel: time and again, the author had to sacrifice opportunities for developing individual characters in full dimension, in favor of depicitng interpersonal exchanges. If the book were half again as long as it is, there would have been room for more fleshing-out of the excellent skeletal structure; and if the individuals rang as true internally as they do in motion, what is now a first-rate science fiction novel and a good book by any standards, might have been a first-rate novel, with no qualifications. Perversley, of course, it was the very fact that it *was* science fiction that must have kept Brunner from attempting the bigger job: it is already half again as long as the average s-f novel, and Ballantine Books is entitled to one of the rare kind words permitted publishers in this column, for having sense enough not only to take the book, but to promote it rather more vigorously than most.

THE SQUARES OF THE CITY is an impressive piece of work. Resting as it does on the previous achievements of STAR CITIES and THE WHOLE MAN, it leaves me very eager to see Brunner's next.[5]

I wish I could say the same about Mack Reynolds, whose history as a writer parallels Brunner's in several respects. Revnolds has demonstrated repeatedly that he is serious about what he has to say—when he bothers to say it. Far less frequently, but still memorably, he has demonstrated how well he can say it—when he takes the trouble.

PLANETARY AGENT X[6] is Reynolds in top form thematically and middlin'-good stylistically, which makes for a science fiction novel both unexceptionable and unexceptional. Or novella, rather, for

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[5]John Brunner has written to ask me to correct an error in my January column. His first sale he says, was "a pb to a now defunct publisher" in 1951, and his first American sale, which preceded his publication in the Nova magazines, was "Thou Good and Faithful," published in *Astounding* in March, 1953, under the pseudonym of John Loxmith.—J.M.

[6]PLANETARY AGENT X, Mack Reynolds; Ace Double #M-131 (with BEHOLD THE STARS, Kenneth Bulmer); 45¢; 133 pp.

it is Part One of the book, the first 86 pages (originally "Ultima Thule" in *Analog*) which impressed me. (Part Two first appeared as "Pistolero," and rather reverses the qualities indicated above—except that the gain in treatment is not sufficient to make up for the loss in content. Both are unconnected episodes in the career of Ronny Bronston.)

The novella, then, deals with two vital strands of the politico-economic complex treated in Brunner's more ambitious effort. Reynolds offers the same kind of speculative integrity, informed logic, and inner consistency—with much more room for, but less work at, characterization and emotional development. The fact is, he handles political extrapolations so well that he hardly needs more than the right problem to turn out a readable yarn. This time, he examines the intricacies of relationship between technology and political economy in social evolution, tossing in as he goes a simple effective home recipe for successful revolution and social upheaval, as learned by a rookie agent in the mysterious, improbable, but mostly entertaining "Section G" of the Interplanetary Bureau of Investigation.

If the characters are cardboard, the concepts are concrete—and there are some comic spots to keep the reading easy. (At the very least, it should be required reading for the writers I was railing at last month, who think serfdom and surfeit will walk hand in hand at the writer's bidding.)

Raphael's CODE THREE[7] is susceptible to many of the same criticisms and praises as the Reynolds book—with the difference that this is a first novel, and as such, a most promising one. The subject here is the specific problem of large-scale continental traffic control in a near-future of vastly accelerated speeds and continually increasing mobility. Just as Reynolds has virtually trademarked political science fiction, Raphael (in a handful of stories besides the two novelets—"Code Three" and "Once A Cop," both from *Analog*—on which this book is based) seems to have taken over the Public Works Dept.—police and traffic and water control, mail, sanitation, and recreation services. I know of no other writer active in the field today (unless Arthur Clarke is to be considered active) who can work the means, methods, and materials available today into a day-after-tomorrow probability with so much clarity and conviction.

Once again, it is a matter of

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[7]CODE THREE, Rick Raphael; Simon & Schuster, 1966; $3.95; (rev. from galleys)

"homework:" the application of rigorous internal logic to the results of conscientious research—and once again, unhappily, conceptual kicks are about all you'll get here. An easy narrative style makes the lack of story—almost—unnoticeable; a good ear for dialogue—almost replaces any real characterization; light comedy—almost—covers for the absence of true emotional interchange between characters. And because the underlying structure is both solid and satisfying, the *almosts* are just enough to make the book not only readable, but well worth reading.

Besides which —one finds the scene here, the page there, which point to the possibility that Raphael can do more. Aside from one short story in 1959, he has been writing fiction for only four years now, and almost entirely for *Analog*, whose standards are evident in both the virtues and failings of this first novel—the virtues to a degree rarely reached in or out of that magazine. If Raphael goes on to achieve the emotional depths his work so far has only hinted at, there is a chance we may see a major talent emerge.

The last item on this month's quintet of homework-winners is a not-so-new book by Alan Nourse,[8] sent to me last August by the publishers with a letter which unfortunately identified it as a juvenile. I don't like juveniles, and there are always too many books on hand to review. It kept slipping to the bottom of the pile, partly because I *do* like Alan Nourse (and I *don't* like juveniles) and I wasn't even sure I didn't have a Policy against reviewing them.

It was too bad about that letter, because nothing else would have tipped me off. As it was, I finally reminded myself firmly that I had enjoyed everything of Nourse's I ever read, and opened it up, and I am here to report that I have still enjoyed everything of Nourse's I've read, and this one in some ways, more than most.

First of all, it is a remarkably *adult* book, in which the adult characters look, talk, and act like grownups, and the teenagers, realistically, do their best to *act* grown up. Second, it is a valuable juvenile, because it provides as good an indoctrination in the essentials of the scientific attitude and a modern philosophy of science as anything I've read short of such demanding works as Wiener's THE HUMAN USE OF HUMAN BEINGS [9]. Third, I learned something

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[8] THE UNIVERSE BETWEEN, Alan E. Nourse; McKay, 1965; $3.95; 208 pp.

[9] If you don't know it, or know it, but don't own one, the revised second edition of THE HUMAN USE OF HUMAN BEINGS, by Norbert Wiener, is in an Anchor edition (1954) at 95¢.

reading it. (Remember? Remember when you used to read science fiction and learn things about science?) This last item has been true of most of Nourse's work, but I always thought it was because he was a doctor who always wrote about doctors. This time the topic was the same one tentatively explored in Brunner's STAR CITIES —the extent of the human capacity to perceive, and to adapt to, truly alien environments. Both authors handled the concept thoughtfully and provocatively; but Nourse left me better informed.

I am not sure whether these comparatively objective values are more important or this subjective one: I believed these characters. The "Universe Between" and its inhibitants and psycho-physical properties were less convincing to me than the backgrounds of most of the other books—but that didn't matter; there was nothing in the invention that I had to *dis*believe while I was reading. And I was willing to work at not-disbelieving the background if necessary, because the people were not characters, but *people*: convincing representations not of the folks next-door, but of the highly intelligent research scientists they are supposed to be.

Juveniles, anyone? I have decided I do not have any Policy about them at all.

—JUDITH MERRIL

10TH ANNUAL EDITION, THE YEAR'S BEST SF, Judith Merril, ed., Delacorte, 1965, 400 pp., $4.95.

Judith Merril's tenth yearly anthology of science fiction and fantasy contains 33 stories from the following sources: four from *Fantastic;* two from *Analog, New Worlds, Worlds of Tomorrow, Short Story International;* one from *Harpers, Playboy, Cosmopolitan, Nugget, Amazing, Carleton Miscellany, N. Y. Times, Saga, Galaxy, Motive, If;* six from *F&SF* and four from books. Among the authors included are: Arthur C. Clarke, Mack Reynolds, John D. MacDonald, Romain Gary, Fritz Leiber, James T. Farrell, Jack Sharkey, Roger Zelazny, J. G. Ballard, John Brunner and Isaac Bashevis Singer. Miss Merril's editorial comments bridge the stories and she has also included a six page "Summation" and a list of Honorable Mentions.—ED.

13 FRENCH SCIENCE-FICTION STORIES, ed. **Damon Knight,** Bantam, 50¢, 167 pp. Tales from *Fiction,* the Gallic-augmented Paris edition of F&SF, selected and translated with nicety by Knight over the past six years—at expense of how much time and effort only he knows. Three grand samples of one great talent: Charles Henneberg, husband-wife team—lively, complex plots; a clairvoyant sweep of space and history; a detailedly opales-

cent pomp and grandeur in the big scenes reminiscent of Clark Ashton Smith. Charles (dead) and Nathalie (alive, Russian, and still writing as Nathalie Charles-Henneberg), I salute you! Lesser, but very competent: Claude F. Cheinisse, Henri Damonti, Alain Dorémieux, Suzanne Malaval, Pierre Mille, Gérard Klein, Claude Veillot, Catherine Cliff, Boris Vian. Most frequent theme: love encounters of Terrans with ETs, handled with French naturalness, humor, good taste, and *savoir-faire.*

BEYOND TOMORROW, ed. **Damon Knight,** Harper & Row, $4.50, 336 pp. Ten of the best sf adventures ever written—who can forget "Coventry," "Nightfall," and "Twilight"? Three cosmos-knotters: van Vogt's "The Seesaw" (tricky introduction to the Weapon-Shop tales), Kuttner's "Happy Ending," and Kate Wilhelm's "The Mile-Long Spaceship." Also Nourse, Clarke, Bradbury, Simak. Ideal for bright new readers.

STORIES NOT FOR THE NERVOUS, ed. **Alfred Hitchcock** ("The editor gratefully acknowledges the invaluable assistance of **Robert Arthur** in the preparation of this volume"), Random House, $5.95, 363 pp. Hitch the Great parlayed into a filmic fortune the delightful incongruities of John Buchan's *The 39 Steps,* a book which also inspired Household's memorable *Rogue Male.* Then, inflated by *Rope* and prodded by TV, Hitch fell back on sadistic tales in which often-innocent little people are squushed by a Higher Power, which may be Fate, or simply a Familiar Fat Face peering peevishly down, like an over-inflated balloon, on Hollywood. Most of the rifts in this volume are loaded with this tin rather than the gold Keats suggested (that poets use to fill the blanks in their sonnets). Still, a fair set of non-supernatural chills for the newcomer to Fear Fiction. Two delightful exceptions: Jack Ritchie's "For All the Rude People" and Idris Seabright's "White Goddess," in which the little guy and the old lady strike back. Three well-worn sf tales: Julian May's "The Dune Roller," Bradbury's "To the Future," and Margaret St. Clair's "The Boy Who Predicted Earthquakes." The pop horror novel (film, etc.) *Sorry, Wrong Number.* Also Kersh, Brennan, Christine Govan, Mike Marmer, Sayers, Raymond E. Banks, Carter Dickson, Frederic Brown, Margot Bennet, Michael Gilbert, Slesar, Ellis Peters, Miriam Allen deFord, Bruno Fischer, Hal Dresner, Mathieson, William Sambrot, and Robert Arthur.

BEST FANTASY STORIES, ed. **Brian W. Aldiss,** Faber, 16s, 202 pp. Ten stories that aren't science fiction, terror, black magic, horror, ghost, or devil tales (because Faber has other hardcover anthologies of

those), but . . . well . . . just fantasy. Robert Lindner's non-fiction "The Jet-Propelled Couch," account of a psychiatrist who falls for his scientist-patient's galactic dreams, is the best and sets the tone. Puristic and cerebral; psychological, not supernatural; they grow coldly, as a crystal grows. Slick, tricky yarns by Michael Joyce, Bradbury, Collier, Angus Wilson, Finney, Beaumont, "Saki," and Aldiss. Alexander Lernet-Holenia's "Baron Bagge," is a lengthy, sophisticated variant of Bierce's Owl Creek Bridge story. I would have started gutsier, with "The Red Laugh" by Andreyev instead, but that would be another anthology—one with more feeling for humanity in it.

OWLS' WATCH, selected by **George Brandon Saul**, Crest, 60¢, 230 pp. *Re* the current fake Gothic-romance revival in paperbacks, one sees with horror on the cover of this book the decaying mansion, the leafless tree, the night and the moon. But—blessedly!—the foreground is not occupied by a slim, scared girl, but five owl-masks. Here are good supernatural and outre tales for the newcomer, since any other reader would likely know "Morella," "Rappaccini's Daughter," "The Yellow Wall-Paper," "The Monkey's Paw," "The Open Window," and "The Two Bottles of Relish." Some others of the 19 tales are more obscure, especially the selector's "The Vermilion-Headed Man," first published in *The General Magazine and Historical Chronicle of the University of Pennsylvania.* One notes with approval Isak Dinesen, Elizabeth Bowen (though why not Marjorie too and Vernon Lee), and Conrad Aiken (Not "Silent Snow, Secret Snow," but the less-anthologized "Mr. Arcularis"—along with James Stephens' "Desire", another Owl Creek Bridge Story). Thurber's "The Catbird Seat" is fun, but hardly "horror-suspense." Also Bierce, Onions, Lennox Robinson, St. John Ervine, Coppard, Collier, and Dermot O'Byrne.

—FRITZ LEIBER

Some people are beginning to talk like machines. We wonder if they really know what it's like to be "turned on" or "plugged in." But Uniq-o-fax knew. *You see, he was all poet.*

BUT SOFT, WHAT LIGHT . . .

by Carol Emshwiller

UNIQ-O-FAX, THE ONLY MAchine of its kind in existence anywhere in the world today.

U-NI-KO-FA-EX! UN-I-KOFF-AX!

He isn't modest or immodest. He's neither proud nor humble nor shy, neither (what's more) truthful nor a liar and yet both true and false. One could say a finder of the lie in truth and of the truth in lies. He, the infallible within the fallible (or the other way around) that must always be the essence of the poetic gesture. He is, in other words, *all* poet.

And so I had refused to call him less than MAN or to allow anyone else to do so. (And, by the way, I was a virgin then. But I have since been transmogrified.)

Uniq-o-fax, a sensitive machine for combining words so fast that, like an infinite number of monkeys at an infinite number of typewriters, he not only COULD write, by a random selection, all of Shakespeare's plays, but almost DID at 10^{12} bits per second (also most of Mallarmé and Gide). Most certainly he is experienced, as anyone can see.

I was his (sort of) vestal virgin. I was there, in other words, to see that he was surrounded by an atmosphere conducive to his art. I kept the fires of inspirations going by supplying him with words fraught with meanings, rich in sounds, such as: athwart, somnambulist, besprinkle, incommensurate, smirch, discreate, duodecimality, ingurgitation, furbished, crepuscular.

He was thirty-nine typewriters and a word bank. I was seventeen.

One cannot hope to gain more by giving less. These days we all know so well the laws of payment and of goods received. (His very first words on the very first typewriter were, I LOVE YOU. Isn't that just like a poet!) I was there simply to *give* (yet with full expectations of receiving and in like proportion to that given). I was resolved to be the following: goodnatured, trusting, patient, enduring, admiring, understanding, (all my female virtues) and helpful, apt, illogical but not too much so, malleable, and (especially) serving (woman's privilege). I LOVE YOU TOO I wrote back to him on that very same typewriter.

Where, oh where, (I often wondered to myself on snowy winter evenings) among all these wires and tubes, is the actual seat of his inner being?

I love you, (he wrote.)
"Let me count the ways:"
One two
Three four
Eye neck leg Adam's apple
(Five)

Wrinkle under arm
Big toe. That's seven
But that's not all.

Let one who can count, count,
And in a microsecond
To thousands.
Charms have never been better catalogued
Than this
From whorl of fingertip through pubic hair line
I love you

I remember that first time, . . . you, in the rain in August wearing your stainless steel fedora, bright as a sink, with your other units jauntily behind you. What a gay conglomeration! What a happy-go-lucky air, hat back and something or other akimbo, sparks flying at each step. You hadn't bothered to put up your umbrella and neither had I.

The forsythia were not in bloom then, but if they had been, what a riot of yellow all down the street!

"I WAS a phantom of delight
When first I gleamed upon your sight, . . ."

When I went into the A&P, I saw you turn and follow. You bought four tangelos at 49¢ a pound and a box of bandaids and I knew they couldn't be for you. I, on the other hand, bought Brillo, Glass Wax, Sani-Flush and a three-way 50-75-100 watt bulb and you knew I didn't buy them for myself.

And later, after I had eaten all your tangelos (and after you had used up my three-way light bulb) (Oh, those were innocent days!) we went uptown in a moving van and parked on 72nd Street. You, wired for redundancy (three-input, two-out-put) repeated poems

you had already recited, for, as William Blake says: "You never know what is enough unless you know what is more than enough," and also: "The road of excess leads to the palace of wisdom." (And that was so TRUE as far as you were concerned.) And sometimes that night when you had a distant look in your eyes, you said (upon my questioning you) that you were counting to the ultimate number and at THAT many bits per second I dared not even guess how far you had already gotten. And later still, I saw the sunrise reflected in your forehead (if that was your forehead) and I saw the shine of the moon go down on what might have been your nose. The very next day I applied for that vestal-virgin job that happened to be open at the Office of Contemplative and Exploratory Poetry.

Days flew by. I was happy. Winter, Spring, etc. and then came the day the police arrested you for destroying public property. That night you had not only clicked chinks in the sidewalk all down Seventh Avenue, but one of the units dangling after you (220-volt, three-wire cables) had inadvertently leaned against a wall on the corner of 28th Street while contemplating possible trajectories to the Mare Imbrium. However, I pointed out to the police that you were, indeed, Uniq-o-fax, and, as such, certainly public property *yourself* (as aren't ALL poets?) and that night, believing me to be someone of importance from the Poetry Department, they let you out in my custody. How we laughed when we finally shut the door (to my apartment) on the outside world!

Why are you laughing so, Uniq-o? Are you convulsed by some tickling wire? some jerky AC-DC? Is there moisture in some sensitive spot? Are the logic gates not quite closed? However, redundancy, as usual, will keep you functioning in spite of it all and I have plenty of wall outlets if needed. Is that o-zone? a crackle of static? Avoid the furniture, please. Oops, there goes the Oxford Anthology, in fact a whole shelf-load of poets: Ginsberg, Ashbery, Verlaine, Keats (in descending order of modernity, or does Ashbery come first?). In fact the bookcase. Lamp, too. The stuffing is coming out of the couch cushions. Snap, the little finger of my left hand, laughing, laughing. Now he has crushed my middle toes but I don't mention it and somehow I manage not even to wince. Why should I hurt him? Spoil this magic moment when we're alone together at last, tentative, embarrassed, yet SURE. Why should I spoil it? How could I! I hobble backwards, laughing, to the bedroom and put on a fur-lined glove and a pair of old sneakers (also loosen my bra and take off my garter belt). Laughing, I

return. "Oh, dear Uniq-o, ho, ho. Oh, ho, ho. Ow, ho, ho. Oh, ow, ho, ho, ho."

He makes the first sly insinuation
(as always, all poet)
And now an impertinent interpolation, then a quiet interjection
Here and there, here and there an addendum
(three input, two output)
likely infiltrations, fierce interspersions,
intrusions, infusions, inroads,
intermittent instillations.

I, audibly receptive, gently recipient,
absorb, assimilate, stomach,
become concierge of so many entryways, corridors,
thresholds, vestibules and sills,
I, merged until implosion!

Then he interjaculates!

I had no idea there were so many pubic possibilities.

And who would have dreamed of such largess in the midst of an all pervasive miniaturization.

Oh infinite series of variables . . .
"Oh wild West Wind," (at 10^{12} bits per second) . . .
"What if my leaves ARE falling . . ."

But isn't it strange that after all that this I was still, to all appearances, a virgin? (I will never agree with the personnel manager at the Office of Contemplative and Exploratory Poetry, who said that I was technically unfit for my position as keeper of the fires of inspiration.) You see I hobbled back to the poetry office as soon as I was able, only to find in my place a male psychiatrist of a fatherly type, but Uniq-o-fax, when I last heard, was suffering from closed circuits, from which I conclude (happily) that at least he never fell in love with anyone else. They say every 23rd, 24th and 25th word he says is I and love and you, respectively and, due to his condition, I know he still means me.

For more than 15 hours, there had been no movement, no communication from a frontier planet's only city. New Bergen had gone dead, without so much as a single gasp. There were five people in the emergency team. Their mission? To find out how it had happened, and why and, most of all . . . what *had paralyzed a half a million people.*

THE SUDDEN SILENCE

by J. T. McIntosh

When Emergency Chief Dakers pressed the red button, seven drop-everything calls went out simultaneously and automatically.

Only five of them were taken. The team's doctor was at police headquarters, refusing to certify one of his patients fit to drive. The fire-fighting specialist had forgotten to notify Dakers that he was sleeping out that night.

Rick was in bed with his wife Sally when his call came. Bob was in bed with somebody else's wife. Nadine was in bed all by herself, like a good girl. Tom was sitting up alone, watching the late late late show. Carol was staring bleakly into the night, aching with loneliness, for she was a big girl and not meant to sleep alone any more.

Twenty minutes later, these five were in the operations room of the air/spaceport, waiting with assorted degrees of patience for Dakers to join them and tell them what the emergency was, and what they were supposed to do about it. They had obeyed the taped summons literally, even the two girls, and had not allowed themselves more than two minutes to get dressed, and no time at all for anything else.

"Now we're here, where's the

fire?" Bob demanded. He had some excuse for being annoyed—his recent companion had been exquisite and, like most married women who slept out, more warmly cooperative than any single girl. He wished he'd had the sense not to answer the phone.

"There are only five of us," Tom said pacifically, "so I guess Dakers is waiting for the other two to arrive."

Dakers came in as Tom spoke. "I can't contact them," he said, "so you'll have to go without them. You're going to Severna. Ship's being serviced now."

"Severna?" Bob exclaimed incredulously. "What's Severna to us? We're this month's emergency team for the South-east Region of Rhodenda. How in heaven's name does the second planet of this system come to be in the South-east Region of the third planet?"

"Please shut up and listen," Dakers said crisply. "Let's see, the two I couldn't raise are the doctor and the fire-fighting specialist . . . okay, you can go without them. Could be something for a doctor, but if it's a job for one doctor, it's a job for hundreds. You five can go on in and report. Rick, you're this team's pilot. Can you fly a Beta class space cruiser?"

"Sure, but I wasn't expecting anything like this," Rick said slowly.

"Who was?"

"I mean, I thought I'd be flying a helicopter or a plane. I haven't handled a space cruiser since—"

"What matters is, can you? Can you make a fast run and land in one piece at New Bergen?"

"Well, sure. But how about telling us how Severna comes to be our affair? Have they asked for help, or what?"

"Nobody's asked for help," said Dakers flatly, "because apparently there's nobody left to ask."

The announcement did not have the effect he might have expected.

"You're joking, of course," Bob retorted. "There are nearly half a million people in New Bergen."

Dakers said nothing for a few seconds. He was making a thoughtful survey of the group. The two girls, without makeup, their hair all over the place, looked absurdly young and irresponsible to be sent to the rescue of a world, and Dakers would have preferred an all-male team. But all emergency rosters included a nurse and usually at least one of the other members was a girl. Carol, the tall redhead, was the nurse, and Nadine, the tiny blonde, the radio operator. Bob, too handsome for his own good, was the army representative, supposed to be capable of handling rogue elephants, rogue mobs or rogue machines. He looked as if he could do all this but not anything calling for tact, logic or patience. Rick was an experienced and versatile pilot and that was all Dakers

knew about him. Only Tom, quiet and watchful, and ten years older than any of the other four, inspired Dakers with any real confidence.

Still, they were supposed to be men and women capable of sizing up a situation that had gone wrong and taking the first stop-gap measures to start putting it right—a sort of generalized first-aid team. The services of such teams were not infrequently required on recently-settled, rather raw worlds like Rhodenda and Severna.

"Four hours ago," Dakers said at last, "Severna went dead. No calls have been answered since twenty-three hours our time—approximately 8:30 p.m. Severnan time."

He paused to allow someone to ask the obvious question. It was Nadine, the little blonde radio operator, who asked it.

"Couldn't the interplanetary radio be out of order?"

"No, because calls are still acknowledged automatically. All automatic links between here and New Bergen are working normally—weather, time, testing circuits. So there's nothing wrong with Severna's radio and there's nothing wrong with Severna's power. Astronomical observations show nothing abnormal—like an explosion, for instance. New Bergen spaceport beams are operating. The artificial satellites are under perfect control from Severna—automatic, of course. In a nutshell, everything in New Bergen responds except the people."

"Marsh gas?" Tom suggested quietly.

"Well, that's a natural thing to consider. As you probably all know, Severna's atmosphere is okay except for occasional breezes bearing a toxic gas. It is not strictly marsh gas, but it's commonly called that because of the high percentage of methane. The marsh gas is the main reason why the population lives mainly in one big city rather than in scattered communities like we do. In a city, air-conditioning is easy and even the streets and parks can be blown fairly clean. You get an occasional whiff, that's all. And that's not dangerous. Only if you're overcome by gas and lie in it for an hour or more is there any real danger."

He glanced at his watch and went on hurriedly: "Look, why don't you get spaceborne and I'll tell you all there is to tell by radio. You'll take ten hours at least to reach New Bergen—"

"So another five minutes won't make much difference," Tom said gently. "You don't think it can be marsh gas?"

"I don't," Rick said, "and I spent six months in New Bergen once. You never smell the gas in any building in New Bergen, and even if by some fantastic chance the air inlets sucked in gas and blew it through all the vents un-

modified, the whole city wouldn't black out. There are safety measures galore, and emergency masks over the place."

Dakers nodded. "The trouble is, if it isn't marsh gas, what is it? So we want you to go take a look. Right now."

"Wait," Bob protested. "There must be more you can tell us. What about ships between Severna and here? What do they report—or have they all gone dead too?"

"A freight ship landed at New Bergen at 7:30, Severnan time. The routine call that she was down was received here—and since then, nothing. A passenger ship left New Bergen at 8:45—we've been in touch with her, and the captain, crew and passengers are as baffled as we are. Nobody on the ship can suggest anything —"

"You say she left at 8:45," Tom remarked. "Yet Severna went dead, as you put it, about fifteen minutes earlier."

"That's right. Of course, the ship was sealed from about 8:20."

"All the same, she must have been in touch with the spaceport control right up to blast-off time."

"Correct."

"So Severnan radio packed up at 8:30, yet the spaceport was still operating normally fifteen minutes later?"

"So it seems." Dakers was looking more and more harassed. "Listen, you're supposed to be an emergency team. How about getting on your way instead of talking all night? Somebody's got to go in and—"

"What about the other ships?" Tom said. "There must be quite a few in space between here and Severna."

"Ships bound for Severna have been told to orbit, not land. Ships from Severna know no more about what might have happened than we do."

"So we're supposed to stick out our necks," Bob said, "for a planet that isn't part of our—"

Dakers stood up. "There are nearly half a million people in New Bergen," he said grimly. "They may already be dead, all of them. But the chances are, whatever's happened, that thousands can be saved, maybe hundreds of thousands. You can't get there sooner than ten hours from now. If it's eleven hours instead of ten, I guess thousands more won't be saved. Thousands you might have saved but didn't."

"Just one more thing," Tom said, still unhurried. "There are ships from here already orbiting round Severna. They could be down in half an hour, we'll take ten. Why waste nine and a half hours, if time is so vital?"

"The two ships are luxury liners. Spacebound cocktail bars. They're not equipped for emergencies. They're not equipped for any damn thing except ferrying

men in white ties and women with bare backs between worlds so comfortably that they never know they're in space at all. We've decided that letting them land would only add to what looks like the biggest disaster in human history. But you're supposed to be an emergency team. You're supposed to drop everything, go anywhere, fix anything. Well, are you going or aren't you?" he ended angrily. "Am I to report that this team refused to fulfil an emergency mission?"

"I'm going," said Rick, standing up. "I'm going if I have to go alone."

Carol, the tall redhaired nurse, jumped up so quickly her skirt flew like a dancer's. With female legs on view, even if only for an instant, Bob naturally missed nothing. The fact that he had seldom seen a better pair of legs instantly changed his whole attitude toward the mission.

"Well, sure," he said, his practised gaze informing him that there was nothing to show that the rest of Carol's body was less elegantly shaped than her legs, and quite a lot to suggest that it was.

Tom rose, still not in any hurry. And Nadine, flushing furiously as she found herself the last to move, jumped up and knocked her chair over.

"Sorry, Rick, can't raise a squawk."

It was Nadine, who had been in the radio cabin for two hours trying to contact any station anywhere on Severna.

Although New Bergen accounted for over ninety-five percent of the population of Severna, there were a dozen manned stations elsewhere on the planet. It was normally perfectly easy to contact any of these stations from space or from Rhodenda itself. However, such contact was invariably made through New Bergen.

"Nothing?" Rick said. "Even now?"

The cruiser was already within Severna's atmosphere. And in the nine hours plus since take-off Dakers had reported nothing new.

"Nothing."

"Then whatever happened in New Bergen happened everywhere on the planet at the same time."

"Not necessarily. None of the stations have radio capable of reaching us direct."

"But when it's night in New Bergen, as it was up to three or four hours ago, aren't their calls through New Bergen handled automatically?"

"Yes, but the change-over isn't automatic. If there was nobody in New Bergen able to switch to automatic at twelve midnight last night—"

"Of course. Should have figured that for myself."

Tom joined them in the control-room. He wore a plastic cov-

erall with a light mask hanging on his chest ready for use.

"Landing in twenty minutes?" he said.

"Less. And from here, New Bergen looks the same as ever. No fire, no explosion, no flood. So what's the plan?"

"Rick, you stay on the ship. Without you, none of us can get off again. Assuming by the time we land we still can't see what's happened, I'll go scouting myself, masked. If I'm not back in half an hour. Bob and Carol go into the city, carrying radio and reporting constantly to you."

He shrugged. "From there on, you two and Dakers will have to work out what steps to take. That's assuming that whatever's happened gets me and then Bob and Carol. Not exactly to be expected . . ."

"What *is* to be expected, Tom?" Rick said.

"Gas, of course. Sure, it doesn't seem likely. But the complete shut-down of a whole planet wasn't likely either. The only guess I can make is that a new kind of gas, deadly and odorless, got into the air-conditioning system. The filters are set for marsh gas—maybe they let something else through."

"That opens up a very interesting possibility," Rick said thoughtfully.

"What?"

"That this is the crime of the century. That the gas was deliberately introduced into New Bergen's air plant."

Nadine started, but Tom was unimpressed.

"Can't see that," he said. "There are more than a dozen stations and scores of independent air-filtering systems in operation. How could any gang of crooks poison them all simultaneously? They'd need millions of cubic feet of gas."

"Still, when you're looking for an explanation for the inexplicable, it's a good start to think of some way somebody could make something out of it."

Tom nodded. "You've got quite a point there, Rick. Anyway, if you're right, my mask will keep me safe and the looters, if any, must have blasted off hours ago. It's fourteen and a half hours since the shut-down, and no gang capable of pulling a stunt like this would hang around for fourteen hours afterwards."

"I'll buy that," Rick said.

In one of the two passenger cabins, Bob and Carol, already briefed by Tom, were checking the suits they would wear if necessary. They were, in fact, multipurpose spacesuits, affording protection not only against the conditions encountered in the void but also against fire, gas, water, bullets and minor avalanches. They were talking, however, about something entirely unconnected with the job in hand.

"Like to tell me about it?" Bob said in the gentle voice he used for making time with women.

"Huh?"

"Anyone could tell you've got something on your mind."

"I've got nothing and nobody on my mind."

"Then maybe that's the trouble."

"Could be."

"And nature abhors a vacuum."

Carol gave the classic answer: "Then why did nature make so much of it?"

"So that we humans could fill it. Let's do something about filling your vacuum, before we go over the top and bite the dust."

"Such as?"

"There are several interesting answers to that question—"

Carol frowned. "Before you try to start anything, let me tell you I don't mind affairs but I hate messy affairs. I don't like easy lies —the kind I can see trembling on your lips."

Bob's face expressed pained surprise. "Hell, is it fair, is it just, to tell a man he's going to lie when he's scarcely opened his mouth? What easy lies am I supposed to have lined up?"

She shrugged. "The familiar stock-in-trade of any practised wolf. First you tell me that we may be dead in less than an hour, so let's live while we may. Then you try to convince me that you want me because you want *me*, and not just because I'm the only girl available."

"You're not the only girl available. There's Nadine."

"She's not available, the way you mean."

"You being different?" Bob insinuated.

"I being different. Because I'm made differently, I guess I'm not patient enough to be always hard to get. But I still don't like messy affairs or easy lies. So if you want to make your pitch, be honest."

He said something brutally blunt, and she took it without blinking. She was a nurse, after all.

"Well," she said, "at least that's a basis for negotiation."

The moment the ship was down, Tom started to put on his mask.

"Not so fast," Rick said. "We've nothing to lose by being cautious. Hadn't we better try the radio again, now that we're down, and have a look at the city through the periscope, and—"

"No." Tom was quite definite. "New Bergen may need help urgently. The explanation of what's happened may be simple and obvious. That's why I'm going in right now. If I'm not back in thirty minutes—then you'll know there's still danger and the rest of you can take maximum precautions. Rick, you're in charge because you stay on the ship."

With that he pulled the mask over his face, operated the airlock, and ten seconds later jumped down on the scarred tarmac of the spaceport.

Nadine, accepting Rick as next in command, looked at him hopefully. Bob looked at Carol and wished she was wearing anything but the sexless coverall she wore.

"There's a periscope in the nose," Rick said. "Let's get up there and see what we can see."

"We'd better get into our suits, hadn't we?" Bob said. "It'll take us most of the next half-hour."

Rick glanced at him thoughtfully. At a pinch, the suits which Bob and Carol were to wear could be donned in three minutes. It was true that putting them on carefully, checking each section and function, might take as much as twenty minutes.

Ideally, the members of any emergency team should be fully experienced in working together. But this ideal was only attained when a particular team happened to be called out frequently.

Rick didn't know much about Bob except that he was rumored to devote most of his time, money, attention and energy to the pursuit of women. Carol was undoubtedly a pretty girl, if you liked big, athletic redheads. Evidently the fate of four hundred thousand Severnans was of less immediate interest to Bob than the progress he might make with Carol.

All Rick said was: "Okay."

He and Nadine climbed to the nose of the ship and screwed up the periscope. On the screen they saw a hundred yards of tarmac, then a fence, a road, and behind a strip of grassland the outermost buildings of the city.

Nothing moved.

Rick turned the wheels until they saw Tom, walking unhurriedly across the road, over the grass and between two buildings. When he disappeared from sight, there was once more no movement to be seen.

Neither Rick nor Nadine said anything as he turned the wheels, scanning the silent city. It was obvious that there had been no material damage to the buildings—too obvious to be worth remarking on.

When Rick found a view of a distant avenue, he switched to the long-focus lens and brought the street up to fill the small screen. The street was empty, deserted. Ground cars were parked neatly.

"Well, that settles one thing," he said, breaking the silence at last. "There was no sudden disaster. Whatever happened, everybody had time to park their cars and get off the streets."

"That's funny," said Nadine, frowning.

"Why funny?"

"The picture we've got is that New Bergen suddenly blacked out around 8:30 last night. As if the

whole population was struck down simultaneously. But if people were able to park cars and go inside . . ."

"Well?" Rick prompted, when she showed no sign of continuing.

"Then it didn't all happen at once. Not to the minute."

Rick nodded.

It had not been dark at 8:30. For hours to come the streets, in the ordinary way, would have remained fairly busy. There was only one possible explanation of the neat, tidy, empty streets—that something had happened in every building in the city to prevent the people inside coming out and to trap the people outside the momcnt they entered.

"Look!" Nadine shouted, staring at the screen.

Rick looked. Along the deserted street someone was walking slowly. It could not be Tom: this street was at least half a mile away, and it was only a few seconds since Tom had entered the city on a completely different bearing.

Rick tried to bring up the tiny moving figure but the scope was already at maximum magnification. They could make out that the figure was that of a human being and not an animal; they could not make out whether it was man, woman or child. It was moving away from them; a few seconds later it was cut off from their view.

Nadine turned and darted for the door. Rick jumped after her and caught her arm.

"Where do you think you're going?" he demanded.

"To find that man. He can tell us everything."

"I doubt it," said Rick drily.

She frowned. "You think he's a crook? A looter?"

"Nothing like that. Suppose you were one of the few people left in a city this size fifteen hours after a disaster—perhaps the only one still able to move. Suppose a space cruiser landed, quite visibly and very audibly. What would you do?"

"You think he didn't see or hear us land?"

"It's a possibility."

"Then he survived what's happened to everyone else because he's deaf and blind."

"That's a possibility too."

"But even if you're right, he must know . . . He must have been wandering around for fifteen hours in . . ."

She shuddered.

"In a city of the dead? Perhaps. But if he's deaf and blind, what could he tell us? Even if he can talk? Doesn't the fact that he's still walking around mean that he doesn't know what happened, any more than we do?"

"Thirty-five minutes," Bob said, "and no sign of Tom. That leaves it up to us, honey."

Carol grinned and blew him a

kiss. Apparently Bob *had* made progress with Carol.

Neither of them looked worried. And this, Rick thought, was not a good sign. They had obviously been devoting all their attention to matters quite unconnected with the fate of New Bergen, and they didn't seem to realize the deadly significance of the fact that Tom —warned, cautious and experienced—had met the same fate as everybody else.

"Not yet," Rick said.

"What's the use of waiting?" Bob demanded. "Tom said thirty minutes, and he meant it. Something's happened to him. It won't happen to us, not in these suits."

"And you're in a hurry," Rick said drily, "to go out and solve the problem of New Bergen so that you'll be able to devote your whole attention to things that matter, like Carol."

"Why not?" said Bob, admitting it. "What makes the world go round?"

"Before you make your bid for death or glory," Rick said, "there's something quite simple and probably not in the least dangerous I want to try. We've failed to get in touch with any of the other settlements on Severna by radio, but that's not surprising, since all their radio links are through New Bergen. Now, only a hundred yards away, just on the other side of the fence, is a callbox. I don't know whether telephone communication with the other settlements is by radio or by cable, but I do know it's automatic."

"Of course!" Nadine exclaimed. "You can call Mangusville or Stirling or Stapleton from that box."

"Why bother?" Bob said. "New Bergen's dead, they're dead. Anyway, why ask people half round a world what's going on a hundred yards away? Isn't it easier and a heck of a lot quicker to go and look?"

"It may be easier and quicker, and still the wrong thing to do," Rick said. "I'm going out to call Stapleton."

Bob sighed. "If you insist, we'll try calling Stapleton. But not you. You're the pilot. Without you, none of us get away."

"I'll be in full view of you all the time. And we've analyzed the air outside and found nothing wrong with it."

"Bob's right," Nadine said. "You stay here, Rick. I'm the communicating officer. It's my job."

So it was Nadine who went. She wore no mask and no special clothing, only what she had worn in space, a gray tunic and gray slacks. Her shoes were smart high heels. Conscious of her lack of inches, she always wore high heels, even in space, where nobody else did, claiming that she couldn't walk in flat shoes.

The air had a tangy, slightly astringent smell. When the airlock

closed behind her, she had to take several deep breaths to quell her sudden terror. She was not a girl used to standing alone. In the company of others she could be as brave as anyone. Alone, she was very conscious of being small and weak and insignificant.

She had to read the instructions in the phone-box before she was able to call Stapleton. There was no difficulty about coinage. Neither Severna nor Rhodenda had developed a monetary system of their own yet. They used galactic currency.

There was an answer at once, and she almost dropped the phone. Like Bob, she had assumed for no particular reason that what had happened in New Bergen must have happened all over the planet.

"Stapleton Weather Station. Who's that?"

"Nadine Macken. Calling from New Bergen."

"Thank God!" The phone exploded in her ear. "We've gone half crazy wondering what the hell's been going on there. Well, go on, girl, give. Why haven't we heard a thing from New Bergen for fifteen hours?"

"I'm afraid I can't tell you," Nadine said apologetically. "I've just landed with an emergency team from Rhodenda. I was just going to ask you what you know about New Bergen's blackout."

There was a moment's silence. Then the man at the other end said: "Hell, you're there, aren't you? Don't you know what's happened? Can't you see? How in hell would we know?"

"I just thought I'd ask," said Nadine patiently. "The city looks undamaged, but nobody's moving. Except . . . well, never mind. One of us just went into the city—and he hasn't come back. What can you tell us from your end?"

"Nothing except that for fifteen hours we haven't been able to get in touch with New Bergen. We'd have thought there must have been an atomic explosion, only all the automatic services are still working. If we call New Bergen we can get the time, but we can't talk to anything but a tape-recorder. We can feed problems to the Computer and get answers, but we can't say hello to a damn soul. We've been considering flying to New Bergen to find out what in hell's going on . . . Hell, girl, you're on the spot. Surely you can find out in about five seconds flat what's been—"

"I told you," Nadine interrupted. "One of us has gone into the city already, and hasn't come back."

"It's gas, then. Any moron could—"

"Naturally he wore a mask. I'm not wearing one, though, and the air's all right. So it's not gas."

The man in Stapleton did not manage to produce anything of any great value. Nevertheless, when she returned to the ship, as

she did a few minutes later, Nadine had an idea.

"The Computer," she said. "We forgot about the Computer."

"Didn't forget about it," Rick said. "Didn't see it was relevant, that's all. What's on your mind?"

The New Bergen Computer was a vast electronic brain far more elaborate and ambitious than anything which existed on Rhodenda. The settlement on Severna being far more centralized than Rhodenda, one enormous calculating machine which could handle hundreds of problems simultaneously was employed instead of scores of smaller ones.

"Nothing very concrete," Nadine admitted. "But . . . well . . . the Computer runs lots of things here, far more than are handled at home by our own electronic brains—"

"And they're all working," Rick pointed out.

"Yes . . . The people here are proud of their Computer. They claim it's the most efficient, versatile and reliable anywhere in the galaxy except Earth. They say its potential has scarcely been tapped. They're always trying new things . . . Suppose they tried something that went wrong?"

"Brain Runs Amok?" Rick suggested, grinning involuntarily.

She flushed. "I don't mean that. Electronic brains don't run amok. They don't make mistakes either. But the people who program them do. I mean, suppose control of the ventilation system was handed over to the Computer, and some error was included in the directions? Or suppose two separate directives, both inflexible, turned out to be mutually exclusive? Or suppose—"

"You needn't labor it, Nadine," Rick said thoughtfully. "I've got the message. But I guess you see the main snag yourself—no computer ever has direct control over human beings. The New Bergen Computer, like any other, is asked questions and gives answers. I don't see how it could possibly—"

"Neither can I," Nadine admitted.

Bob and Carol entered, already encased in their suits apart from the helmets, which they carried.

"We're all set," Bob said. "Any last words?"

"I guess you know what to do," Rick said. "When you enter a building, any building, keep in sight of each other but as far apart as possible. That way, if anything happens to the one in front, the other can report back what . . ."

He stopped as Bob sighed. Yes, Bob was right. There was no real point, either, in telling a child for the ten thousandth time to be careful crossing the street. Orders, directions, recommendations and advice were a waste of breath when the child (or Bob and Carol) knew them all off by heart. In the end you either had to let the child

(or Bob and Carol) go ahead, a free agent—or call the whole thing off.

"Okay," Rick said, and bit back the automatic injunction to be careful.

Rick and Nadine sat on opposite sides of the set which was picking up the commentary from Carol and Bob. They didn't talk much. They listened.

Bob's voice said: "Not a soul in the streets. No movement. No crashed cars. By the way, not many lights are on. It wasn't dark when whatever it was struck, and apparently they were never switched on.

"Carol's trying out one of the cars. The motor is okay. No bodies in the back seat . . . Here's a car with lights on. No cars would have lights at 8:30 . . ."

Rick cut in: "Have a good look at that car. Maybe it was left hours after the others, after dark. See if you can find anything suggestive."

"What we're doing, isn't it? Parking lights on, no headlights. No key. Can't see anything that—"

"Wait a bit," Carol's voice interrupted. "Here's a ticket for speeding, timed 9 p.m. last night. It's paid and receipted."

In the cruiser, Rick and Nadine exchanged glances.

"So people were speeding at 9 p.m. and traffic cops were still on the job," Rick said. "That shows—"

"It only shows what we know already," Bob interrupted impatiently. "That whatever caused this is in the buildings. Any building, maybe every building. We're going to quit horsing around now and take a look."

From his tone it was clear that he expected an argument. But Rick said nothing. Sooner or later, taking due care, Bob and Carol would have to go inside. The answer was evidently not to be found in the streets.

"This will do," Bob said. "Apartments. We're in the hall. Empty. We're picking up some keys . . . Right, here's the door of 68, and we've got the key. Carol's standing back and I'm opening the door . . ."

Carol took over. "Bob's looking inside . . ."

There was a pause. Involuntarily Nadine reached for Rick's hand. They half expected that this was the end, that there would be not another word from Bob or Carol.

Then Bob's voice: "Empty. Nobody here. Wait, I'm checking the bedroom, kitchen, bathroom. Lights off, radio off, TV off, cooker off. Icebox on, heating on. The bed's made. Here's what looks like late supper for somebody, not touched. Looks as if the people in this apartment, probably a couple without children, went out for the evening and never came back. Well, there's nothing to see here. I'll try another apartment."

Carol said, relief in her voice: "Bob's coming out. We're moving along the passage."

"Wait where you are," Rick advised. "Let Bob go in himself."

"Just what do you think we did last time?" Bob asked irritably. "Right, this is 67. I'm opening the door. That's funny, there's . . ."

Carol's voice: "There's a light inside. Bob's gone in. There's movement inside, not just him." Sharply: "Maybe he needs help. I'll just . . ."

There was a click. Then silence.

"Carol, Bob!" Rick said urgently. "Carol, don't go in! Carol!"

They heard another slight click.

"They've switched off," said Rick incredulously. "Both of them. Without consultation, without explanation, they both voluntarily cut the radio link."

"They'll switch on in a minute," Nadine said hopefully.

"Will they? Then why switch off? Nadine, this is crazy. What is it in every building in New Bergen that bludgeons people the moment it sees them?"

"Not in every room," Nadine reminded him. "They looked in the first apartment and found it empty. The second apartment wasn't empty. There was . . . *something* inside."

She shuddered.

"Not gas, obviously," Rick said.

"No, not gas. Did you hear the radio?"

"I heard something, very low. Music." He started. "How? From where? The local stations can't be on the air. Or are they? Have you checked?"

"Not specially. On the way here I was listening for anything out of New Bergen, and of course there was nothing. The music we heard must be from an automatic record-player."

"After fifteen hours?"

Nadine shrugged. "Rick, I just feel if you follow this up you're on the wrong track. What's happened *must* be something to do with the Computer."

"Intuition?"

"I guess so. The Severnans are proud of their Computer. They linked traffic control into it once, but the experiment didn't work. Suppose they've been trying another experiment?"

"Such as?"

"I don't know."

Rick was fully prepared to consider the suggestion, but could not see how a vast electronic brain, one of the least mobile machines ever constructed, could stretch tendrils into every building in the city and snuff out life.

And then suddenly he did see.

The idea was wildly implausible. But what had happened, whatever it was that had happened, was wildly implausible too. It was elementary logic that when only one explanation could be found to fit the facts, it must be the true one, however incredible.

"Nadine," he said, "I'm going out."

"But Rick, we agreed that you must stay in the ship. Isn't there anything we can try here?"

"Since this is an ordinary space cruiser with ordinary equipment for use in space, no."

"I don't know what you're talking about. But if there's something you want done in New Bergen, tell me and I'll go and—"

She gulped.

Rick looked at her with sympathy and understanding in his eyes. She was a timid little thing to be a member of an emergency team. He guessed she could face most things in the company of half a dozen resolute colleagues. But the prospect of walking alone into a city of the dead terrified her.

"We'll both go," he said.

"But, Rick—"

"If I'm on the right track, what I want to do is perfectly safe. We're going into the city and into a building, sure. Any building with people living in it. But we're not going into any apartment."

She looked at him in bewilderment.

"Then what are we going to do?"

He told her.

Her bewilderment was not eased. "What good will that do?"

"Let's try it," Rick said.

They didn't bother with masks or protective clothing. These had not saved Tom, Bob and Carol.

Rick noticed that Nadine kept very close to him. He didn't comment, however. A sudden not wholly irrelevant thought brought a rueful grimace to his face. Sally, his wife, was a wonderful girl in nearly every way, and she loved him. She had only one real fault—jealousy. After all this was over, it would be useless for Rick to explain that with the fate of a whole city on his mind, it had scarcely occurred to him that he and Nadine had been left far more alone than most couples who spent the night together. The very thought of Rick with a pretty girl and no other living, conscious person of either sex within miles was going to inflame Sally. A row was inevitable . . .

Well, not quite. He could, of course, fail to return.

"What's on your mind?" Nadine asked.

"Nothing." He let her get a step ahead of him. She had a very trim little figure. Her gray tunic and slacks, though anything but glamorous, were thin and close-fitting. Rick felt an almost uncontrollable urge to make a pass at Nadine, any kind of pass. If he was going to be blamed for it anyway, why not have the fun of doing it?

The recollection of the situation, however, shamed him into dismissing all such thoughts. And the fact that he had them at all made him more charitable toward Bob and Carol. Tension without

any immediate, visible threat was a new thing in their experience. Evidently it had a very considerable uninhibiting effect.

"This will do," he said, stopping in front of a large apartment block.

Nadine stopped. "Rick, aren't there any precautions we could take?" she asked nervously. "Just to make sure?"

"Ear-plugs might help. And dark glasses. But I guess you'd have to be deaf and blind, like that kid we saw. I'm surer still now that he was deaf and blind. We'll be okay, Nadine. Got your torch handy?"

They entered the building. There was no difficulty in finding what they were looking for. Fuse-boxes have to be accessible.

Rick switched off all the lights in the building and all the power. Then they went back into the hall and waited.

Within a few seconds a man came down the stairs, unshaved, bleary-eyed, his hair tousled. He wore carpet slippers.

Seeing Rick and Nadine, he burst out: "For Pete's sake, what's been going on? The clocks say it's noon, but it can't be."

"What should it be?" Rick asked curiously.

The question went unanswered. The man felt his cheek and swallowed a couple of times. His stomach rumbled very audibly.

"Gosh, I'm hungry," he said. "No wonder, if it's really twelve midday . . . I've had nothing to eat or drink since 5:30 last night."

"What happened?" Nadine demanded. "*What happened?*"

Again the question went unanswered.

"I have to go somewhere," the man realized suddenly. " 'Scuse, please." He ran upstairs again, leaving Rick and Nadine on their own again.

But there were other sounds of life in the building. People talked and shouted, doors slammed, bells rang, and so many toilets were flushed that the noise of running water could be heard continuously down in the hall.

New Bergen was coming back to life.

Seizing the moment as an excuse, Rick grabbed Nadine and kissed her comprehensively.

Rick and Nadine were again alone in the control-room of the cruiser, halfway back to Rhodenda. Tom, Bob and Carol had all retired somewhat sheepishly.

"Your hunch would have paid off too," Rick admitted. "If we'd simply gone to the sub-station that powers the Computer and cut off the juice, that would have done it too."

Nadine still looked baffled. "I can't understand how a TV show, even a program put out by the Computer itself, could be so utterly compelling. Surely somebody —"

"You must remember the Computer knows all there is to know about human psychology, hypnosis, advertising, drama, music, and every other known technique of emotional impact. It was told to prepare an experimental show that would hit New Bergen right between the eyes. And the show was hooked in without warning at the 8:30 spot—the 'What's New' program. Of course it's a live program—the producer meant to take maybe five minutes of the Computer's attempt to entertain, maybe more, and then tell the viewers what they'd seen and have a live discussion on it."

"But . . . fifteen hours!" Nadine exclaimed.

"A case of the sorcerer's apprentice, I guess," Rick said. "The idea was, the Computer would come up with something wildly experimental, probably interesting, maybe a 100% flop. No time limit was set because depending on what the Computer dreamed up as absorbing entertainment, the item might be cut after a few seconds or allowed to run for half an hour or so. It never occurred to anybody that the show would be so instantly hypnotic that anyone who glanced at the screen would be hooked as nobody was ever hooked before. That the producers and technicians would be hooked like everybody else. That the Computer would keep right on entertaining, and nobody in New Bergen would be capable of switching off. That people in the streets would all be captured too, sooner or later, somewhere, by a TV screen whenever they tried to find out what was going on."

There was a pause. Then Nadine said: "The funniest thing about it is that nobody can say what he saw. Not even Tom, Bob and Carol."

"Is that so surprising? Hypnotised people don't have to be told to forget what happened in their trance. They do anyway."

Silently they considered the implications of the incident. On the face of it, no harm had been done. A few Severnans had died of heart failure as they sat chained to their screens, but a few would have died anyway. The citizens of New Bergen in general suffered nothing more than indigestion, cramp, headaches, eyestrain, fatigue and similar mild ailments.

But if the Severnan Computer could enslave human minds so thoroughly, so could other computers elsewhere. Advertisers would be interested—very interested. This might be the birth of a deadly war technique.

"Well," said Rick firmly, "it's none of our business. Go anywhere, fix anything, that's us."

He caught Nadine's eye and knew that he could kiss her again if he liked. He did like, but he took no action.

The emergency was over.

INJECTED MEMORY

by Theodore L. Thomas

A TEAM OF SCIENTISTS AT THE University of California has taken a giant stride toward proving that memory is a matter of chemistry. Here is what they did.

They trained eight male rats. The training consisted of placing the eight rats in a special box, making a clicking sound, and dropping a food pellet in a food cup. The training period went on for five days. The rats soon learned that the click signaled the presence of food, and they came running when they heard it.

Nine control rats, same age, same genetic history, were fed normally the same amount of food during the 5-day period, without the click.

At the end of the training period the eight trained rats and the nine control rats were killed and all seventeen brains were quickly removed. The memory portion of each brain was isolated, and the ribonucleic acid, RNA, was extracted from it using standard extraction techniques.

The RNA extracts were then injected into the abdominal walls of seventeen rats, each of which was assigned code letters. The injected rats were then tested for their response to the clicks by people who did not know which group any rat belonged to. Results?

The rats which had received the RNA from the trained rats showed a significantly greater tendency to approach the food cup in response to the clicks than did the rats which had received the RNA from the control rats. Apparently, memory was passed on by the injection.

It is probably fruitless to speculate about what might be done in the future with brain extracts from human geniuses. Our society, even in the future, would probably not tolerate such a thing. But if we can learn to synthesize RNA—and we are learning—perhaps we can construct an RNA molecule to order. When such a molecule was injected into a man, what knowledge he might acquire. The injections could be tailored to the wishes of the man or the needs of society. Every man could be a genius. If he wanted to be a beachcomber, he could be one —loaded with happy memories.

THE OCTOPUS

The tentacles of time pull me two ways;
into the sharp illumination of what is past—
all patterning, where personalities reach out and press
imponderable stone
to scream their exploits
or
expound romance without the use of lips.

The tentacles of time pull me two ways:
into the snail-coil of a galaxy
gala with stars. I meet
the future with a hop-and-skip across fantastic parsecs
where I fry in seven suns' uncalculated heat
or freeze
upon the cold side of some moon icy with space.

They say saints were chained
to the untandemed flanks
of stallions lashed in different directions.
No saint I—
yet time, the octopus, can persecute
pulling two ways.

—Doris Pitkin Buck

A longer life at any price: *is this a gift which you would accept for yourself or a loved one? If you are tempted to answer yes, pause first and read the story below. Its setting is Saigon, but war is never mentioned. The author writes: "life is not all war in any city at war; the Berlin Philharmonic played its final concert with Russian guns pounding the city." Mr. Thomas has produced and written for radio and TV, published mystery fiction, and written articles on the Far East for the* Saturday Review *and others.*

THE FACE IS FAMILIAR

by Gilbert Thomas

DAMN THAT NIGHT. A HOT steamy night in Saigon. I was seated alone in the study of my villa on Phan Than Gian finishing the last of my gimlet and couscous. The amah had gone to bed in her quarters to the rear and it was suddenly very quiet.

It had rained lightly that afternoon and the humidity would have bothered anyone but a romantic.

The villa was in the old French-style, impossible to air-condition due to the permanent airslots in the windward wall which gave it the appearance of a Mondrian. To hell with art. Rembrandt is greater than Picasso. We're moving too fast. Somebody has to say it. To hell with Dali. Aren't they the latest? Never mind. People don't say *aren't* any more. It was better in the days when a man could die of the mumps. Baker Street, Maugham, that's the only way I

can tell you. I will tell you. You won't believe it. To hell with you. I don't mean that. I'm really quite gentle. That's why I curse.

The slots were just narrow enough to prevent Fagin from slipping a starved child through to gut the house. A tropical Fagin. But the rain had driven the mosquitoes inside. They could have had me anywhere but my Gurkhas, but, as usual, the little bastards went for the ankles. Sapping me. I shot some spray down there and pressed my bare soles to the cool tile. It felt good and far from home. A gecko stuck green and motionless to the ceiling, watching me. You always know.

The air was oppressive. I found myself breathing with my mouth open. The lights dimmed suddenly. But they always do in Saigon when it rains.

I was about to close and secure the door with the seven foot iron bar someone thought necessary, when I heard the outer gate open. It crunched on the gravel and I stood still wondering who it might be.

"Hello?"

But there was no answer in the darkness among the Tamarind trees.

"Hello—is there anyone out there?"

I thought I heard footsteps on the gravel, but I'm given to hearing things. Silence. I thought of turning on the yard lights but that meant going to the rear of the house. An odd place to put the switch. But it couldn't be anyone I knew. They all drove cars, poor devils; it was more fun in a pousse-pousse. Besides, no one would be out walking on such a muggy night. It felt as though it might rain again. I took the bar and began pushing the shutter-door to get the iron cups into line so as to secure the house.

"Wait."

I heard the voice, but couldn't recognize it.

"Wait," it said again. It was a man's voice, but unknown to me.

Then the figure came into the light, moving like an old man, and, it seemed, slightly sideways. It was Dr. Matthiessen. And he wasn't an old man.

"I've got to come in."

"Why, sure."

"I shouldn't be here."

I don't know why, but after he entered, I barred the door.

"I've got to have a drink."

I poured gin into a champagne glass, slid on the Rose's lime juice and dropped in an ice cube. It works faster than whiskey.

We sat in my study as the lights flickered.

"Tropical power companies," I said, waiting.

"That's good. That's very good," he said, drinking. And added: "I've got to go back."

He was talking to himself.

Nerves had changed the shape

of his face and he stared at the Buddha-head I'd found at Angor Vat. His hand cradled the broken thing.

"Do you believe in this?"

"Yes. And you've got to go back where—England?"

Matthiessen was a medical doctor and English. I like both doctors and the English. Doctors because they're mad and the English because they're the underdog, have always been the underdog, without knowing it. To me the combination was irresistable. It was why Matthiessen and I got on so well. He hated Americans, wouldn't treat them—which was lucky for them—but liked me because I laughed at him.

He closed his eyes and I think he was crying. Nothing unusual in that, but this wasn't the Matthiessen who shot tiger with a camera and didn't drink himself to death like the rest of us.

When he was ready, he reached into his wallet and gave me a newspaper clipping. It had been torn from the *Times of Vietnam*. I'd seen the box when it had been printed on the front page two weeks ago. An announcement of the death of the New York surgeon, Dr. Raymond K. Eastvold. In a profession that outwardly shuns advertising and the cult of personality, Dr. Eastvold had quietly become world famous through the sheer virtuosity of his work. News photos of his repair job on the Little Leaguer shook a lot of people. He'd retired at age 45 and now had died of an auto accident in New York City. He'd become a recluse, which made him all the more interesting, and had been run down in a blizzard while trying to reach his homc on Long Island. His car had stalled and he was walking. *Newsweek* devoted their entire medical section to the obituary.

I was surprised that the death had affected Matthiessen. He hadn't mentioned it at the time. And doctors are given to name dropping within their profession especially with medical buffs, like me. Then, too, Matthiessen believed that most people aren't really alive, so how can they die? He would quote K'ung-fu-tze: "We do not know life, so how know death?"

"He was a friend of yours?"

"No!"

"Well, take it easy."

"Let's say we were—related." And here he finished his drink and held up his glass begging silently for another. "In a manner of speaking."

He began to talk wildly, in that voice I didn't know. The smoothness, timing and wit I knew as Dr. Matthiessen had vanished. I tried to follow him, but it was impossible. He kept talking about his wife.

"I never knew you were married."

"What do you know? Eh? What do you know?"

"All right, you're upset, but you don't need to turn nasty."

"I'll turn anyway I please, when I please, how I please. This damned gin."

"An English invention."

Then, as suddenly as he'd gone wild, he stopped, looked at me, and almost shyly offered me a letter. It had been ripped open and the envelope was pastel. I couldn't help sniffing it.

"Stop that," Matthiessen said quietly. "Read it."

"I can't make it out."

"Try."

Portions of it were in French, slanted and fast, breaking into English, a fine round hand that became a scribble ending in jagged pen marks. I could just make out the ending, I love you, in English, and then the pen had ripped down and into the paper as though the hand had been suddenly gripped by another.

Stupidly, I said: "It's from your wife."

"Pamela," and he started to laugh, only he wasn't laughing. "And don't worry. All Englishwomen aren't named Pamela. It just seems that way."

The rain hit, splattering through the slots onto my feet. The lights went slowly, fading slowly, until it was black. But not before Matthiessen was on his feet, staring. The amah was bringing candles. Actually one, a stub on a saucer.

"Do you sleep with her?"

"You know, I expect that question from everybody but you."

"Answer me."

"Of course, why?"

"All the time?"

"When I don't have a date, why?"

"Can I have her tonight?"

"No. Now sit down and tell me what the hell's the matter with you."

"Nothing. And you've just had the proof. I'm lonely. How long have you been in the Foreign Service?"

"Ten years."

"Where have you served?"

"Accra, Kaohsiung, Isfahan, Saigon—but you know that."

"You must have seen—strange things."

"Nothing stranger than me. Or you."

"If you enjoy sightseeing—you should have stayed in New York."

"I've never been to New York."

"You're a fool." And with that he relaxed. And began to make sense. "I received the letter today. It's from my wife, but she's dead. Don't ask me how I know, I tell you she's dead. I've got to go back. She still loves me. I still love her. Why, I'll never know. 'The human heart in conflict with itself.' Your writer chap said that. If your writer chaps don't tell us the truth, then who will? Everybody lies. Men-

dacity. Men lie for freedom. Wives lie for love. Parents lie to protect the kiddies. Did Shakespeare tell the truth? 'Alice in Wonderland' makes more sense every day. We're landing on the moon with cobalt bombs. Did you know we're talking to dolphins? Maybe we'll learn something. I haven't been to bed with a woman for three years. Not since I left New York. I know that you think I have, old boy, but that's my vanity. I don't want to become involved. Enough!"

"Watch the candle."

"I had to talk to somebody. I like you. You're not like an American. I've watched you. Enjoy a sunset and don't call it timeout. Do you believe in life after death? No, of course not, silly to ask. But what about a few extra years of life? If you knew you were going to die, just a few more years—wouldn't you want that, wouldn't your loved ones want that? Answer me."

"I don't know. I'm incapable of love, so, of course, no one loves me."

"Hard cheese. Stop giving yourself airs. Everyone wants to be neurotic. I'm talking seriously."

"You mean—live a little longer—life at any price?"

"Exactly."

"No."

"Now you're being intellectual. If you could give that gift to a loved one—you would."

"That's a gift that can't be given."

"You're wrong—it has been given, is being given—I, myself, gave that gift."

"I don't believe it."

"Listen." And his professional pride was mixed with—what?—as we talked in the candlelight of that hot city in the rain.

"What do you know of the *terminal states* of life, the sequence of *agony, clinical death, biological death?* What do you know of the cerebral cortex mobilising your dying body to avert the end? Oxygen gone, its power to think gone. Now comes the *agony* with the lower division of your central nervous system taking over, the medulla, your spinal cord trying to think for you. Flesh spasms your very blood toward the heart, toward the brain—life! The very nub of your being is fighting for life!"

"England expects no less."

"You mustn't be funny. The *agony* alone may last from minutes to hours, hours."

"No one said dying was easy."

"You must love someone—you would want to spare them that."

"I'm not so sure."

"Then let us enter *clinical death.* That interval when the brain may still survive, but when cardiac activity has ceased and there is no respiration."

" 'Everybody dies.' "

But he didn't hear me.

"At this stage you have from five to seven minutes only. Seven minutes optimum. After that the resuscitated patient will be mentally abnormal."

"Resuscitated—you mean, brought back to life?"

"Precisely. Heart massage, there are ways. It's done every day. Massive transfusions intra-arterial. Acidosis is a factor. Here we give an intra-venous injection of sodium bicarbonate. Speeds things up a bit."

" 'Listen to it fizz.' "

"You damned fool. I don't know why I waste my time on you. You remind me of one of your idiots. Fancies himself an expert. He says our tricks may lengthen a 'statistically average' lifespan, but that the prime intent is not to prolong an already 'socially spent existence'. And who's to judge? He'd have let Churchill slip at 64."

"Some people like to play God. But, you left something out."

"Yes. *Biological death.* That from which no man returns. The rest is silence, eh? Decomposition sets in, proceeding quickly or slowly according to the climate of the country and refrigeration."

"What's this got to do with your wife?"

"Pamela," and he smiled. "I met her in Soho, you know? One of those dance halls. She was lonely I suppose, and I know I was. A lovely girl. One I was proud to be seen with. There aren't many. Natural blond hair, quite fine, she never cut it. Below the waist and all that. It was like living with history. It made me glad the Vikings raided our island and raped the Celts. She was surprised to find a doctor at a public dance hall. It surprised me, too. But the Life Force doth make fools of us all. Being an American you'll laugh when I say she made the most miraculous trifle. But you Americans will laugh at anything. I married her."

"Go on."

"After a proper honeymoon at Pavia, we settled on Harley Street where I made up my mind to get rich. That shocks you. A doctor setting out to get rich. But why should we be the exception? Architects and undertakers set out to do the same. I gave good measure for every pound. I was a competent man and kept up with the literature. We were happy. Quietly happy and then came socialized medicine. I knew that this would never see me to riches, so—as Pamela would say—we 'opt for New York'. Or I should say, I did. Pamela wasn't interested in money—the future. But then she was young, barely twenty, and I was thirty-nine and just getting started, what a miserable profession. But, you know that. So, New York. And the dowagers. Only there aren't any anymore, it seems. They're all in bikinis. Also I made the mistake of settling in the

Bronx for the trees, because Pamela liked them. Financially it was a mistake. One October I had occasion to send a young man over to Manhattan for surgery. I liked the lad and so sent him to the best."

"Dr. Eastvold."

"Precisely. Eastvold performed an exquisite bit of surgery. I watched the operation myself. Extraordinary. Some men are terribly gifted with the knife. I invited him to coffee. We became friends."

"He fell in love with your wife."

"I told you you aren't the usual American. You should be French. But, it's true. He was rich, talented, powerful in the profession. All the things I wanted to be but wasn't. And we were the same age, worse luck. We genuinely liked each other—I think he liked me for the one thing he wasn't: I was British. He'd been in England during the war and had fallen in love with our shoes. You know, fine leather, tweed, the skin of our women, the usual. I think he was attracted to Pamela for the same reason, her accent most of all. He couldn't get enough of her voice. I don't think he wanted to, but he took her. I don't think she wanted to, but it happened. Perhaps I was at fault. Looking back on it, I think I must have made it easy for them. Thrown them together, as it were."

"Did you shoot him?"

"Don't be vulgar. I did what you Americans do. I looked the other way. A tacit agreement."

"Share and share alike."

"All right, call it what you will. To even matters, I attempted a pass at his wife. Here again, the European influence. Eastvold had this one weakness. He'd married a French girl. Yvonne. A surrealistic name—a dark girl, poised, perhaps a year older than Pamela and with the most remarkable abdomen. It plumped slightly as though she were always pregnant, most seductive. When I finally asked her to go to bed with me, she laughed. I'm aware that this is merely a hurdle. Another man expects certain women to laugh, and then he persists until, of course, she capitulates. But I presume I really wasn't too serious about it. In fact, I was rather glad when she laughed. But at least I had made the attempt. Eastvold never mentioned it, so I'm obliged to think she never told him. It wasn't that important. The true fact is: Yvonne had a streak of the sadistic in her, an instinct for the jugular. Intuitively, she knew where you lived. Always had something nasty to say when Pamela was about. Something indirect and smarting, you know? All the while keeping that slight French smile of superiority. Of course, she had reason, God knows, for not liking Pamela. But, being French, she made the best of sharing her husband with

another woman. I'm sure she knew."

"They hated each other."

"Here you're losing your grip on the situation. Quite the contrary. They were the best of friends and became more so. I happened onto them unawares one evening. They were weeping and setting each other's hair."

"And Dr. Eastvold loved them both? Equally? I mean, he didn't want to leave his wife?"

"A tremendous capacity for love, Dr. Eastvold. But it's not so unusual, you know. In many countries of the world a man has more than one wife, and no one presumes to say he loves one more than another. We are capable of more love than the law allows, old boy."

I felt that Matthiessen was talking to keep from saying anything. Exactly what was on his mind, I didn't know. But the pattern was there. I felt chilly. The lamps struggled with the rain—flaring, dying, turning rose, to disappear. The little Vietnamese wouldn't be able to cope with the situation before morning. I thought of turning them all off, but decided if they did come on to stay, I didn't want to miss it. The candle guttered in its saucer. Matthiessen was on his feet. A light floated in the darkness. The amah with another saucer and candle stub—an untrained girl but sweet.

The letter was a sweatball. Matthiessen had rolled it to a wad as he talked, twisting it from one hand to the other. Now he used a fingernail, trying to find a place to begin opening it. I took it from him and tossed it through a slot. His eyes were calm, but there was something moving, behind them.

"She became ill with the usual. The curse of women. Carcinoma. It started in the breast, and with two doctors at her disposal—she kept it quiet. You'd have thought we'd have noticed. But we're blind to our own. Eastvold almost went out of his mind when he learned she'd waited. Thought it was his fault. The breast and all. But I put his mind at ease and told him I wasn't exactly Shelley myself. But he still felt guilty. He took the usual tests, but it was too late. It had spread. Her body was studded with the cursed stuff. All we could do was to let her die painlessly. But Eastvold wouldn't hear of it. He was most quiet about it, but firm. He was not going to let Pamela die."

I poured myself a whiskey. I didn't need fast action now; I needed warmth, comfort and body. Matthiessen waved his away.

"What I am going to reveal to you now, you must never repeat. Do you understand? As my friend, you must never repeat this to a living soul."

"You can trust me."

"You can trust no one. 'What one person knows, no one knows. What two persons know, every one knows.' And it's true. But a man has to confide in someone: a man has to talk, a man has to talk too much. Give me that whisky. Thank God, you don't drink bourbon."

We drank as the lights came back on with a rush. The little Vietnamese had been victorious. Another confounding of this singular night. I looked at his face and dropped my glass. I'll never forget the time. It was three-ten in the morning. He laughed and threw his glass at the clock.

"I came to Saigon when it was over. I didn't want to get rich any more. I wanted to disappear. But comfortably. My father had been here in the old days between wars. Said it was the most beautiful city in the Orient. The perfect place for a man to go to hell in comfort. Albeit a little hot. He didn't have enough character for the job, so it was left to his son to complete the thought. When I learned about Pamela, I decided to come here and let time take care of the rest. For the first time since we'd met at the dance hall—did I tell you it was snowing that night? yes, it was snowing—she didn't need me. Not any more."

"The *agony, clinical death, biological death.*"

"Most perceptive, old boy. You'll make an Englishman yet. Eastvold had lost weight since getting the news, but he was in rare trim. Like a race horse. No nerves. But then he never had those. Seemed to know exactly what he was doing. Then he disappeared. To reappear in a few days to tell me he had purchased a small secluded estate on Long Island. That he had talked with Pamela and she had agreed to go there to live, with him, and Yvonne. However, he and Pamela had agreed that she wouldn't do this without my blessing. Eastvold suggested that if all went well, I might join them there, later. If I so desired. I took a look. It was a pleasant place, surrounded by a wall and high-hedge that reminded me of Sussex. A bit of a pool and a lawn for parties. Though, of course, there would be none. I knew Pamela would be pleased with the surroundings, if nothing else."

I wanted to interrupt, to keep him from telling me the rest of the story. But I didn't. His eyes were raving as he lit a cigarette. He didn't smoke it. He held it as a man would a scalpel.

"Eastvold had to get the permission of Yvonne, naturally. I'm not certain that he did, but at any rate, he proceeded. Pamela packed her things, and you'd be surprised how little she actually had that she could call her own. Three suitcases were ample. It made me feel as though I had failed her in

this, too. But it was too late for that. Eastvold wouldn't let me assist him in the operating room. He'd had one constructed in the solarium. Small, superb, everything within reach of one man."

"Then he—saved your wife?"

"Indeed. But we weren't sure till some days later. Anoxia must pass, alalia. Endless tests. He reported she was doing as well as could be expected under the circumstances. Naturally, I asked to see her, and finally the day came when he called and said she was well enough to recognize me and that I could come, if I promised to stay only a short time. Of course, I complied. So extensive an operation would be a shock to her nervous system. When I arrived at the estate, I was early. I couldn't enter. I went to the rear. It, too, was locked, but there was a wall-box for the delivery boy. I tried to push it open, but the receiving panel was locked on the far side of the wall. I thought perhaps I'd mixed my days. I left my card in the box, but returned to the front to try ringing again. Eastvold was waiting for me. He expressed regret at my having to wait, explaining that he'd been with Yvonne and Pamela and that they hadn't wanted him to leave them. He'd finally broken away, but only on the promise that he'd return immediately. I'll never forget the look he gave me as he left the living room. He stood at the door and said that it had been agreed among Yvonne, Pamela and himself that I was perfectly welcome to come live with them, but that Pamela would never return to me. He indicated a leather-bound portfolio on the coffee table, looked at me again, and disappeared.

"I opened the portfolio. In it was a copy of *'Resuscitation and Artificial Hypothermia'*. This concerned me. Then, I noticed below this, a set of clinical sketches, of animals, in some detail. I think it was at this moment that I knew, subliminally, what to expect. That I'd never see Pamela again. That I just wasn't big enough. But, now, with the tragic death of Eastvold, all that is changed."

"You're going back?"

"Yes. I've made up my mind. A man can get used to anything. The unknown is what we fear. Once that is faced, once we face change, then the unknown becomes known and we are at peace with it. Remember Sputnik circling the world—the first satellite?—what a shock. Now we take it for granted. One in the air, two in the air, three, four, what's the difference?"

"But what did you find in the papers—what kind of animal sketches, Doctor?"

It was the first time in a long time I had called him doctor.

"A standard work. Demikhov's.

Dr. V.P. Demikhov's experiments in modifying a flesh to the natural immunity which causes a body to slough off tissue not its own. But there's nothing new here. The South Seas have been trepanning skulls for generations, inserting smoothed cocoanut to cover the brain. One man can carry another man's kidney. Hemicorporectomy is accepted. Hearts will be exchanged someday."

His mind seemed to wander.

"The thing is, I never cared for Yvonne. Not really. It would be taking advantage, don't you know? In a manner of speaking. I suppose I'm old fashioned, Victorian if you will: I can't help it. I can't help it."

"Doctor, for the love of God, *tell me.*"

As though repeating a lesson, he said:

"The sketches were Demikhov's schematic showing the successful grafting of a donor dog's head onto the body of the host dog. Beneath these were photographs showing both heads lapping milk, and another with one head asleep while the other had a ball in its mouth. At bottom were clinical Polaroids of Yvonne and Pamela. He had disearded her diseased body and given her back her life."

" !"

"Then I noticed her three suitcases, neatly together and close by the front door. I lifted the tartan. It was full. I put it under my arm, took the other two and returned to the car."

" !"

"I didn't see Eastvold again for some three weeks, during which time I made preparations to come to Saigon. I saw him walking down Fifth Avenue. He was carrying packages and had been shopping. He turned into a ladies' shop. I followed him in. When he saw me, he smiled. But he seemed embarrassed, as any man might under the circumstances. He was buying hats. 'Different, of course,' he explained, one in each hand. 'You know how women are.' "

Those damned Russians.

HELP! Glenn Lord, Bax 775, Pasadena, Tex., 77501, literary agent far the estate of Robert E. Howard, recently came across, in a batch of Howard popers, the 17th and last page af an atherwise completely unknown Canan stary. He and I hove been trying without success to locate the remaining 16 pages. If any reader has any Howard papers, or knaws af anybady wha might have them, any help he can give in tracking down this last manuscript would be vastly appreciated. Write ta Mr. Lord at his hame address or to me care of the magazine.—L. Sprague de Camp.

The bones of this short story are quite simple. A spacecraft is orbited and sent to Mars and back—without stopping. In other words, it barely qualifies as science fiction. But, as we said, these are only the bones. In one clever and ingenious touch, Mr. Pulley gives them body and spirit.

THE SPACE TWINS

by James Pulley

DEAREST:

I know it's a surprise to have this delivered to you by a new neighbor you probably don't even know—but I think this letter will explain. You know where I am, of course, but not *why*.

You see, I know—well, I don't *know*, but as we say in Aerospace, "the data would indicate . . ." *our mail is being censored.* I know you wouldn't guess, but the CIA boys have some elegant methods. If you examine some of my recent letters to you, you'll find that the writing on some of the pages isn't mine: It's a good facsimile, but not mine. And this idea of wives moving away from the P-D Complex for "Morale Purposes" as the probe reached homebase . . .! It has to do with my recent mission, of course, and the longest debriefing and IRC (Intelligence Resume & Critique) since Shepard was kicked into that little sub-orbital way-back-when!

Of course you know there were "problems" that were quite evident when we touched down, but their real nature was squelched good! They were the kind of problems that we would like for our Kosmonaut Komrades to experience without prior knowledge, so that's the reason for all this ultra-security junk.

I looked up in the 'phone book a close neighbor to your new house and gave the envelope to the janitor to mail. Inside was another envelope (this letter) and instructions for said neighbor to give it to the best-looking brunette on the block. Remember those *Life* stories about me? About being an Ea-

gle Scout and a Rotarian and all? Sneaking this letter out makes me feel like a bad security risk! I know you better than the CIA does, though, and I *have* to get this off my chest . . . *now*!

By the way, burn this letter. I'm really scrubbed for good if the security boys find out I finked before the "official" version was ready.

Lift-off was normal. Of course Woody complained constantly during acceleration, as he usually does. It *was* really uncomfortable (10g.) but I was so busy reading out systems that I didn't mind much. Woody's gripes are a standing joke among the astronauts. "Good-natured," Phobos-Deimos control tells the news media. You remember that interview on CBS during training? When the reporter asked Woody if acceleration was "bad"? He answered, "Have you ever been hit in the can by a truck and carried six blocks?" It broke them up and ever since then we always think, "Here comes Woody's truck . . ." whenever those Nova engines ignite. He also kidded a lot about survival training and isometric exercises at zero-g, but I thought that because of his sense of humor he would be an ideal partner. And tests have shown that he can take the physical strain of prolonged weightlessness better than anyone.

Anyway, we were kicked into that high orbital slot without a hitch. You probably remember that we had to make 6 orbits to check out systems before we rendezvoused with that big Saturn package. During the last two orbits most of the work was up to the techs at the tracking stations and all we had to do was take a few photos for the National Geographical Society and log the tracker's signals as we swept over their stations.

I don't think I have ever experienced such beauty on any previous flights. Old Earth was nearly clear of cloud cover over Europe and NA, but we could see a lovely low over the Caribbean with misty spiral arms and spotty cumulus puffs over the mid-west. They cast sharp shadows over a gold and green-speckled plain that could only have been ripe wheat and cornfields. God!

Dusk was blurring the Caucasus and the Nile was a forked and curving scratch that melted into the chocolate and green of Ethiopia on the southern horizon. To the north above the Boot the Alps showed sparkles of ice in the late afternoon sun with the dark, dark Mediterranean below and the intense blue of the atmosphere arching above them. Mary, if you could only have been there! Woody flicked the starboard roll-jet and we turned head-down as gentle as air. He looked a long time and then stretched his arms wide. He was looking out the port and so I couldn't see his face, of course, but he lifted his face-plate and put

one hand to his eyes. A few minutes later, just before we crossed the terminator into the twilight I saw a tiny sparkle drift by me in the capsule. It must have been a tear, Honey.

Rendezvous was pretty well taken care of by radar and our little computer. We were tracking and closing with the Saturn package long before we had visual contact. Mating of the two was perfection; closing speed just .3 meter per second. Now we were united with our escape-booster and the PLSS (Photosynthetic-Life-Support-System). We had just a few minutes to check out these systems. We were on the night side and I was working fast while Woody caught the visual laser-blinks over Woomera. These blinks were ordinary Morse code; tiny red sparks that read "Good-o-mates." We were over the P.D complex at the Cape when we braced for the escape from earth. More whining from Woody, but now we were headed for the Red Planet!

Honey, I don't know exactly when this "problem" started any more than I know when *anything* started, but when we switched from chemical support to PLSS I knew Woody was going to be hard to live with. *Eight months!*

Our temp, resp, EKG, EEG, blood ion-level, and every other thing was constantly monitored and sent back to earth. Man is a dirty animal, I gather, and every kind of waste must be dealt with. Not just CO_2, urine, and intestinal waste . . . but sweat, salt, dandruff, fallen hair, and even bad breath! We sit in our spacesuits for a week at a time with all this Bad Stuff automatically being fed into what amounts to a "fish-bowl of pond-scum." In return, this "pond-scum" gives us back oxygen, food, and water! Neat, huh? All the algae asks for is 24 hours of sunlight through a big quartz window. Of course I've oversimplified it, but essentially this is the system. There is a tube from the PLSS tank to our suits, and another tube inside our helmets from which we can suck a kind of pablum. It's pretty bland stuff, but quite nutritious. We are allowed to get out of our suits and go on Chemical Support for only a few hours a week. Then we can eat one meal of nearly real food. This is called Saturday Night Bath. By mutual agreement we decided to perform our weekly ritual at different times. While I was still zipped in, reading out instruments or gabbing with earth, Woody would zip out and just float around stark naked. He had this habit of floating in front of me upside-down, his eyes on a level with mine. This was a good joke at first, but soon got irritating. Phobos-Deimos Control told him to knock if off and spend more time on isometrics. His temp, resp, and EKG were not showing high

enough muscular strain, which is essential if you have to spend very much time at zero-g. His blood ion-level was showing too much calcium floating around. They were afraid that his bones would degenerate and that calcium would be deposited in his muscles and joints. I liked isometrics, Honey. I looked forward to them, but Woody just kept floating, floating even when zipped in, always upside-down. I was doing the work for both of us, and if it had been possible I think that Control would have scrubbed the whole thing, bad press or not. It was spooky.

By the time that Mars was pulling hard, speeding us up, Woody spent *all* his time floating upside-down, tethered by his life-support cord. He was all doubled up, eyes closed. He heard nothing I said, or the tinny voices that pleaded with him inside his helmet. He just floated, doubled up, eyes closed. No more Saturday Night Baths. Zipped in all the time. I screamed and raved and kicked him. He would be knocked to the end of his cord and float back to be kicked again. I cussed and worried a lot, but I did take the telephotos and spectro readings we needed. As we swept around the far side of Mars I got the infra-red and occultation info and relayed it to Control.

Darling, I don't know much about the return; it must have been controlled from earth. I can remember looking out the port at those glaring stars inset in the velvet sky and at the sun. And at the white-speckled earth growing like a melon of some sort. And I remember floating, floating next to Woody. No more voices for me, either.

Turn-around, retro, burn, and re-entry were painful, but nothing like the pull of the chute, the clawing of gravity at my body. I screamed as I tried to get out. My joints were fused, bones brittle, muscles degenerated. They finally got me out and I guess I am recovering here in a locked room at base hospital; but, as you may have guessed, Woody was stillborn.

Love,
Bud

This is the third in Jack Vance's fascinating series about Cugel the Clever. (Each novelet is complete and may be enjoyed without reference to the preceding stories.) In this story, an ill advised meal leads to a terrifying encounter with the sorcerer Pharesm, in which Cugel is thrown back in time one million years to be faced with a situation which almost taxes his ingenuity past its limits. Almost.

THE SORCERER PHARESM

by Jack Vance

THE MOUNTAINS WERE BEHIND: the dark defiles, the tarns, the echoing stone heights—all now a sooty bulk to the north. For a time Cugel wandered a region of low rounded hills the color and texture of old wood, with groves of blue-black trees dense along the ridges, then came upon a faint trail which took him south by long swings and slants, and at last broke out over a vast dim plain. A half-mile to the right rose a line of tall cliffs, which instantly attracted his attention, bringing him a haunting pang of *deja-vu*. He stared mystified. At some time in the past he had known these cliffs: how? when? His memory provided no response. He settled himself upon a low lichen-covered rock to rest, but now Firx, the monitor which Iucounu the Laughing Magician had implanted in Cugel's viscera, became impatient and inflicted a stimulating pang. Cugel leapt to his feet, groaning with wearincss and shaking his fist to the southwest, the presumable direction of Almery. "Iucounu, Iucounu! If I could repay a tenth of your offenses, the world would think me harsh!"

He set off down the trail, under the cliffs which had affected him with such poignant but impossible recollections. Far below spread the plain, filling three-quarters of

the horizon with colors much like those of the lichened rock Cugel had just departed: black patches of woodland; a gray crumble where ruins filled an entire valley; nondescript streaks of gray-green, lavender, gray-brown; the leaden glint of two great rivers disappearing into the haze of distanee.

Cugel's brief rest had only served to stiffen his joints; he limped, and the pouch chafed his hip. Even more distressing was the hunger gripping his belly. Another tally against Iucounu who had sent Cugel to the northern wastes on a mission of wanton frivolity! Iucounu, it must be allowed, had furnished an amulet converting such normally inedible substanees as grass, wood, horn, hair, humus and the like into a nutritious paste. Unfortunately—and this was a measure of Iueounu's mordant humor—the paste retained the flavor of the native substance, and during his passage of the mountain Cugel had tasted little better than spurge, cullion, blaekwort, oak-twigs and galls, and on one oceasion, when all else failed, certain refuse discovered in the eave of a bearded thawn. Cugel had eaten only minimally; his long spare frame had beeome gaunt; his cheek-bones protruded like sponsons; the blaek eyebrows which onee had crooked so jauntily now lay flat and dispirited. Truly, truly, Iucounu had much to answer for! And Cugel, as he proceeded, debated the exact quality of revenge he would take if ever he found his way back to Almery.

The trail swung down upon a wide stony flat where the wind had earved a thousand grotesque figures. Surveying the arca Cugel thought to perceive regularity among the eroded shapes, and halted to rub his long ehin in appraisal. The pattern displayed an extreme subtley—so subtle indeed, that Cugel wondered if it had not been projected by his own mind. Moving closer, he discerned further complexities, and elaborations upon complexities: twists, spires, volutes; disks, saddles, wrenched spheres; torsions and flexions; spindles, eardioids, laneiform pinnaclcs: the most laborious, painstaking and intrieate rock-carving conceivable, manifestly no random effort of the elements. Cugel frowned in perplexity, unable to imagine a motive for so complex an undertaking.

He went on and a moment later heard voices, together with the elank of tools. He stopped short, listened cautiously, then proeeeded, to come upon a gang of about fifty men ranging in stature from three inches to well over twelve feet. Cugel approached on tentative feet, but after a glance the workers paid him no heed, eontinuing to chisel, grind, scrape, probe and polish with dedieated zeal.

Cugel watched for several min-

utes, then approached the overseer, a man three feet in height who stood at a lectern consulting the plans spread before him, comparing them to the work in progress by means of an ingenious optical device. He appeared to note everything at once, calling instructions, chiding, exhorting against error, instructing the least deft in the use of their tools. To exemplify his remarks he used a wonderfully extensible forefinger, which reached forth thirty feet to tap at a section of rock, to scratch a quick diagram, then as swiftly retract.

The foreman drew back a pace or two, temporarily satisfied with the work in progress, and Cugel came forward. "What intricate effort is this and what is its object?"

"The work is as you see," replied the foreman in a voice of penetrating compass. "From natural rock we produce specified shapes, at the behest of the sorcerer Pharesm . . . Now then! Now then!" The cry was addressed to a man three feet taller than Cugel, who had been striking the stone with a pointed maul. "I detect overconfidence!" The forefinger shot forth. "Use great care at this juncture; note how the rock tends to cleave? Strike here a blow of the sixth intensity at the vertical, using a semi-clenched grip; at this point a fourth-intensity blow groin-wise; then employ a quarter-gauge bant-iron to remove the swange."

With the work once more going correctly, he fell to studying his plans, shaking his head with a frown of dissatisfaction. "Much too slow! The craftsmen toil as if in a drugged torpor, or else display a mulish stupidity. Only yesterday Dadio Fessadil, he of three ells with the green kerchief yonder, used a nineteen-gauge freezing-bar to groove the bead of a small inverted quatrefoil."

Cugel shook his head in surprise, as if never had he heard of so egregious a blunder. And he asked: "What prompts this inordinate rock-hewing?"

"I cannot say," replied the foreman. "The work has been in progress three hundred and eighteen years, but during this time Pharesm has never clarified his motives. They must be pointed and definite, for he makes a daily inspection and is quick to indicate errors." Here he turned aside to consult with a man as tall as Cugel's knee, who voiced uncertainty as to the pitch of a certain volute. The foreman, consulting an index, resolved the matter; then he turned back to Cugel, this time with an air of frank appraisal. "You appear both astute and deft; would you care to take employment? We lack several craftsmen of the half-ell category, or, if you prefer more forceful manifestations, we can nicely use an ap-

prentice stone-breaker of sixteen ells. Your stature is adjusted in either direction, there is identical scope for advancement. As you see I am a man of four ells. I reached the position of Striker in one year, Molder of Forms in three, Assistant Chade in ten, and I have now served as Chief Chade for nineteen years. My predecessor was of two ells, and the Chief Chade before him was a ten-ell man." He went on to enumerate advantages of the work, which included sustenance, shelter, narcotics of choice, nympharium privileges, a stipend starting at ten terces a day, various other benefits including Pharesm's services as diviner and exorciser. "Additionally, Pharesm maintains a conservatory where all may enrich their intellects. I myself take instruction in Insect Identification, the Heraldry of the Kings of Old Gomaz, Unison Chanting, Practical Catalepsy and Orthodox Doctrine. You will never find a master more generous than Pharesm the Sorcerer!"

Cugel restrained a smile for the Chief Chade's enthusiasm; still, his stomach was roiling with hunger and he did not reject the proffer out of hand. "I had never before considered such a career," he said. "You cite advantages of which I was unaware."

"True; they are not generally known."

"I cannot immediately say yes or no. It is a decision of consequence which I feel I should consider in all its aspects."

The Chief Chade gave a nod of profound agreement. "We encourage deliberation in our craftsmen, when every stroke must achieve the desired effect. To repair an inaccuracy of as much as a fingernail's width the entire block must be removed, a new block fitted into the socket of the old, whereupon all begins anew. Until the work has reached its previous stage nympharium privileges are denied to all. Hence, we wish no opportunistic or impulsive newcomers to the group."

Firx, suddenly apprehending that Cugel proposed a delay, made representations of a most agonizing nature. Clasping his abdomen, Cugel took himself aside and while the Chief Chade watched in perplexity, argued heatedly with Firx. "How may I proceed without sustenance?" Firx's response was an incisive motion of the barbs. "Impossible!" exclaimed Cugel. "The amulet of Iucounu theoretically suffices, but I can stomach no more spurge; remember, if I fall dead in the trail, you will never rejoin your comrade in Iucounu's vats!"

Firx saw the justice of the argument and reluctantly became quiet. Cugel returned to the lectern, where the Chief Chade had been distracted by the discovery of a large tourmaline opposing the flow of a certain complicated he-

lix. Finally Cugel was able to engage his attention. "While I weigh the proffer of employment and the conflicting advantages of diminution versus elongation, I will need a couch on which to recline. I also wish to test the perquisites you describe, perhaps for the period of a day or more."

"Your prudence is commendable," declared the Chief Chade. "The folk of today tend to commit themselves rashly to courses they later regret. It was not so in my youth, when sobriety and discretion prevailed. I will arrange for your admission into the compound, where you may verify each of my assertions. You will find Pharesm stern but just, and only the man who hacks the rock willy-nilly has cause to complain. But observe! here is Pharesm the Sorcerer on his daily inspection!"

Up the trail came a man of imposing stature wearing a voluminous white robe. His countenance was benign; his hair was like yellow down; his eyes were turned upward as if rapt in the contemplation of an ineffable sublimity. His arms were sedately folded, and he moved without motion of his legs. The workers, doffing their caps and bowing in unison, chanted a respectful salute, to which Pharesm returned an inclination of the head. Spying Cugel, he paused, made a swift survey of the work so far accomplished, then glided without haste to the lectern.

"All appears reasonably exact," he told the Chief Chade. "I believe the polish on the underside of Epiprojection 56-16 is uneven and I detect a minute chip on the secondary cinctor of the nineteenth spire. Neither circumstance seems of major import and I recommend no disciplinary action."

"The deficiencies shall be repaired and the careless artisans reprimanded: this at the very least!" exclaimed the Chief Chade in an angry passion. "Now I wish to introduce a possible recruit to our work-force. He claims no experience at the trade, and will deliberate before deciding to join our group. If he so elects, I envision the usual period as rubble-gatherer, before he is entrusted with tool-sharpening and preliminary excavation."

"Yes; this would accord with our usual practice. However . . ." Pharesm glided effortlessly forward, took Cugel's left hand and performed a swift divination upon the fingernails. His bland countenance became sober. "I see contradictions of four varieties. Still it is clear that your optimum bent lies elsewhere than in the hewing and shaping of rock. I advise that you seek another and more compatible employment."

"Well spoken!" cried the Chief Chade. "Pharesm the Sorcerer demonstrates his infallible altruism! In order that I do not fall short of the mark I hereby with-

draw my proffer of employment! Since no purpose can now be served by reclining upon a couch or testing the perquisites, you need waste no more irreplaceable time."

Cugel made a sour face. "So casual a divination might well be inaccurate."

The Chief Chade extended his forefinger thirty feet vertically in outraged remonstrance, but Pharesm gave a placid nod. "This is quite correct, and I will gladly perform a more comprehensive divination, though the process requires six to eight hours."

"So long?" asked Cugel in astonishment.

"This is the barest minimum. First you are swathed head to foot in the intestines of fresh-killed owls, then immersed in a warm bath containing a number of secret organic substances. I must, of course, char the small toe of your left foot, and dilate your nose sufficiently to admit an explorer beetle, that he may study the conduits leading to and from your sensorium. But let us return to my divinatory, that we may commence the process in good time."

Cugel pulled at his chin, torn this way and that. Finally he said, "I am a cautious man, and must ponder even the advisability of undertaking such a divination; hence, I will require several days of calm and meditative somnolence. Your compound and the adjacent nympharium appear to afford the conditions requisite to such a state; hence—"

Pharesm indulgently shook his head. "Caution, like any other virtue, can be carried to an extreme. The divination must proceed at once."

Cugel attempted to argue further but Pharesm was adamant, and presently glided off down the trail.

Cugel disconsolately went to the side, considering first this stratagem, then that. The sun neared the zenith, and the workmen began to speculate as to the nature of the viands to be served for their midday meal. At last the Chief Chade signaled; all put down their tools and gathered about the cart which contained the repast.

Cugel jocularly called out that he might be persuaded to share the meal, but the Chief Chade would not hear of it. "As in all of Pharesm's activities, an exactitude of consequence must prevail. It is an unthinkable discrepancy that fifty-four men should consume the food intended for fifty-three."

Cugel could contrive no apposite reply, and sat in silence while the rock-hewers munched at meat pies, cheeses and salt fish. All ignored him save for one, a quarter-ell man whose generosity far exceeded his stature, and who undertook to reserve for Cugel a certain portion of his food. Cugel replied that he was not at all hungry, and rising to his feet wandered

off through the project, hoping to discover some forgotten cache of food. He prowled here and there, but the rubble-gatherers had removed every trace of substance extraneous to the pattern. With appetite unassuaged Cugel arrived at the center of the work, where sprawled on a carved disk, he spied a most peculiar creature: essentially a gelatinous globe swimming with luminous particles from which a number of transparent tubes or tentacles dwindled away to nothing. Cugel bent to examine the creature, which pulsed with a slow internal rhythm. He prodded it with his finger, and bright little flickers rippled away from the point of contact. Interesting: a creature of unique capabilities! Removing a pin from his garments he prodded a tentacle, which emitted a peevish pulse of light, while the golden flecks in its substance surged back and forth. More intrigued than ever, Cugel hitched himself close, and gave himself to experimentation, probing here and there, watching the angry flickers and sparkles with great amusement.

A new thought occurred to Cugel. The creature displayed qualities reminiscent of both coelenterate and echinoderm. A terrene nudibranch? A mollusc deprived of its shell? More importantly, was the creature edible?

Cugel brought forth his amulet, applied it to the central globe and to each of the tentacles. He heard neither chime nor buzz: the creature was non-poisonous. He unsheathed his knife, sought to excise one of the tentacles, but found the substance too resilient and tough to be cut. There was a brazier nearby, kept aglow for forging and sharpening the workers' tools. He lifted the creature by two of its tentacles, carried it to the brazier and arranged it over the fire. He toasted it carefully and when he deemed it sufficiently cooked, sought to eat it. Finally, after various undignified efforts, he crammed the creature down his throat, finding it without taste or sensible nutritive volume.

The stone-carvers were returning to their work. With a significant glance for the foreman Cugel set off down the trail.

Not far distant was the dwelling of Pharesm the Sorcerer: a long low building of melted rock surmounted by eight oddly shaped domes of copper, mica, and bright blue glass. Pharesm himself sat at leisure before the dwelling, surveying the valley with a serene and all-inclusive magnanimity. He held up a hand in calm salute. "I wish you pleasant travels and success in all future endeavors."

"The sentiment is naturally valued," said Cugel with some bitterness. "You might however have rendered a more meaningful service by extending a share of your noon meal."

Pharesm's placid benevolence was as before. "This would have been an act of mistaken altruism. Too fulsome a generosity corrupts the recipient and stultifies his resource."

Cugel gave a bitter laugh. "I am a man of iron principle, and I will not complain, even though, lacking any better fare, I was forced to devour a great transparent insect which I found at the heart of your rock-carving."

Pharesm swung about with a suddenly intent expression. "A great transparent insect, you say?"

"Insect, epiphyte; mollusc—who knows? It resembled no creature I have yet seen, and its flavor, even after carefully grilling at the brazier, was not distinctive."

Pharesm floated seven feet into the air, to turn the full power of his gaze down at Cugel. He spoke in a low harsh voice: "Describe this creature in detail!"

Wondering at Pharesm's severity, Cugel obeyed. "It was thus and thus as to dimension." He indicated with his hands. "In color it was a gelatinous transparency shot with numberless golden specks. These flickered and pulsed when the creature was disturbed. The tentacles seemed to grow flimsy and disappear rather than terminate. The creature evinced a certain sullen determination, and ingestion proved difficult."

Pharesm clutched at his head, hooking his fingers into the yellow down of his hair. He rolled his eyes upward and uttered a tragic cry. "Ah! Five hundred years I have toiled to entice this creature, despairing, doubting, brooding by night, yet never abandoning hope that my calculations were accurate and my great talisman cogent. Then, when finally it appears, you fall upon it for no other reason then to sate your repulsive gluttony!"

Cugel, somewhat daunted by Pharesm's wrath, asserted his absence of malicious intent. Pharesm would not be mollified. He pointed out that Cugel had committed trespass and hence had forfeited the option of pleading innocence. "Your very existence is a mischief compounded by bringing the unpleasant fact to my notice. Benevolence prompted me to forebearance, which now I perceive for a grave mistake."

"In this case," stated Cugel with dignity, "I will depart your presence at once. I wish you good fortune for the balance of the day, and now, farewell."

"Not so fast," said Pharesm in the coldest of voices. "Exactitude has been disturbed; the wrong which has been committed demands a counter-act to validate the Law of Equipoise. I can define the gravity of your act in this manner: should I explode you on this instant into the most minute of your parts the atonement would measure one ten-millionth of your of-

fense. A more stringent retribution becomes necessary."

Cugel spoke in great distress. "I understand that an act of consequence was performed, but remember! my participation was basically casual. I categorically declare first my absolute innocence, second my lack of criminal intent, and third my effusive apologies. And now, since I have many leagues to travel, I will—"

Pharesm made a peremptory gesture. Cugel fell silent. Pharesm drew a deep breath. "You fail to understand the calamity you have visited upon me. I will explain, so that you may not be astounded by the rigors which await you. As I have adumbrated, the arrival of the creature was the culmination of my great effort. I determined its nature through a perusal of forty-two thousand librams, all written in cryptic language: a task requiring a hundred years. During a second hundred years I evolved a pattern to draw it in upon itself and prepared exact specification. Next I assembled stonecutters, and across a period of three hundred years gave solid form to my pattern. Since like subsumes like, the variates and intercongeles create a suprapullulation of all areas, qualities and internals into a crystorrhoid whorl, eventually exciting the ponentiation of a proubietal chute. Today occurred the concatenation; the 'creature', as you call it, pervolved upon itself; in your idiotic malice you devoured it."

Cugel, with a trace of haughtiness, pointed out that the "idiotic malice" to which the distraught sorcerer referred was in actuality simple hunger. "In any event, what is so extraordinary about the 'creature'? Others equally ugly may be found in the net of any fisherman."

Pharesm drew himself to his full height, glared down at Cugel. "The 'creature'," he said in a grating voice, "is TOTALITY. The central globe is all of space, viewed from the inverse. The tubes are vortices into various eras, and what terrible acts you have accomplished with your prodding and poking, your boiling and chewing, are impossible to imagine!"

"What of the effects of digestion?" inquired Cugel delicately. "Will the various components of space, time and existence retain their identity after passing the length of my inner tract?"

"Bah. The concept is jejune. Enough to say that you have wreaked damage and created a serious tension in the ontological fabric. Inexorably you are required to restore equilibrium."

Cugel held out his hands. "Is it not possible a mistake has been made? That the 'creature' was no more than pseudo-TOTALITY? Or is it conceivable that the 'creature' may by some means be lured forth once more?"

"The first two theories are untenable. As to the last, I must confess that certain frantic expedients have been forming in my mind." Pharesm made a sign, and Cugel's feet became attached to the soil. "I must go to my divinatory and learn the full significance of the distressing events. In due course I will return."

"At which time I will be feeble with hunger," said Cugel fretfully. "Indeed, a crust of bread and a bite of cheese would have averted all the events for which I am now reproached."

"Silence!" thundered Pharesm. "Do not forget that your penalty remains to be fixed; it is the height of impudent recklessness to hector a person already struggling to maintain his judicious calm!"

"Allow me to say this much," replied Cugel. "If you return from your divining to find me dead and dessicated here on the path, you will have wasted much time fixing upon a penalty."

"The restoration of vitality is a small task," said Pharesm. "A variety of deaths by contrasting processes may well enter into your judgment." He started toward his divinatory, then turned back and made an impatient gesture. "Come; it is easier to feed you than return to the road."

Cugel's feet were once more free and he followed Pharesm through a wide arch into the divinatory. In a broad room with splayed gray walls, illuminated by three-colored polyhedra, Cugel devoured the food Pharesm caused to appear. Meanwhile Pharesm secluded himself in his work-room, where he occupied himself with his divinations. As time passed Cugel grew restless, and on three occasions approached the arched entrance. On each occasion a Presentment came to deter him, first in the shape of a leaping ghoul, next as a zig-zag blaze of energy, and finally as a score of glittering purple wasps.

Discouraged, Cugel went to a bench, and sat waiting with elbows on long legs, hands under his chin.

Pharesm at last reappeared, his robe wrinkled, the fine yellow down of his hair disordered into a multitude of small spikes. Cugel slowly rose to his feet.

"I have learned the whereabouts of TOTALITY," said Pharesm, in a voice like the strokes of a great gong. "In indignation, removing itself from your stomach, it has recoiled a million years into the past."

Cugel gave his head a solemn shake. "Allow me to offer my sympathy, and my counsel, which is: never despair! Perhaps the 'creature' will choose to pass this way again."

"An end to your chatter! TOTALITY must be recovered. Come."

Cugel reluctantly followed

Pharesm into a small room walled with blue tile, roofed with a tall cupola of blue and orange glass. Pharesm pointed to a black disk at the center of the floor. "Stand there."

Cugel glumly obeyed. "In a certain sense, I feel that—"

"Silence!" Pharesm came forward. "Notice this object!" He displayed an ivory sphere the size of two fists, carved in exceedingly fine detail. "Here you see the pattern from which my great work is derived. It expresses the symbolic significance of NULLITY to which TOTALITY must necessarily attach itself, by Kratinjae's Second Law of Cryptorrhoid Affinites, with which you are possibly familiar."

"Not in every aspect," said Cugel. "But may I ask your intentions?"

Pharesm's mouth moved in a cool smile. "I am about to attempt one of the most cogent spells ever evolved: a spell so fractious, harsh, and coactive, that Phandaal, Ranking Sorcerer of Grand Motholam, barred its use. If I am able to control it, you will be propelled one million years into the past. There you will reside until you have accomplished your mission, when you may return."

Cugel stepped quickly from the black disk. "I am not the man for this mission, whatever it may be. I fervently urge the use of someone else!"

Pharesm ignored the expostulation. "The mission, of course, is to bring the symbol into contact with TOTALITY." He brought forth a wad of tangled gray tissue. "In order to facilitate your search, I endow you with this instrument which relates all possible vocables to every conceivable system of meaning." He thrust the net into Cugel's ear, where it swiftly engaged itself with the nerve of consonent expression. "Now," said Pharesm, "you need listen to a strange language for but three minutes when you become proficient in its use. And now, another article to enhance the prospect of success: This ring. Notice the jewel: should you approach to within a league of TOTALITY, darting lights within the gem will guide you. Is all clear?"

Cugel gave a reluctant nod. "There is another matter to be considered. Assume that your calculations are incorrect and that TOTALITY has returned only nine hundred thousand years into the past: what then? Must I dwell out all my life in this possibly barbarous era?"

Pharesm frowned in displeasure. "Such a situation involves an error of ten percent. My system of reckoning seldom admits of deviation greater than one percent."

Cugel began to make calculations, but now Pharesm signaled to the black disk. "Back! And do not again move hence!"

Sweat oozing from his glands, knees quivering and sagging, Cugel returned to his place.

Pharesm retreated to the far end of the room, where he stepped into a coil of gold tubing, which sprang spiraling up to clasp his body. From a desk he took four black disks, which he began to shuffle and juggle with such fantastic dexterity that they blurred in Cugel's sight. Pharesm at last flung the disks away; spinning and wheeling they hung in the air, gradually drifting toward Cugel.

Pharesm next took up a white tube, pressed it tight against his lips and spoke an incantation. The tube swelled and bulged into a great globe. Pharesm twisted the end shut and shouting a thunderous spell, hurled the globe at the spinning disks, and all exploded. Cugel was surrounded, seized, jerked in all directions outward, compressed with equal vehemence: The net result, a thrust in a direction contrary to all, with an impetus equivalent to the tide of a million years. Among dazzling lights and distorted visions, Cugel was transported beyond his consciousness.

Cugel awoke in a glare of orange-gold sunlight, of a radiance he had never known before. He lay on his back looking up into a sky of warm blue, of lighter tone and softer texture than the indigo sky of his own time.

He tested arms and legs and finding no damage, sat upright, then slowly rose to his feet, blinking in the unfamiliar radiance.

The topography had changed only slightly. The mountains to the north were taller and of harsher texture, and Cugel could not identify the way he had come, or —more properly—the way he would come. The site of Pharesm's project was now a low forest of feathery-light green trees, on which hung clusters of red berries. The valley was as before, though the rivers flowed by different courses and three great cities were visible at varying distances. The air drifting up from the valley carried a strange tart fragrance mingled with an antique exhalation of moulder and must, and it seemed to Cugel that a peculiar melancholy hung in the air; in fact, he thought to hear music: a slow plaintive melody, so sad as to bring tears to his eyes. He searched for the source of the music, but it faded and disappeared even as he sought it, and only when he ceased to listen did it return.

For the first time Cugel looked toward the cliffs which rose to the west, and now the sense of *deja-vu* was stronger than ever. Cugel pulled his chin in puzzlement. The time was a million years previous to that other occasion on which he had seen the cliffs, and hence, by definition, must be the first. But it was also the second

time, for he well remembered his initial experience of the cliffs. On the other hand, the logic of time could not be contravened, and by such reckoning this view preceded the other. A paradox, thought Cugel: a puzzle indeed! Which experience had provided the background to the poignant sense of familiarity he had felt on both occasions? . . . Cugel dismissed the subject as unprofitable and started to turn away when movement caught his eye. He looked back up the face of the cliffs, and the air was suddenly full and rich with the music he had heard before, music of anguish and exalted despair . . . Cugel stared in wonder. A great winged creature wearing white robes flapped on high along the face of the cliff. The wings were long, ribbed with black chitin, sheathed with gray membrane. Cugel watched in awe as it swooped into a cave high up in the face of the cliff.

A gong tolled, from a direction Cugel could not determine. Overtones shuddered across the air and when they died, the unheard music became almost audible. From far over the valley came one of the Winged Beings, carrying a human form, of what age and sex Cugel could not determine. It hovered beside the cliff and dropped its burden. Cugel thought to hear a faint cry and the music was sad, stately, sonorous. The body seemed to fall slowly down the great height and struck at last at the base of the cliff. The Winged Being, after dropping the body, glided to a high ledge, where it folded its wings and stood like a man, staring over the valley. Cugel shrank back behind a rock. Had he been seen? He could not be sure. He heaved a deep sigh. This sad golden world of the past was not to his liking; the sooner he could leave the better. He examined the ring which Pharesm had furnished, but the gem shone like dull glass, with none of the darting glitters which would point the direction to TOTALITY. It was as Cugel feared. Pharesm had erred in his calculations and Cugel could never return to his own time.

The sound of flapping wings caused him to look into the sky. He shrank back into such concealment as the rock offered. The music of woe swelled and sighed away, as in the light of the setting sun the winged creature hovered beside the cliff and dropped its victim. Then it landed on a ledge with a great flapping of wings and entered a cave.

Cugel rose to his feet and ran crouching down the path through the amber dusk.

The path presently entered a grove of trees and here Cugel paused to catch his breath, after which he proceeded more circumspectly. He crossed a patch of cultivated ground on which stood a vacant hut. Cugel considered it

as shelter for the night, but thought to see a dark shape watching from the interior and passed it by.

The trail led away from the cliffs, across rolling downs, and just before the twilight gave way to night Cugel came to a village standing on the banks of a pond.

Cugel approached warily, but was encouraged by the signs of tidiness and good husbandry. In a park beside the pond stood a pavilion possibly intended for music, miming or declamation; surrounding the park were small narrow houses with high gables, the ridges of which were raised in decorative scallops. Opposite the pond was a larger building, with an ornate front of woven wood and enamled plaques of red, blue and yellow. Three tall gables served as its roof, the central ridge supporting an intricate carved panel, while those to either side bore a series of small spherical blue lamps. At the front was a wide pergola sheltering benches, tables and an open space, all illuminated by red and green fire-fans. Here townsfolk took their ease, inhaling incense and drinking wine, while youths and maidens cavorted in an eccentric high-kicking dance, to the music of pipes and a concertina.

Emboldened by the placidity of the scene, Cugel approached. The villagers were of a type he had never before encountered, of no great stature, with generally large heads and long restless arms. Their skin was a rich pumpkin orange; their eyes and teeth were black; their hair, likewise black, hung smoothly down beside the faces of the men to terminate in a fringe of blue beads, while the women wound their hair around white rings and pegs, to arrive at a coiffure of no small complexity. The features were heavy at jaw and cheek-bone; the long wide-spaced eyes drooped in a droll manner at the outer corners. The noses and ears were long and were under considerable muscular control, endowing the faces with great vivacity. The men wore flounced black kirtles, brown surcoats, headgear consisting of a wide black disk, a black cylinder, another lesser disk, surmounted by a gilded ball. The women wore black trousers, brown jackets with enameled disks at the navel, and at each buttock a simulated tail of green or red plumes, possibly an indication as to marital status.

Cugel stepped into the light of the fire-fans; instantly all talk ceased. Noses became rigid, eyes stared, ears twisted about in curiosity. Cugel smiled to left and right, waved his hand in a debonair all-inclusive greeting, and took a seat at an empty table.

There were mutters of astonishment at the various tables, too quiet to reach Cugel's ears. Presently one of the elders arose and approaching Cugel's table spoke a

sentence, which Cugel found unintelligible, for with insufficient scope, Pharesm's mesh as yet failed to yield meaning. Cugel smiled politely, held wide his hands in a gesture of well-meaning helplessness. The elder spoke once more, in a rather sharper voice, and again Cugel indicated his inability to understand. The elder gave his ears a sharp disapproving jerk and turned away. Cugel signaled to the proprietor, pointed to the bread and wine on a table and signified his desire that the same be brought to him.

The proprietor voiced a query which, for all its unintelligibility, Cugel was able to interpret. He brought forth a gold coin, and, satisfied, the proprietor turned away.

Conversation recommenced at the various tables and before long the vocables conveyed meaning to Cugel. When he had eaten and drunk, he rose to his feet and walked to the table of the elder who had first spoken to him, where he bowed respectfully. "Do I have permission to join you at your table?"

"Certainly; if you are so inclined. Sit." The elder indicated a seat. "From your behaviour I assumed that you were not only deaf and dumb, but also guilty of mental retardation. It is now clear, at least, that you hear and speak."

"I profess rationality as well," said Cugel. "As a traveler from afar, ignorant of your customs, I thought it best to watch quietly a few moments, lest in error I commit a solecism."

"Ingenious but peculiar," was the elder's comment. "Still, your conduct offers no explicit contradiction to orthodoxy. May I inquire the urgency which brings you to Farwan?"

Cugel glanced at his ring; the crystal was dull and lifeless; TOTALITY was clearly elsewhere. "My homeland is uncultured; I travel that I may learn the modes and styles of more civilized folk."

"Indeed!" The elder mulled the matter over for a moment, and nodded in qualified approval. "Your garments and physiognomy are of a type unfamiliar to me; where is this homeland of yours?"

"It lies in a region so remote," said Cugel, "that never till this instant had I knowledge of the land of Farwan!"

The elder flattened his ears in surprise. "What? Glorious Farwan, unknown? The great cities Impergos, Tharuwe, Rhaverjand—all unheard of? What of the illustrious Sembers, Surely the fame of the Sembers has reached you, They expelled the star-pirates; they brought the sea to the Land of Platforms; the splendor of Padara Palace is beyond description!"

Cugel sadly shook his head. "No rumor of this extraordinary magnificence has come to my ears."

The elder gave his nose a saturnine twitch. He said shortly: "Matters are as I state."

"I doubt nothing," said Cugel. "In fact I admit to ignorance. But tell me more, for I must be forced to abide long in this region. For instance, what of the Winged Beings that reside in the cliff. What manner of creature are they,"

The elder pointed toward the sky. "If you had the eyes of a nocturnal titvit you might note a dark moon which reels around the earth, and which cannot be seen except when it casts its shadow upon the sun. The Winged Beings are denizens of this dark world and their ultimate nature is unknown. They serve the Great God Yelisea in this fashion: whenever comes the time for man or woman to die, the Winged Beings are informed by a despairing signal from the dying person's norn. They thereupon descend upon the unfortunate and convey him to their caves, which in actuality constitute a magic opening into the blessed land Byssom."

Cugel leaned back, black eyebrows raised in a somewhat quizzical arch. "Indeed, indeed," he said, in a voice which the elder found insufficiently earnest.

"There can be no doubt as to the truth of the facts as I have stated them. Orthodoxy derives from this axiomatic foundation, and the two systems are mutually reinforcing: hence each is doubly validated."

Cugel frowned. "The matter undoubtedly goes as you aver—but are the Winged Beings always accurate in their choice of victims?"

The elder rapped the table in annoyance. "The doctrine is irrefutable, for those whom the Winged Beings take never survive, even when they appear in the best of health. Admittedly the fall upon the rocks conduces toward death, but it is the mercy of Yelisea which sees fit to grant a speedy extinction, rather than the duration of a possibly agonizing canker. The system is wholly beneficent. The Winged Beings summon only the moribund, which are then thrust through the cliff into the blessed land Byssom. Occasionally a heretic argues otherwise and in this case—but I am sure that you share the orthodox view?"

"Wholeheartedly," Cugel asserted. "The tenets of your belief are demonstrably accurate." And he drank deep of his wine. Even as he set down the goblet a murmur of music whispered through the air: a concord infinitely sweet, infinitely melancholy. All sitting under the pergola became silent—though Cugel was unsure that he in fact had heard music.

The elder huddled forward a trifle, and drank. Only then did he glance up. "The Winged Beings are passing over even now."

Cugel pulled thoughtfully at his chin. "How does one protect himself from the Winged Beings?"

The question was ill-put; the elder glared, an act which in-

cluded the curling forward of his ears. "If a person is about to die, the Winged Beings appear. If not, he need have no fear."

Cugel nodded several times. "You have clarified my perplexity. Tomorrow—since you and I are manifestly in the best of health—let us walk up the hill and saunter back and forth near the cliff."

"No," said the elder, "and for this reason: the atmosphere at such an elevation is insalubrious; a person is likely to inhale a noxious fume, which entails damage to the health."

"I comprehend perfectly," said Cugel. "Shall we abandon this dismal topic? For the nonce we are alive and concealed to some extent by the vines which shroud the pergola. Let us eat and drink and watch the merry-making. The youths of the village dance with great agility."

The elder drained his goblet and rose to his feet. "You may do as you please; as for me, it is time for my Ritual Abasement, this act being an integral part of our belief."

"I will perform something of a like nature by and by," said Cugel. "I wish you the enjoyment of your rite."

The elder departed the pergola and Cugel was left by himself. Presently certain youths, attracted by curiosity, joined him, and Cugel explained his presence once again, though with less emphasis upon the barbaric crudity of his native land, for several girls had joined the group, and Cugel was stimulated by their exotic coloring and the vivacity of their attitudes. Much wine was served and Cugel was persuaded to attempt the kicking, jumping local dance, which he performed without discredit. The exercise brought him into close proximity with an especially beguiling girl, who announced her name to be Zhiaml Vraz. At the conclusion of the dance, she put her arm around his waist, conducted him back to the table, and settled herself upon his lap. This act of familiarity excited no apparent disapproval among the others of the group, and Cugel was emboldened further. "I have not yet arranged for a bed-chamber; perhaps I should do so before the hour grows late."

The girl signaled the inn-keeper. "Perhaps you have reserved a chamber for this chisel-faced stranger?"

"Indeed, I will display it for his approval."

He took Cugel to a pleasant chamber on the ground floor, furnished with couch, commode, rug and lamp. On one wall hung a tapestry woven in purple and black, on another was a representation of a peculiarly ugly baby which seemed trapped or compressed in a transparent globe. The room suited Cugel; he announced as much to the innkeeper

and returned to the pergola, where now the merrymakers were commencing to disperse. The girl Zhiaml Vraz yet remained, and she welcomed Cugel with a warmth which undid the last vestige of his caution. After another goblet of wine, he leaned close to her ear. "Perhaps I am over-prompt; perhaps I over-indulge my vanity; perhaps I contravene the normal decorum of the village—but is there reason why we should not repair to my chamber, and there amuse ourselves?"

"None whatever," said the girl. "I am unwed and until this time may conduct myself as I wish, for this is our custom."

"Excellent," said Cugel. "Do you care to prccede me, or walk discreetly to the rear?"

"We shall go together; there is no need for furtiveness!"

Together they went to the chamber and performed a number of erotic exercises, after which Cugel collapsed into a sleep of utter exhaustion, for his day had been taxing.

During the middle hours he awoke to find Zhiaml Vraz departed from the chamber, a fact which in his drowsiness caused him no distress and he once more returned to sleep.

The sound of the door angrily flung ajar aroused him; he sat up to find the sun not yet arisen, and a deputation led by the elder regarding him with horror and disgust.

The elder pointed a long quivering finger through the gloom. "I thought to detect heretical opinion; now the fact is known! Notice: he sleeps with neither headcovering nor devotional salve on his chin. The girl Zhiaml Vraz reports that at no time in their congress did the villain call out for the approval of Yelisea!"

"Heresy beyond a doubt!" declared the others of the deputation.

"What else could be expected of an outlander?" asked the elder contemptuously. "Look! cven now he refuses to make the sacrcd sign."

"I do not know the sacred sign!" Cugel expostulated. "I know nothing of your ritcs! This is not heresy, it is simple ignorance!"

"I cannot believe this," said the elder. "Only last night I outlined the nature of orthodoxy."

"The situation is grievous," said another in a voice of portentous melancholy. "Heresy exists only through putrefaction of the Lobe of Correctitude."

"This is an incurable and fatal mortification," stated another, no less dolefully.

"True! Alas, too true!" sighed one who stood by the door. "Unfortunate man!"

"Come!" called the elder. "We must deal with the matter at once."

"Do not trouble yourself," said Cugel. "Allow mc to dress myself and I will depart the village never to return."

"To spread your detestable doctrine elsewhere? By no means!"

And now Cugel was seized and hauled naked from the chamber. Out across the park he was marched, and to the pavilion at the center. Several of the group erected an enclosure formed of wooden posts on the platform of the pavilion and into this enclosure Cugel was thrust. "What do you do?" he cried out. "I wish no part of your rites!"

He was ignored, and stood peering between the interstices of the enclosure while certain of the villagers sent aloft a large balloon of green paper buoyed by hot air, carrying three green fire-fans below.

Dawn showed sallow in the west. The villagers, with all arranged to their satisfaction, withdrew to the edge of the park. Cugel attempted to climb from the enclosure, but the wooden rods were of such dimension and spacing as to allow him no grip.

The sky lightened; high above burnt the green fire-fans. Cugel, hunched and in goose-flesh from the morning chill, walked back and forth the length of the enclosure. He stopped short, as from afar came the haunting music. It grew louder, seeming to reach the very thresh-hold of audibility. High in the sky appeared a Winged Being, white robes trailing and flapping. Down it settled and Cugel's joints became limp and loose. The Winged Being hovered over the enclosure, dropped, enfolded Cugel in its white robe, endeavored to bear him aloft. But Cugel had seized a bar of the enclosure and the Winged Being flapped in vain. The bar creaked, groaned, cracked. Cugel fought free of the stifling cloak, tore at the bar with hysterical strength; it snapped and splintered. Cugel seized a fragment, stabbed at the Winged Being. The sharp stick punctured the white cloak, and the Winged Being buffeted Cugel with a wing. Cugel seized one of the chitin ribs and with a mighty effort twisted it around backward, so that the substance cracked and broke and the wing hung torn. The Winged Being, aghast, gave a great bound which carried both it and Cugel out upon the pavilion, and now it hopped through the village trailing its broken wing.

Cugel ran behind belaboring it with a cudgel he had seized up. He glimpsed the villagers staring in awe; their mouths were wide and wet, and they might have been screaming but he heard nothing. The Winged Being hopped faster, up the trail toward the cliff, with Cugel wielding the cudgel with all his strength. The golden sun rose over the far mountains; the Winged Being suddenly turned to face Cugel, and Cugel felt the glare of its eyes, though the visage, if such there were, was concealed beneath the hood of the cloak. Abashed and panting, Cugel stood

back, and now it occurred to him that he stood almost defenseless should others drop on him from on high. So now he shouted an imprecation at the creature and turned back to the village.

All had fled. The village was deserted. Cugel laughed aloud. He went to the inn, dressed himself in his garments, buckled on his sword. He went out into the taproom, and looking into the till, found a number of coins which he transferred to his pouch, alongside the ivory representation of NULLITY. He returned outdoors: best to depart while none were on hand to detain him. A flicker of light attracted his attention: the ring on his finger glinted with dozens of streaming sparks, and all pointed up the trail, toward the cliffs.

Cugel shook his head wearily, checked the darting lights once again. Without ambiguity they directed him back the way he had come. Pharesm's calculations, after all had been accurate. He had best act with decision, lest TOTALITY once more drift beyond his reach.

He delayed only long enough to find an axe, and hastened up the trail, following the glittering sparks of the ring.

Not far from where he had left it, he came upon the maimed Winged Being, now sitting on a rock beside the road, the hood drawn over its head. Cugel picked up a stone, heaved it at the creature, which collapsed into sudden dust, leaving only a tumble of white cloth to signal the fact of its existence.

Cugel continued up the road, keeping to such cover as offered itself, but to no avail. Overhead hovered Winged Beings, flapping and swooping. Cugel made play with the axe, striking at the wings, and the creatures flew high, circling above.

Cugel consulted the ring and was led on up the trail, with the Winged Beings hovering just above. The ring coruscated with the intensity of its message: there was TOTALITY, resting blandly on a rock!

Cugel restrained the cry of exultation which rose in his throat. He brought forth the ivory symbol of NULLITY, ran forward and applied it to the gelatinous central globe.

As Pharesm had asserted, adherence was instant. With the contact Cugel could feel the spell which bound him to the olden time dissolving.

A swoop, a buffet of great wings! Cugel was knocked to the ground. White cloth enveloped him, and with one hand holding NULLITY he was unable to swing his axe. This was now wrenched from his grasp. He released NULLITY, gripped a rock, kicked, somehow freed himself, and sprang for his axe. The Winged Being seized NULLITY and with

TOTALITY attached, bore it aloft toward a cave high in the cliffs.

Great forces were pulling at Cugel, whirling in all directions at once. There was a roaring in his ears, a flutter of violet lights, and Cugel fell a million years into the future.

He recovered consciousness in the blue-tiled room with the sting of an aromatic liquor at his lips. Pharesm, bending over him, patted his face, poured more of the liquor into his mouth. "Awake! Where is TOTALITY! How are you returned?"

Cugel pushed him aside, and sat up on the couch.

"TOTALITY!" roared Pharesm. "Where is it? Where is my talisman?"

"I will explain," said Cugal in a thick voice. "I had it in my grasp, and it was wrenched away by winged creatures in the service of Great God Yelisea."

"Tell me, tell me!"

Cugel recounted the circumstances which had led first to gaining and then losing that which Pharesm sought. As he talked, Pharesm's face became damp with grief and his shoulders sagged. At last he marched Cugel outside, into the dim red light of late afternoon. Together they scrutinized the cliffs which now towered desolate and lifeless above them. "To which cave did the creature fly?" asked Pharesm. "Point it out, if you are able!"

Cugel pointed. "There, or so it would seem. All was confusion, all a tumble of wings . . ."

"Remain here." Pharesm went inside the workroom and presently returned. "I give you light," and he handed Cugel a cold white flame tied into a silver chain. "Prepare yourself."

At Cugel's feet he cast a pellet which broke into a vortex, and Cugel was carried dizzily aloft to that crumbling ledge which he had indicated to Pharesm. Nearby was the dark opening into a cave. Cugel turned the flame within. He saw a dusty passage, three strides wide and higher than he could reach. It led back into the cliff,

twisting slightly to the side. It seemed barren of all life.

Holding the lamp before him Cugel slowly moved along the passage, heart thumping for dread of something he could not define. He stopped short: music? The memory of music? He listened and could hear nothing but when he tried to step forward fear clamped his legs. He held high the lantern and peered down the dusty passage. Where did it lead? What lay beyond? Dusty cave? Demonland? The blessed land Byssom? Cugel slowly proceeded, every sense alert. On a ledge he spied a shriveled brown spheroid: the talisman he had carried into the past. TOTALITY had long since disengaged itself and departed.

Cugel carefully lifted the object, which was brittle with the age of a million years and returned to the ledge. The vortex, at a command from Pharesm, conveyed Cugel back to the ground.

Dreading the wrath of Pharesm, Cugel tendered the withered talisman.

Pharesm took it, held it between thumb and forefinger. "This was all?"

"There was nothing more."

Pharesm let the object fall. It struck and instantly became dust. Pharesm looked at Cugel, took a deep breath, then turned with a gesture of unspeakable frustration and marched back to his divinatory.

Cugel gratefully moved off down the trail, past the workmen standing in an anxious group waiting for orders. They eyed Cugel sullenly and a two-ell man hurled a rock. Cugel shrugged and continued south along the trail. Presently he passed the site of the village, now a waste overgrown with gnarled old trees. The pond had disappeared and the ground was hard and dry. In the valley below were ruins, but none marked the sites of the ancient cities Impergos, Tharuwe and Rhaverjand, now gone beyond memory.

Cugel walked south. Behind him the cliffs merged with haze and presently were lost to view.

THE NOBELMEN OF SCIENCE

by Isaac Asimov

SOMETHING HAPPENED TO ME the other day which still leaves me stunned.

I got a call early in the morning from a reporter. He said, "Three Frenchmen have just won the Nobel Prize for Medicine and Physiology for their work on genetics, and I thought you might explain to me, in simple terms, the significance of their discoveries."

"Who are the three Frenchmen?" I asked.

He told me, and the names drew a blank. I pleaded ignorance of their work and apologized. He hung up.

I sat there for a while and brooded, since I hate revealing flaws in my ominiscience. As is usual in such cases, I thought long, shivery thoughts about the oncoming of senility, and then cudgeled my brain unmercifully. What discoveries in genetics in recent years, I wondered, would rate a Nobel Prize this year?

One thought came to mind. Some years back it had been discovered that Mongolism (a kind of congenital mental retardation marked by a variety of characteristic symptoms) was accompanied by an additional chromosome in the cells. The 21st pair had three members rather than two, giving a total number of 47 rather than 46.

I ripped into my library to find the record of the discovery and came upon it in a matter of minutes. Eureka! It had first been reported by three Frenchmen!

My chest expanded; my cheeks glowed; my brain palpitated. There was life, it seemed, in the old boy yet.

I called the reporter back, savoring my triumph in advance. "What were the names of those Frenchmen, again?" I asked cheerfully.

He rattled them off. *They were three different names!* There was a long dismal pause, and then I said, "Sorry. I still don't know."

He must be wondering, ever since, why I bothered calling him back. As for me, I faced the situation staunchly; I got back into bed and pulled the covers over my head.

(If you're curious, the three Frenchmen who won the 1965 Prize —who will be named later in the article—received it for the discovery that some genes have regulatory functions and control the activity of other genes.)

It got me to thinking about Nobel Prize winners, however, and the way such victories have become a matter of national pride. After all, the reporter didn't identify the winners as "three geneticists" but as "three Frenchmen."

But in what way ought nations to take credit? Einstein, for instance, was born in Germany, but was educated in Italy and Switzerland as well as in Germany, was in Germany at the time he won the award, though he was in Switzerland at the time he wrote his first world-shattering papers, and he spent his later life as an American citizen. How do we list him?

I would like to suggest that the key point is a man's scientific birth and that this takes place in college. Schooling before college is too vague and diffuse, schooling after college involves a man who is already set in his directions. It is college itself that sets those directions and determines whether a man will throw himself into science or not.

Naturally, I am aware that influences prior to college and outside college may be very important but here we edge uncomfortably close to the task of making a psychiatric study of each Nobel Prize winner, which I can't and won't do. I am going to accept college as a "first approximation" and list the winners by the nationality of that college.

This isn't easy, either.

In the first place, the information I can dig up isn't always clear in this matter and I may make some mistakes. Secondly, some Nobelists went to two different undergraduate colleges in two different nations and I have to choose among them. Thirdly, deciding on a nationality brings me face to face with the fact that political divisions change their nature with time. Some colleges that were once located in Austria-Hungary are now located in Czechoslovakia, without having ever budged.

One Nobel Prize winner studied at the University of Dorpat, and this is perhaps the most troublesome case. The University was in Russia then and it is in the Soviet Union now. In between, however, it

was in Estonia, which the American government still recognizes as an independent nation. And to top it off, I'm sure that both the winner himself and the university, in his time, were completely German in a cultural sense.

Oh, well, I will take full responsibility for my decisions on categories and I am certain that those Gentle Readers who take issue with those decisions will write me and tell me so. And I may be argued into making changes.

So now let's make the lists which, if they make dull reading, have the advantage of not being like any other list in existence (as far as I know) and which therefore come under the heading, I hope, of "valuable reference."

We'll start with the Nobel Prize in physics:

Year	*Winner(s)—physics*	*Undergraduate Training*
1901	Wilhelm Konrad Rontgen	Switzerland
1902	Hendrik Antoon Lorentz	Netherlands
	Pieter Zeeman	Netherlands
1903	Antoine Henri Becquerel	France
	Pierre Curie	France
	Marie Sklodowska Curie	France
1904	John William Strutt, Baron Rayleigh	Great Britain
1905	Philipp Lenard	Austria
1906	Joseph John Thomson	Great Britain
1907	Albert Abraham Michelson	United States
1908	Gabriel Lipmann	France
1909	Guglielmo Marconi	Italy (private tutoring)
	Carl Ferdinand Braun	Germany
1910	Johannes Diderik Van der Waals	Netherlands
1911	Wilhelm Wien	Germany
1912	Nils Gustaf Dalen	Sweden
1913	Heike Kamerlingh Onnes	Netherlands
1914	Max Theodor Felix von Laue	Germany
1915	William Henry Bragg	Great Britain
	William Lawrence Bragg	Australia
1916	(no award)	
1917	Charles Glover Barkla	Great Britain
1918	Max Karl Ernst Ludwig Planck	Germany
1919	Johannes Stark	Germany
1920	Charles Edouard Guillaume	Switzerland
1921	Albert Einstein	Switzerland
1922	Niels Henrik David Bohr	Denmark
1923	Robert Andrews Millikan	United States
1924	Karl Manne Georg Siegbahn	Sweden

Year	*Winner(s)—physics*	*Undergraduate Training*
1925	James Franck	Germany
	Gustav Hertz	Germany
1926	Jean Perrin	France
1927	Arthur Holly Compton	United States
	Charles Thomson Rees Wilson	Great Britain
1928	Owen Willans Richardson	Great Britain
1929	Prince Louis-Victor de Broglie	France
1930	Chandrasekhara Venkata Raman	India
1931	(no award)	
1932	Werner Karl Heisenberg	Germany
1933	Erwin Schrodinger	Austria
	Paul Adrien Maurice Dirac	Great Britain
1934	(no award)	
1935	James Chadwick	Great Britain
1936	Victor Francis Hess	Austria
	Carl David Anderson	United States
1937	Clinton Joseph Davisson	United States
	George Paget Thomson	Great Britain
1938	Enrico Fermi	Italy
1939	Ernest Orlando Lawrence	United States
1940–42	(no awards)	
1943	Otto Stern	Germany
1944	Isidor Isaac Rabi	United States
1945	Wolfgang Pauli	Austria
1946	Percy Williams Bridgman	United States
1947	Edward Victor Appleton	Great Britain
1948	Patrick Maynard Stuart Blackett	Great Britain
1949	Hideki Yukawa	Japan
1950	Cecil Frank Powell	Great Britain
1951	John Douglas Cockcroft	Great Britain
	Ernest Thomas Sinton Walton	Ireland
1952	Felix Bloch	Switzerland
	Edward Mills Purcell	United States
1953	Fritz Zernicke	Netherlands
1954	Max Born	Germany
	Walter Bothe	Germany
1955	Willis Eugene Lamb, Jr.	United States
	Polykarp Kusch	United States
1956	William Bradford Shockley	United States
	John Bardeen	United States
	Walter Houser Brattain	United States
1957	Tsung-Dao Lee	China
	Chen-Ning Yang	China
1958	Pavel Alekseyevich Cherenkov	Soviet Union

Year	*Winner(s)—physics*	*Undergraduate Training*
	Ilya Mihailovich Frank	Soviet Union
	Igor Yevgenyevich Tamm	Soviet Union
1959	Emilio Segre	Italy
	Owen Chamberlain	United States
1960	Donald Arthur Glaser	United States
1961	Robert Hofstadter	United States
	Rudolf Ludwig Mossbauer	Germany
1962	Lev Davidovich Landau	Soviet Union
1963	Eugene Wigner	Germany
	J. Hans Daniel Jensen	Germany
	Marie Goeppert-Mayer	Germany
1964	Charles Hard Townes	United States
	Nikolai Basov	Soviet Union
	Alexander Prokhorov	Soviet Union
1965	Julian Seymour Schwinger	United States
	Richard Phillips Feynman	United States
	Sîn-Itiro Tomonago	Japan

Next we'll take up the Nobel Prizes in chemistry:

Year	*Winner(s)—chemistry*	*Undergraduate Training*
1901	Jacobus Henricus Van't Hoff	Netherlands
1902	Emil Fischer	Germany
1903	Svante August Arrhenius	Sweden
1904	William Ramsay	Great Britain
1905	Adolf von Baeyer	Germany
1906	Henri Moissan	France
1907	Eduard Buchner	Germany
1908	Ernest Rutherford	New Zealand
1909	Wilhelm Ostwald	Russia
1910	Otto Wallach	Germany
1911	Marie Sklodowska Curie	France
1912	Victor Grignard	France
	Paul Sabatier	France
1913	Alfred Werner	Switzerland
1914	Theodore William Richards	United States
1915	Richard Willstatter	Germany
1916–17	(no awards)	
1918	Fritz Haber	Germany
1919	(no award)	
1920	Walther Nernst	Germany
1921	Frederick Soddy	Great Britain
1922	Francis William Aston	Great Britain

Year	*Winner(s)—chemistry*	*Undergraduate Training*
1923	Fritz Pregl	Austria
1924	(no award)	
1925	Richard Zsigmondy	Austria
1926	Theodor Svedberg	Sweden
1927	Heinrich Wieland	Germany
1928	Adolf Windaus	Germany
1929	Arthur Harden	Great Britain
	Hans von Euler-Chelpin	Germany
1930	Hans Fischer	Germany
1931	Carl Bosch	Germany
	Friedrich Bergius	Germany
1932	Irving Langmuir	United States
1933	(no award)	
1934	Harold Clayton Urey	United States
1935	Irene Joliot-Curie	France
	Frederic Joliot-Curie	France
1936	Peter Joseph Wilhelm Debye	Germany
1937	Walter Norman Haworth	Great Britain
	Paul Karrer	Switzerland
1938	Richard Kuhn	Germany
1939	Adolf Butenandt	Germany
	Leopold Ruzicka	Switzerland
1940–42	(no awards)	
1943	George de Hevesey	Hungary
1944	Otto Hahn	Germany
1945	Arturi Ilmari Virtanen	Finland
1946	James Batcheller Sumner	United States
	John Howard Northrop	United States
	Wendall Meredith Stanley	United States
1947	Robert Robinson	Great Britain
1948	Arne Tiselius	Sweden
1949	William Francis Giauque	United States
1950	Otto Dicls	Germany
	Kurt Alder	Germany
1951	Glenn Theodore Seaborg	United States
	Edwin Mattison McMillan	United States
1952	Archer John Porter Martin	Great Britain
	Richard Laurence Millington Synge	Great Britain
1953	Hermann Staudinger	Germany
1954	Linus Pauling	United States
1955	Vincent Du Vigneaud	United States
1956	Cyril Norman Hinshelwood	Great Britain
	Nikolai Nikloaievich Semenov	Soviet Union
1957	Alexander Robertus Todd	Great Britain

Year	*Winner(s)—chemistry*	*Undergraduate Training*
1958	Frederick Sanger	Great Britain
1959	Jaroslav Heyrovsky	Czechoslovakia
1960	Willard Frank Libby	United States
1961	Melvin Calvin	United States
1962	Max Ferdinand Perutz	Austria
	John Cowdery Kendrew	Great Britain
1963	Karl Ziegler	Germany
	Giulio Natta	Italy
1964	Dorothy Crowfoot Hodgkin	Great Britain
1965	Robert Burns Woodward	United States

Finally, the Nobel Prizes for medicine and physiology:

Year	*Winner(s)—med. and physiol.*	*Undergraduate Training*
1901	Emil von Behring	Germany
1902	Ronald Ross	Great Britain
1903	Niels Ryberg Finsen	Denmark
1904	Ivan Petrovich Pavlov	Russia
1905	Robert Koch	Germany
1906	Camillo Golgi	Italy
	Santiago Ramon y Cajal	Spain
1907	Charles Louis Alphonse Laveran	France
1908	Ilya Mechnikov	Russia
	Paul Ehrlich	Germany
1909	Theodor Kocher	Switzerland
1910	Albrecht Kossel	Germany
1911	Allvar Gullstrand	Sweden
1912	Alexis Carrel	France
1913	Charles Richet	France
1914	Robert Barany	Austria
1915–18	(no awards)	
1919	Jules Bordet	Belgium
1920	August Krogh	Denmark
1921	(no award)	
1922	Archibald Vivian Hill	Great Britain
	Otto Meyerhof	Germany
1923	Frederick Grant Banting	Canada
	John James Richard Macleod	Great Britain
1924	Willem Einthoven	Netherlands
1925	(no award)	
1926	Johannes Fibiger	Denmark
1927	Julius Wagner-Jauregg	Austria
1928	Charles Nicolle	France
1929	Christiaan Eijkman	Netherlands

Year	*Winner(s)—med. and physiol.*	*Undergraduate Training*
	Frederick Gowland Hopkins	Great Britain
1930	Karl Landsteiner	Austria
1931	Otto Warburg	Germany
1932	Charles Sherrington	Great Britain
	Edgar Douglas Adrian	Great Britain
1933	Thomas Hunt Morgan	United States
1934	George Hoyt Whipple	United States
	George Richards Minot	United States
	William Parry Murphy	United States
1935	Hans Spemann	Germany
1936	Henry Dale	Great Britain
	Otto Loewi	Germany
1937	Albert von Szent-Gyorgyi	Hungary
1938	Corneille Heymans	Belgium
1939	Gerhard Domagk	Germany
1940–42	(no awards)	
1943	Henrik Dam	Denmark
	Edward A. Doisy	United States
1944	Joseph Erlanger	United States
	Herbert Spencer Gasser	United States
1945	Alexander Fleming	Great Britain
	Ernst Boris Chain	Germany
	Howard Walter Florey	Australia
1946	Hermann Joseph Muller	United States
1947	Bernardo Alberto Houssay	Argentina
	Carl Ferdinand Cori	Czechoslovakia
	Gerty Theresa Radnitz Cori	Czechoslovakia
1948	Paul Muller	Switzerland
1949	Walter Rudolf Hess	Switzerland
	Egas Moniz	Portugal
1950	Edward Calvin Kendall	United States
	Philip Showalter Hench	United States
	Tadeus Reichstein	Switzerland
1951	Max Theiler	South Africa
1952	Selman Abraham Waksman	United States
1953	Fritz Albert Lipmann	Germany
	Hans Adolf Krebs	Germany
1954	John Franklin Enders	United States
	Thomas Huckle Weller	United States
	Frederick Chapman Robbins	United States
1955	Axel Hugo Teodor Theorell	Sweden
1956	Dickinson Woodruff Richards	United States
	Andre Frederic Cournand	France
	Werner Theodor Otto Forssman	Germany

Year	*Winner(s)—med. and physiol.*	*Undergraduate Training*
1957	Daniel Bovet	Switzerland
1958	George Wells Beadle	United States
	Edward Lawrie Tatum	United States
	Joshua Lederberg	United States
1959	Severo Ochoa	Spain
	Arthur Kornberg	United States
1960	Macfarlane Burnet	Australia
	Peter Brian Medawar	Great Britain
1961	Georg von Bekesy	Switzerland
1962	Francis Harry Compton Crick	Great Britain
	Maurice Hugh Frederick Wilkins	Great Britain
	James Dewey Watson	United States
1963	John Carew Eccles	Australia
	Alan Lloyd Hodgkin	Great Britain
	Andrew Fielding Huxley	Great Britain
1964	Konrad Bloch	Germany
	Feodor Lynen	Germany
1965	Andre Lwoff	France
	Jacques Monod	France
	Francois Jacob	France

Now for some overall statistics—59 physics prizes have been shared among 86 people (including 2 women); 57 chemistry prizes have been shared among 71 people (including 3 women); 56 medicine and physiology prizes have been shared among 90 people (including 1 woman).

All told, 245 people (including 5 women) have won among them a total of 172 prizes in the sciences through 1965. (If this sum seems wrong to you, I must remind you that Marie Sklodowska Curie won two science prizes, one in physics and one in chemistry.)

Suppose we next list the prizes according to the college nationality of the winners. In making this final table, I will give half-credit to each man who shares the Prize with one other and third-credit to each man who shares the Prize with two others. Sometimes the cash award of the Prize is divided ½, ¼ and ¼, but I'll ignore that refinement.

The result follows:

Nation	*Physics*	*Chemistry*	*Medicine & Physiology*	*Total*
Germany	10	17 1/2	10 1/6	37 2/3
United States	12	11	9 1/6	32 1/6
Great Britain	10 1/2	10	6 1/6	26 2/3
France	4	4	5 1/2	13 1/2
Switzerland	3 1/2	2	4 5/6	10 1/3
Austria	3	2 1/2	3	8 1/2
Sweden	2	3	2	7
Netherlands	4	1	1 1/2	6 1/2
Soviet Union (Russia)	2 2/3	1 1/2	1 1/2	5 2/3
Denmark	1	.....	3 1/2	4 1/2
Italy	2	1/2	1/2	3
Hungary	.....	1	1	2
Belgium	.....	.....	2	2
Australia	1/2	.....	1 1/6	1 2/3
Czechoslovakia	.....	1	2/3	1 2/3
Japan	1 1/3	.....	.....	1 1/3
India	1	.....	.....	1
China	1	.....	.....	1
New Zealand	.....	1	.....	1
Finland	.....	1	.....	1
Spain	.....	.....	1	1
South Africa	.....	.....	1	1
Ireland	1/2	.....	.....	1/2
Portugal	.....	.....	1/2	1/2
Canada	.....	.....	1/2	1/2
Argentina	.....	.....	1/3	1/3
Totals	*59*	*57*	*56*	*172*

Too much must not be read into this table. It can't and should not be used to indicate anything about the relative intelligences of the nations. There is a wide difference in quality between one Nobelist and another and these differences are impossible to weigh objectively. For instance, Italy has a score of only 3 altogether, but one of those three was scored by Enrico Fermi. Denmark only has 1 physics Prize to its credit, but that one was Niels Bohr, a giant even among giants.

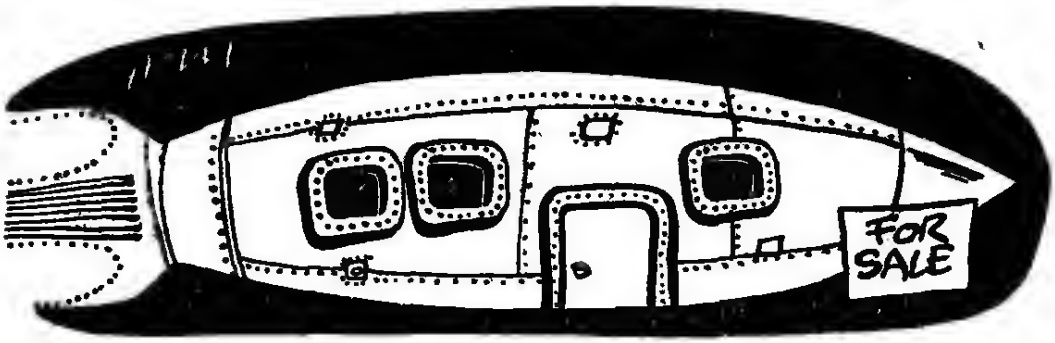
What the table does show is that the scientific tradition has been entrenched longest and most strongly in the educational systems of those nations culturally related to Great Britain and Germany. As near-

ly as I can estimate colleges that teach in either English, German, Swedish, Dutch or Danish account for 135 ⅔, or 80 percent, of the Nobel Prizes in the sciences.

I suspect that this English-German domination of science will grow progressively less marked in succeeding decades.

And I would like to make one final pitch, too. It is about time that the arbitrary decision of Nobel that only three classifications of science deserve the Prize be reconsidered. I'm thinking of three more classifications: a) Astronomy (to include geology and oceanography), b) Mathematics, and c) Science of man (to include anthropology, archaeology, and, possibly, sociology.)

Many great scientists go unhonored by the present system and it bothers me. And it probably bothers them, too.



Here is a solid, suspenseful chunk of classical science fiction, in which two experienced spacers escape the solar system in the world's first faster-than-light spacecraft. A year later, one man returns. To find out what happened, you had better start reading right now.

BORDERED IN BLACK

by Larry Niven

ONLY ONE FIGURE STOOD IN THE airlock, though it was a cargo lock, easily big enough to hold both men. Lean and sandy haired, the tiny figure was obviously Carver Rappaport. A bushy beard now covered half his face. He waited patiently while the ramp was run up, and then he started down.

Turnbull, waiting at the bottom, suppressed growing uneasiness. Something was wrong. He'd known it the moment he heard that the Overcee was landing. The ship must have been in the solar system for hours. Why hadn't she called in?

And where was Wall Kameon?

Returning spacers usually sprinted down the ramp, eager to touch honest concrete again. Rappaport came down with slow, methodical speed. Seen close, his beard was ragged, unkempt. He reached bottom, and Turnbull saw that the square features were set like cement.

Rappaport brushed past him and kept walking.

Turnbull ran after him and fell into step, looking and feeling foolish. Rappaport was a good head taller, and where he was walking, Turnbull was almost running. He shouted above the background noise of the spaceport, "Rappaport, where's Kameon?"

Like Turnbull, Rappaport had to raise his voice. "Dead."

"Dead? Was it the ship? Rappaport, did the *ship* kill him?"

"No."

"Then what? Is his body aboard?"

"Turnbull, I don't want to talk about it. No, his body isn't aboard. His—" Rappaport ground the heels of his hands into his eyes, like a man with a blinding headache. "His *grave,*" he said, emphasizing the word, "has a nice black border around it. Let's leave it at that."

But they couldn't, of course.

Two security officers caught up with them near the edge of the field. "Stop him," said Turnbull, and they each took an arm. Rappaport stopped walking and turned.

"Have you forgotten that I'm carrying a destruct capsule?"

"What about it?" For the moment Turnbull really didn't understand what he meant.

"Any more interference and I'll use it. Understand this, Turnbull. I don't care any more. Project Overcee is over. I don't know where I go from here. The best thing we can do is blow up that ship and stay in our own solar system."

"Man, have you gone crazy? What *happened* out there? You—meet aliens?"

"No comment. —No, I'll answer that one. We didn't meet aliens. Now tell your comedian friends to let go."

Turnbull let himself realize that the man wasn't bluffing. Rappaport was prepared to commit suicide. Turnbull, the instinctive politician, weighed chances and gambled.

"If you haven't decided to talk in twenty-four hours we'll let you go. I promise that. We'll keep you here 'til then, by force if necessary. Just to give you an opportunity to change your mind."

Rappaport thought it over. The security men still held his arms, but cautiously now, standing as far back as they could, in case his personal bomb went off.

"Seems fair," he said at last, "if you're honest. Sure, I'll wait twenty-four hours."

"Good." Turnbull turned to lead the way back to his office. Instead, he merely stared.

The Overcee was red hot at the nose, glaring white at the tail. Mechs and techs were running in all directions. As Turnbull watched, the solar system's first faster-than-light spacecraft slumped and ran in a spreading, glowing pool.

. . . It had started a century ago, when the first ramrobot left the solar system. The interstellar ramscoop robots could make most of their journey at near lightspeed, using a conical electromagnetic field two hundred miles across to scoop hydrogen fuel from interstellar space. But no man had ever ridden a ramrobot. None ever would. The ramscoop magnetic field did horrible things to chordate organisms.

Each ramrobot had been programmed to report back only if it found a habitable world near the star to which it had been assigned. Twenty-six had been sent out. Three had reported back—so far.

. . . It had started twelve years ago, when a well known mathematician worked out a theoretical hyperspace over Einsteinian four-space. He did it in his spare time. He considered the hyperspace a toy, an example of pure mathematics. And when has pure mathematics been anything but good clean fun?

. . . It had started ten years ago, when Ergstrom's brother Carl demonstrated the experimental reality of Ergstrom's toy universe. Within a month the UN had financed Project Overcee, put Winston Turnbull in charge, and set up a school for faster-than-light astronauts. The vast number of applicants was winnowed to ten "hypernauts". Two were Belters; all were experienced spacers. The training began in earnest. It lasted eight years, while Project Overcee built the ship.

. . . It had started a year and a month ago, when two men climbed into the almost luxurious lifesystem of the Overcee, ran the ship out to Neptune's orbit under escort, and vanished.

One was back.

Now his face was no stonier than Turnbull's. Turnbull had just watched his work of the last ten years melt and run like quicksilver. He was mad clean through; but his mind worked furiously. Part of him, the smaller part, was wondering how he would explain the loss of ten billion dollars worth of ship. The rest was reviewing everything it could remember about Carver Geoffrey Rappaport and William (Wall) Kamcon.

Turnbull entered his office and went straight to the bookshelf, sure that Rappaport was following. He pulled out a leather bound volume, did something to the binding and poured two paper cups full of amber fluid. The fluid was bourbon, and it was more than ice cold.

Rappaport had seen this bookcase before, yet he wore a faintly puzzled frown as he took a cup. He said, "I didn't think I'd ever anticipate anything again."

"The bourbon?"

Rappaport didn't answer. His first swallow was a gulp.

"Did you destroy your ship?"

"Yes. I set the controls so it would only melt. I didn't want anyone hurt."

"Commendable. And the Overcee motor? You left it in orbit?"

"I hard-landed it on the Moon. It's gone."

"That's great. Just great. Carver, that ship cost ten billion dollars to build. We can duplicate it for four, I think, because we won't be making any false starts, but you—"

"Hell you wouldn't." Rappaport swirled the bourbon in his cup,

looking down into the miniature whirlpool. He was twenty to thirty pounds lighter than he had been a year ago. "You build another Overcee and you'll be making one enormous false start. We were wrong, Turnbull. It's not our universe. There's nothing out there for us."

"It *is* our universe." Turnbull let the quiet certainty show in his politician's voice. He needed to start an argument—he needed to get this man to talking. But the certainty was real, and always had been. It was humanity's universe, ready for the taking.

Over the rim of his cup Rappaport looked at him in exasperated pity. "Turnbull, can't you take my word for it? It's not our universe, and it's not worth having anyway. What's out there is—" He clamped his mouth shut and turned away in the visitor's chair.

Turnbull waited ten seconds to point up the silence. Then he asked, "Did you kill Kameon?"

"Kill Wall? You're out of your mind!"

"Could you have saved him?"

Rappaport froze in the act of turning around. "No," he said. And again, "No. I tried to get him moving, but he wouldn't—Stop it! Stop needling me. I can walk out any time, and you couldn't stop me."

"It's too late. You've aroused my curiosity. What about Kameon's black bordered grave?"

No answer.

"Rappaport, you seem to think that the UN will just take your word and dismantle Project Overcee. There's not a prayer of that. Probability zero. In the last century we've spent tens of billions of dollars on the ramrobots and the Overcee, and now we can rebuild her for four. The only way to stop that is to tell the UN exactly why they shouldn't."

Rappaport didn't answer, and Turnbull didn't speak again. He watched Rappaport's cigarette burning unheeded in the ash tray, leaving a strip of charred wet paper. It was uncharacteristic of the former Carver Rappaport to forget burning cigarettes, or to wear an untrimmed beard and sloppily cut hair. That man had been always clean shaven; that man had lined up his shoes at night, every night, even when staggering drunk.

Could he have killed Kameon for being sloppy? And then turned messy himself as he lost his self respect? Stranger things had happened in the days when it took eight months to reach Mars. No, Rappaport had not done murder; Turnbull would have bet high on that. And Kameon would have won any fair fight. Newspapermen had nicknamed him The Wall when he was playing guard for the Berlin Raiders.

"You're right. Where do I start?"

Turnbull was jerked out of his abstraction. "At the beginning. When you went into hyperspace."

"We had no trouble there. Except with the windows. You shouldn't have put windows on the Overcee."

"Why not? What did you see?"

"Nothing."

"Well, then?"

"You ever try to find your blind spot? You put two dots on a piece of paper, maybe an inch apart, and you close one eye, focus on one dot and slowly bring the paper up to your face. At some point the other dot disappears. Looking at the window in Overcee is like your blind spot expanding to a two foot square with rounded corners."

"I assume you covered them up."

"Sure. Would you believe it, we had trouble finding those windows? When you wanted them they were invisible. We got them covered with blankets. Then every so often we'd catch each other looking under the blankets. It bothered Wall worse than me. We could have made the trip in five months instead of six, but we had to keep coming out for a look around."

"Just to be sure the universe was still there."

"Right."

"But you did reach Sirius."

"Yes. We reached Sirius . . ."

Ramrobot #6 had reported from Sirius B, half a century ago. The Sirius stars are an unlikely place to look for habitable worlds, since both stars are blue-white giants. Still, the ramrobots had been programmed to test for excessive ultraviolet. Sirius B was worth a look.

The ship came out where Sirius was two bright stars. It turned its sharp nose toward the dimmer star and remained motionless for twenty minutes, a silver torpedo shape in a great, ungainly cradle studded with heavy electromagnetic motors. Then it was gone again.

Now Sirius B was a searing ball of light. The ship began to swing about, like a hound sniffing the breeze, but slowly, ponderously.

"We found four planets," said Rappaport. "Maybe there were more, but we didn't look. Number Four was the one we wanted. It was a cloudy ball about twice the size of Mars, with no moon. We waited until we'd found it before we started celebrating."

"Champagne?"

"Hah! Cigars and drunk pills. And Wall shaved off his grubby beard. My God, we were glad to be out in space again! Near the end it seemed like those blind spots were growing around the edges of the blankets. We smoked our cigars and sucked our drunk pills and yakked about the broads we'd known. Not that we hadn't done *that* before. Then we slept it off and went back to work . . ."

The cloud cover was nearly unbroken. Rappaport moved the telescope a bit at a time, trying to find a break. He found several, but

none big enough to show him anything. "I'll try infrared," he said.

"Just get us down," Wall said irritably. He was always irritable lately. "I want to get to work."

"And I want to be sure we've got a place to land."

Carv's job was the ship. He was pilot, astrogater, repairman, and everything but the cook. Wall was the cook. Wall was also the geologist, astrophysicist, biologist, and chemist—the expert on habitable planets, in theory. Each man had been trained nine years for his job, and each had some training as backup man for the other; and in each case the training had been based largely on guesswork.

The picture on the scope screen changed from a featureless disc to a patterned ball as Carv switched to infrared. "Now which is water?" he wondered.

"The water's brighter on the night side and darker on the day side. See?" Wall was looking over his shoulder. "Looks like about forty percent land. Carv, those clouds might cut out enough of the ultraviolet to let people live in what gets through."

"Who'd want to? You couldn't see the stars." Carv turned a knob to raise the magnification.

"Hold it right there, Carv. Look at that. There's a white line around the edge of that continent."

"Dried salt?"

"No. It's warmer than what's around it. And it's just as bright on the night side as on the day."

"I'll get us a closer look."

The Overcee was in orbit, three hundred miles up. By now the continent with the "hot" border was almost entirely in shadow. Of the three supercontinents, only one showed a white shoreline under infrared.

Wall hung at the window, looking down. To Rappaport he looked like a great ape. "Can we do a reentry glide?"

"In this ship? The Overcee would come apart like a cheap meteor. We'll have to brake to a full stop above the atmosphere. Want to strap down?"

Kameon did, and Carv watched him do it before he went ahead and dropped the Overcee motor. *I'll be glad to be out of here,* he thought. *It's getting so Wall and I hate the sight of each other.* The casual, uncaring way Kameon fastened his straps jarred his teeth. He knew that Kameon thought he was finicky to the point of psychosthenia.

The fusion drive started and built up to one gee. Carv swung the ship around. Only the night side showed below, with the faint blue light of Sirius A shining softly off the cloud cover. Then the edge of dawn came up in torn blue-white cloud. Carv saw an enormous rift in the cloud bank and turned ship to shift their path over it.

Mountains and valleys, and a wide river . . . Patches of whispy

cloud shot by, obscuring the view, but they could see down. Suddenly there was a black line, a twisting ribbon of India ink, and beyond that the ocean.

Only for a moment the ocean showed, and then the rift jogged east and was gone. But the ocean was an emerald green.

Wall's voice was soft with awe. "Carv, there's life in that water."

"You sure?"

"No. It could be copper salts or something. Carv, we've got to get *down* there!"

"Oh, wait your turn. Did you notice that your hot border is black in visible light?"

"Yah. But I can't explain it. Would it be worth our while to turn back after you get the ship slowed?"

Carv fingered his neatly trimmed Van Dyke. "It'd be night over the whole continent before we got back there. Let's spend a few hours looking at that green ocean."

The Overcee went down on her tail, slowly, like a cautious crab. Layer after layer of cloud swallowed her without trace, and darkness fell as she dropped. The key to this world was the word "moonless". Sirius B-IV had had no oversized moon to strip away most of her atmosphere. Her air pressure would be comfortable at sea level, but only because the planet was too small to hold more air. That same low gravity produced a more gentle pressure gradient, so that the atmosphere reached three times as high as on Earth. There were cloud layers from ground to one hundred and thirty kilometers up.

The Overcee touched down on a wide beach on the western shore of the smallest continent. Wall came out first, then Carv lowered a metal oblong as large as himself and followed it down. They wore lightly pressurised vac suits. Carv did nothing for twenty minutes while Wall opened the box out flat and set the carefully packed instruments into their grooves and notches. Finally Wall signalled, in an emphatic manner. By taking off his helmet.

Carv waited a few seconds, then followed suit.

Wall asked, "Were you waiting to see if I dropped dead?"

"Better you than me." Carv sniffed the breeze. The air was cool and humid, but thin. "Smells good doesn't. It smells like something rotting."

"Then I'm right. There's life here. Let's get down to the beach."

The sky looked like a raging thunderstorm, with occasional vivid blue flashes that might have been lightning. They were flashes of sunlight penetrating tier upon tier of cloud. In that varying light Carv and Wall stripped off their suits and went down to look at the ocean, walking with shuffling steps in the light gravity.

The ocean was thick with algae.

Algae was a bubbly green blanket on the water, a blanket that rose and fell like breathing as the insignificant waves ran beneath. The smell of rotting vegetation was no stronger here than it had been a quarter of a mile back. Perhaps the smell pervaded the whole planet. The shore was a mixture of sand and green scum so rich that you could have planted crops in it.

"Time I got to work," said Wall. "You want to fetch and carry for me?"

"Later maybe. Right now I've got a better idea. Let's get to hell out of each others' sight for an hour."

"That *is* brilliant. But take a weapon."

"To fight off maddened algae?"

"Take a weapon."

Carv was back at the end of an hour. The scenery had been deadly monotonous. There was water below a green blanket of scum six inches deep; there was loamy sand, and beyond that dry sand; and behind the beach were white cliffs, smoothed as if by countless rainfalls. He had found no target for his laser cutter.

Wall looked up from a binocular microscope, and grinned when he saw his pilot. He tossed a depleted pack of cigarettes. "And don't worry about the air plant!" he called cheerfully.

Carv came up beside him. "What news?"

"It's algae. I can't name the breed, but there's not much difference between this and any terrestrial algae, except that this sample is all one species."

"That's unusual?" Carv was looking around him in wonder. He was seeing a new side to Wall. Abroad ship Wall was sloppy almost to the point of being dangerous, at least in the eyes of a Belter like Carv. But now he was at work. His small tools were set in neat rows on portable tables. Bulkier instruments with legs were on flat rock, the legs carefully adjusted to leave their platforms exactly horizontal. Wall handled the binocular microscope as if it might dissolve at a touch.

"It is," said Wall. "No little animalcules moving among the strands. No variations in structure. I took samples from depths up to six feet. All I could find was the one alga. But otherwise—I even tested for proteins and sugars. You could eat it. We came all this way to find pond scum."

They came down on an island five hundred miles south. This time Carv helped with the collecting. They got through faster that way, but they kept getting in each others' way. Six months spent in two small rooms had roused tempers too often. It would take more than a few hours on ground before they could bump elbows without a fight.

Again Carv watched Wall go

through his routines. He stood just within voice range, about fifty yards away, because it felt so good to have so much room. The care Wall exercised with his equipment still amazed him. How could he reconcile it with Wall's ragged fingernails and his thirty hours growth of beard?

Well, Wall was a flatlander. All his life he'd had a whole planet to mess up, and not a crowded pressure dome or the cabin of a ship. No flat ever learned real neatness.

"Same breed," Wall called.

"Did you test for radiation?"

"No. Why?"

"This thick air must screen out a lot of gamma rays. That means your algae can't mutate without local radiation from the ground."

"Carv, it had to mutate to get to its present form. How could all its cousins just have died out?"

"That's your field."

A little later Wall said, "I can't get a respectable background reading anywhere. You were right, but it doesn't explain anything."

"Shall we go somewhere else?"

"Yah."

They set down in deep ocean, and when the ship stopped bobbing Carv went out the airlock with a glass bucket. "It's a foot thick out there," he reported. "No place for a disneyland. I don't think I'd want to settle here."

Wall sighed his agreement. The green scum lapped thickly at the Overcee's gleaming metal hull, two yards below the sill of the airlock.

"A lot of planets must be like this," said Carv. "Habitable, but who needs it?"

"And I wanted to be the first man to found an interstellar colony."

"And get your name in the newstapes, the history books—"

"—And my unforgettable face on every trivis in the solar system. Tell me, shipmate, if you hate publicity so much, why have you been trimming that Van Dyke so prettily?"

"Guilty. I like being famous. Just not as much as you do."

"Cheer up then. We may yet get all the hero worship we can stand. This may be something bigger than a new colony."

"What could be bigger than that?"

"Set us down on land and I'll tell you."

On a chunk of rock just big enough to be called an island, Wall set up his equipment for the last time. He was testing for food content again, using samples from Carv's bucket of deep ocean algae.

Carv stood by, a comfortable distance away, watching the weird variations in the clouds. The very highest were moving across the sky at enormous speeds, swirling and changing shape by the minutes and seconds. The noonday light was subdued and pearly. No doubt

about it, Sirius B-IV had a magnificent sky.

"Okay, I'm ready." Wall stood up and stretched. "This stuff isn't just edible. I'd guess it would taste as good as the food supplements they were using on Earth before the fertility laws cut the population down to something reasonable. I'm going to taste it now."

The last sentence hit Carv like an electric shock. He was running before it was quite finished, but long before he could get there his crazy partner had put a dollup of green scum in his mouth, chewed and swallowed. "Good," he said.

"You—utter—damned—fool.

"Not so. I knew it was safe. The stuff has an almost cheesy flavor. You could get tired of it fast, I think, but that's true of anything."

"Just *what* are you trying to *prove?*"

"That this alga was tailored as a food plant by biological engineers. Carv, I think we've landed on somebody's private farm."

Carv sat heavily down on a rain-washed white rock. "Better spell that out," he said, and heard that his voice was hoarse.

"I was going to. Suppose there was a civilization that had cheap, fast interstellar travel. Most of the habitable planets they found would be sterile, wouldn't they? I mean, life is an unlikely sort of accident."

"We don't have the vaguest idea how likely it is."

"All right, pass that. Say somebody finds this planet, Sirius B-IV, and decides it would make a nice farm planet. It isn't good for much else, mainly because of the variance in lighting, but if you dropped a specially bred food alga in the ocean, you'd have a dandy little farm. In ten years there'd be oceans of algae, free for the carting. Later, if they *did* decide to colonise, they could haul the stuff inland and use it for fertilizer. Best of all, it wouldn't mutate. Not here."

Carv shook his head to clear it. "You've been in space too long."

"Carv, the plant looks *bred*—like a pink grapefruit. And where did all its cousins go? Now I can tell you. They got poured out of the breeding vat because they weren't good enough."

Low waves rolled in from the sea, low and broad beneath their blanket of cheesy green scum. "All right," said Carv. "How can we disprove it?"

Wall looked startled. "*Dis*prove it? Why would we want to do that

"Forget the glory for a minute. If you're right, we're trespassing on somebody's property without knowing anything about the owner—except that he's got dirt cheap interstellar travel, which would make him a tough enemy. We're also introducing our body bacteria into his pure edible algae culture. And how would we explain, if he suddenly showed up?"

"I hadn't thought of it that way."

"We ought to cut and run right now. It's not as if the planet was worth anything."

"No. No, we can't do that."

"Why not?"

The answer gleamed in Wall's eyes.

Turnbull, listening behind his desk with his chin resting in one hand, interrupted for the first time in minutes. "A good question. I'd have gotten out right then."

"Not if you'd just spent six months in a two room cell with the end of everything creeping around the blankets."

"I see." Turnbull's hand moved almost imperceptibly, writing, *NO WINDOWS IN OVERCEE II! Oversized viewscreen?*

"It hadn't hit me that hard. I think I'd have taken off if I'd been sure Wall was right, and if I could have talked him into it. But I couldn't, of course. Just the thought of going home then was enough to set Wall shaking. I thought I might have to knock him on the head when it came time to leave. We had some hibernation drugs aboard, just in ease."

He stopped. As usual, Turnbull waited him out.

"But then I'd have been all alone." Rappaport finished his drink, his second, and got up to pour a third. The bourbon didn't seem to affect him. "So we stood there on that rocky beach, both of us afraid to leave and both afraid to stay . . ."

Abruptly Wall got up and started putting his tools away. "We can't disprove it, but we can prove it easily enough. The owners must have left artifacts around. If we find one, we run. I promise."

"There's a big area to search. If we had any sense we'd run now."

"Will you drop that? All we've got to do is find the ramrobot probe. If there's anyone watching this place they must have seen it come down. We'll find footprints all over it."

"And if there aren't any footprints? Does that make the whole planet clean?"

Wall closed his case with a snap. Then he stood, motionless, looking very surprised. "I just thought of something," he said.

"Oh, not again."

"No, this is for real, Carv. The owners must have left a long time ago."

"Why?"

"It must be thousands of years since there was enough algae here to use as a food supply. We should have seen ships taking off and landing as we came in. They'd have started their colony too, if they were going to. Now it's gone beyond that. The planet isn't fit for anything to live on, with the soupy oceans and the smell of things rotting."

"No."

"Dammit, it makes sense!"

"It's thin. It sounds thin even to me, and I *want* to believe it. Also, it's too pat. It's just too close to the best possible solution we could dream up. You want to bet our lives on it?"

Wall hoisted his case and moved toward the ship. He looked like a human tank, moving in a stormy darkness lit by shifting, glaring beams of blue light. Abruptly he said, "There's one more point. That black border. It has to be contaminated algae. Maybe a land-living mutant; that's why it hasn't spread across the oceans. It would have been cleaned away if the owners were still interested."

"All *right*. Hoist that thing up and let's get inside."

"Hmph?"

"You've finally said something we can check. The eastern shore must be in daylight by now. Let's get aboard."

At the border of space they hovered, and the sun burned small and blinding white at the horizon. To the side Sirius A was a tiny dot of intense brilliance. Below, where gaps in the cloud cover penetrated all the way to the surface, a hair-thin black line ran along the twisting beach of Sirius B-IV's largest continent. The silver thread of a major river exploded into a forking delta, and the delta was a black triangle shot with lines of silvery green.

"Going to use the scope?"

Carv shook his head. "We'll see it close in a few minutes."

"You're in quite a hurry, Carv."

"You bet. According to you, if that black stuff is some form of life, then this farm's been deserted for thousands of years at least. If it isn't, then what is it? It's too regular to be a natural formation. Maybe it's a conveyor belt."

"That's right. Calm me down. Reassure me."

"If it is, we go up fast and run all the way home." Carv pulled a lever and the ship dropped from under them. They fell fast. Speaking with only half his attention, Carv went on. "We've met just one other sentient race, and they had nothing like hands and no mechanical culture. I'm not complaining, mind you. A world wouldn't be fit to live in without dolphins for company. But why should we get lucky twice? I don't want to meet the farmer, Wall."

The clouds closed over the ship. She dropped more slowly with every kilometer. Ten kilometers up she was almost hovering. Now the coast was spread below them. The black border was graded: black as night on Pluto along the sea, shading off to the color of the white sand and rocks along the landward side.

Wall said, "Maybe the tides carry the dead algae inland. They'd decay there. No, that won't work. No moon. Only solar tides."

They were a kilometer up. And lower. And lower.

The black was moving, flowing like tar, away from the drive's fusion flame.

Rappaport had been talking down into his cup, his words coming harsh and forced, his eyes refusing to meet Turnbull's. Now he raised them. There was something challenging in that gaze.

Turnbull understood. "You want me to guess? I won't. What was the black stuff?'

"I don't know if I want to prepare you or not. Wall and I, we weren't ready. Why should you be?"

"All right, Carver, go ahead and shock me."

"It was people."

Turnbull merely stared.

"We were almost down when they started to scatter from the downblast. Until then it was just a dark field, but when they started to scatter we could see moving specks, like ants. We sheered off and landed on the water offshore. We could see them from there."

"Carver, when you say people, do you mean—people? Human?"

"Yes. Human. Of course they didn't act much like it . . .'

A hundred yards offshore the Overcee floated nose up. Even seen from the airlock the natives were obviously human. The telescope screen brought more detail.

They were no terrestrial race. Nine feet tall, men and women both, with wavy black hair growing from the eyebrows back to halfway down the spine, hanging almost to the knees. Their skins were dark, as dark as the darkest negro, but they had chisel noses and long heads and small, thin lipped mouths.

They paid no attention to the ship. They stood or sat or lay where they were, men and women and children jammed literally shoulder to shoulder. Most of the seaside population was grouped in large rings with men on the outside and women and children protected inside.

"All around the continent," said Wall.

Carv could no more have answered than he could have taken his eyes off the scope screen.

Every few minutes there was a seething in the mass as some group that was too far back bulled forward to reach the shore, the food supply. The mass pushed back. On the fringes of the circles there were bloody fights, slow fights in which there were apparently no rules at all.

"How?" said Carv. "How?"

Wall said, "Maybe a ship crashed. Maybe there was a caretaker's family here, and nobody ever came to pick them up. They must be the farmer's children, Carv."

"How long have they been here?"

"Thousands of years at least. Maybe tens or hundreds of thousands." Wall turned his empty eyes away from the screen. He swiveled his couch so he was looking at the back wall of the cabin. His dreary words flowed out into the cabin.

"Picture it, Carv. Nothing in the world but an ocean of algae and a few people. Then a few hundred people, then hundreds of thousands. They'd never have been allowed near here unless they'd had the bacteria cleaned out of them to keep the algae from being contaminated. Nothing to make tools out of, nothing but rock and bone. No way of smelting ores, because they wouldn't even have fire. There's nothing to *burn*. They had no diseases, no contraceptives, and no recreation but breeding. The population would have exploded like a bomb. Because nobody would starve to death, Carv. For thousands of years nobody would starve on Sirius B-IV."

"They're starving now."

"Some of them. The ones that can't reach the shore." Wall turned back to the scope screen. "One continual war," he said after awhile. "I'll bet their height comes from natural selection."

Carv hadn't moved for a long time. He had noticed that there were always a few men inside each protective circle, and that there were always men outside going inside and men inside going outside. Breeding more people to guard each circle. More people for Sirius B-IV.

The shore was a seething blackness. In infrared light it would have shown brightly, at a temperature of 98.6° Fahrenheit.

"Let's go home," said Wall.

"Okay."

"But you didn't."

"No."

"Why not?"

"We *couldn't*. We had to see it all, Turnbull. I don't understand it, but we did, both of us. So I took the ship up and dropped it a kilometer inshore, and we got out and started walking toward the sea . . .

There were skeletons all along their path. Some were clean and white. Others looked like Egyptian mummies, bodies with dried skin stretched tight over the bones. Always there was a continuous low rustle of sound from the beach. It might have been algae moving above the waves. It might have been conversation.

As they walked, the skeletons got thicker. Some had daggers of splintered bone. One gripped a chipped stone fist-ax. Wall picked it up and tossed it in his hand. "They're intelligent," he said.

"Yah."

"I was hoping—" Wall shrugged and threw away the rock.

Carv couldn't guess how long they walked. He seemed to be in shock. At one point he noticed that

some of the skeletons were alive, dying and drying under an overcast blue sky. He had thought that sky was awesome. Now it was horrible. Time and again a shifting blue beam would spear through a crack in the clouds and sweep across it like a spotlight until it picked out a dark mummy. Sometimes the mummy would turn over and cover its eyes.

The fourth time it happened it seemed to rouse Carv from his stupor. He saw that Wall's face was livid as death. The dead and living skeletons were all around them. The live ones stared apathetically, but they stared, as if the two men were the only things in the world worth looking at. Perhaps they wondered what it was that could move and still not be human.

"We can't look human to them," he said, half-knowing that Wall wouldn't hear him. "We're too small. We've got clothes on."

Wall said, "I've been wondering about the clean skeletons. There shouldn't be any decay bacteria here."

Like two children, Carv thought. Talking without listening. The beach looked like a combination of Hell and Belsen. Only the surrealistic blue lighting could have made it as tolerable as it was. The world looked like a bad dream. They couldn't really believe what they were seeing.

"There weren't enough fats in the algae," said Wall. "There was enough of everything else, but too little fats."

The sound of the beach was louder now. And some of the mummies were beginning to stir. There was a pair behind a dune who seemed to be trying to kill each other, but they moved so little and so slowly—

Carv's head snapped up as he realised what Wall had said. He gripped Wall's arm and tried to turn him around. "Come on, Wall," he half-whispered, "we've got to go back. Come *on*."

Wall tried to shake his arm off. He wouldn't turn.

Some of the long skeletons were getting up. It was like being menaced by dead giants. Carv knew what they were thinking. *There may be meat in those limp coverings. Wet meat, with water in it. There just may.*

He pulled at Wall and tried to run. The nightmare beach was coming alive.

"He wouldn't run. He tried to pull loose. I had to leave him. They couldn't catch me, they were too starved, and I was jumping like a grasshopper. But they got Wall, all right."

"Did he use his destruct capsule?'

"I don't know. I hope so."

"So you came home."

"Uh huh." Rappaport looked up like a man waking from a bad dream. He'd been talking at break-

neck speed. Now his speech slowed to normal. "It took seven months. All alone."

"Any idea why Wall might have wanted to die?"

"You crazy? He didn't want to get *eaten*."

"Why didn't he run?"

"It wasn't that he wanted to die, Turnbull. He just decided it wasn't worth it to save himself. Another six months in the Overeee, with the blind spots pulling at his eyes and that nightmare of a world constantly on his mind— It just wasn't worth it."

"I'll bet the Overcee was a pig pen before you blew it up."

Rappaport flushed. "What's that to you?"

"You didn't think it was worthwhile either. When a Belter stops being neat it's like suicide. A dirty ship is deadly. The air plant gets fouled. Things float around loose, ready to knock your brains out when the drive goes on. You forget where you put the blowout patches—"

"All right. I made it, didn't I?"

"And now you think we should give up space."

Rappaport's voice went squeaky with emotion. "Aren't you convinced *yet*? Wev'e got all kinds of paradise in the solar system, and you want to leave it for—that. Why? What for?"

"To build other paradises, maybe. You don't think ours happened by accident, do you? Our ancestors did it all, starting with not much more than what was on Sirius B-IV."

"They had a *hell*uva lot more." A faint slurring showed that the bourbon was finally getting to Rappaport.

"Maybe they did. But now there's a better reason. Those people you left on the beach. They need our help. And with a new Overcee we can give it to them. What do they need most, Carver? Trees or meat animals?"

"Animals." Rappaport shuddered and drank.

"Well, that could be argued. But pass it. First we'll have to make soil." Turnbull leaned back and went on, talking mainly to himself. "Algae mixed with crushed rock. Bacteria to break the rock down. Earthworms. Then grass . . ."

"Got it all planned out, don't you? And you'd talk the U. N. into it, too. Turnbull, you're good. But you've missed something."

"Have I? What?"

Rappaport got carefully to his feet. He walked to the desk, just a little unsteadily, and leaned on it so that he looked down into Turnbull's eyes from a foot away. "You've been assuming that those people on the beach really were the farmer's children. That Sirius B-IV has been left alone for a long, long time. But what if some kind of carnivore seeded that planet? Then what? The algae wouldn't be for them. They'd let it grow, drop some

food animals, then go away 'til the animals were jammed shoulder to shoulder along the coast. Food animals! You understand, Turnbull?"

"Yes. You're right, I missed that. And they'd breed them for *size* . . ."

The room was deadly quiet.

"Well?"

"Well, we'll simply have to take that chance, won't we?"

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