Galaxy
MAGAZINE

SCIENCE FICTION

November 1968
60¢

Building on the Line
by
GORDON R. DICKSON

Perris Way
by ROBERT SILVERBERG

Eeeetz Ch
by H. H. HOLLIS

FOR YOUR
INFORMATION
by WILLY LEY

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Galaxy
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ALL STORIES NEW

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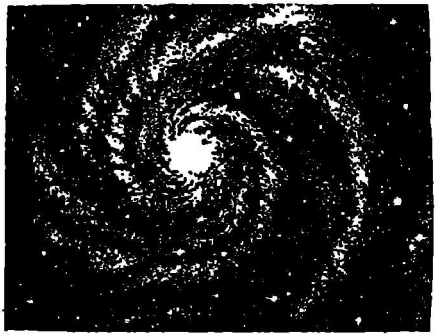

November, 1968 ● Vol. 27, No. 4

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Cover by DEMBER from
BUILDING ON THE LINE

GALAXY MAGAZINE is published monthly by Galaxy Publishing Corporation. Main offices: 421 Hudson Street, New York, N.Y. 10014. 60c per copy Subscription: (12 copies) $6.00 in the United States, Canada, Mexico, South and Central America and U. S. Possessions. Elsewhere $7.00. Second-class postage paid at New York, N.Y. and at additional mailing offices. All material submitted must be accompanied by self-addressed stamped envelopes. The publisher assumes no responsibility for unsolicited material. All stories printed in this magazine are fiction and any similarity between characters and actual persons is coincidental.

Printed in the U.S.A.
By The Guinn Co., Inc. N.Y.
Title Reg. U. S. Pat. Off.

VIETNAM REVISITED

In the June issue, as you may remember, we ran two full-page ads on facing pages, one urging the United States to get out of Vietnam, the other urging us to stay. Each advertisement was signed and paid for by several dozen science-fiction writers, including on one list or the other most of the best-known writers in the field.

It struck us that this was a rather odd and distressing phenomenon. As anyone who knew science fiction could tell by looking at the lists, there was much the same range of backgrounds, interests, world views and so on on both lists; it seemed to us that, if one were to get a sort of group consensus from each of the two sets of writers on what they wanted the future development of man to look like, the two sets of specifications would be just about identical. Yet on this quite crucial issue, their ways of getting to that shared future were polar opposites. And we wondered why.

So we took the money that the two groups of writers paid us for the ads, amounting to $500, and offered it as five prizes of a hundred dollars each to the readers, writers or other interested parties who came up with the most interesting and potentially useful suggestions on just what one could do about Vietnam — whether in the direction of winning the war, or of ending it, or of preventing future Vietnams, or whatever seemed relevant.

Now the results are all in, and the prizes have been awarded.

Frankly, we felt a little presumptuous at asking our own fellow sf addicts to solve a problem that has clearly defeated some of the brightest politicians of all time. We were prepared to be laughed at; but in the event, barring two persons, one a reader and the other a radio announcer, most people took it seriously. Seriously enough, anyway, to come up with more than 500 pieces of mail, including a total that must be well over a thousand individual entries (we haven't counted) which ranged the spec-

THE WINNERS

Entries were judged for pertinence and originality. All entries, whether prize-winners or not, will be considered for use in further studies. The five recipients of $100 each are Poul Anderson, 3 Las Palomas, Orinda, California 94563; Dan Gollub, 1220 Marion #31, Denver, Colorado; Kirk W. Halliday, 227 Bowery, New York, N. Y. 10002; Gary Pratt, Route #5, Athens, Ohio 45701; and Mack Reynolds, Apartado 252, San Miguel de Allende, Gto., Mexico.

Although only five prizes were awarded according to the terms of the contest, the Editors of Galaxy Publishing Corporation wish to thank all of the participants in this rather unusual venture. We regret that it is impossible to acknowledge each submission personally. The level of suggestions was high.

trum from injunctions like "Kill gooks!" and "Just get *out*" to quite detailed proposals for what might actually be practicable and valuable procedures. Some entries were supported by maps, reference citations, statistical analyses, even a 30-page printed booklet.

To be sure, not every entry was valuable, or even sensible. A fairly large number were clearly impossible. (We have a house rule against using the word "impossible" except under rigidly construed circumstances — so many "impossible" things have happened! In this case, we took a suggestion to be impossible when it proposed a specific measure that had already been tried, and failed; or when it proposed the immediate use of some weapon or device that does not exist. We were prepared to grant the long-range possibility of almost any device one could imagine — but not, for instance, the employment of mass hypnosis on all combatants this year. *This year* no one can do it.) Another large group appeared to miss the point of what the war was about. (Admittedly there is some confusion on that question.) Some proposed destroying the whole country, or evacuating it totally; some suggested dropping H-bombs on everything in sight, or propagandizing soldiers (some suggested our soldiers, others the other side's) to "fight the way the Arabs fought in the six-day war."

But eliminating all of those, there remained a batch of interesting entries. Some proposed new ways of winning the war — a method of interdicting Haiphong harbor without bombing, a guerrilla strategy similar to that used by the British in Malaya. Some suggested ways of disengaging without loss of face — a variation on the tactic of non-violent resistance, a proposal for a plebiscite. Some offered long-range plans, including ways of strengthening the U.N., or of prejudging "national liberation" struggles by techniques resem-

bling compulsory arbitration. Some were pretty fanciful, as you might expect from science-fictioneers (a proposal to settle wars by counting voluntary suicides on each side; the side with the most volunteers wins), but most were not.

They were, in fact — it's a small enough thing to say — at least as persuasive as most of what we hear from the world's leaders on the subject.

And this is all the more remarkable because between the time the issue containing the contest announcement went on the printing presses and the time it reached the readers, the whole character of the situation changed dramatically. (It is not yet clear how much of the change is substance and how much is just drama.) The President announced his decision not to run again, and his willingness to begin talks at once, implementing it with a change in bombing policy; and in fact the Paris talks began shortly thereafter.

In spite of everything, the responses came in in volume, from all over the United States, from Mexico, Canada, El Salvador, from England, France, Belgium, Portugal, Finland — a fair number from troops actually serving in Vietnam right now.

By the time you read this, it is possible there may be even more startling changes — after all, it's an election year in the United States, and a most strange and perplexing one, at that. It is even possible that the war may be over, one way or another; it is perhaps possible, even, that it may have exploded out of control entirely, and all discussions have become pointless.

But we'll be discussing it anyway. Because now that the contest is over, what we think is the most interesting part is just beginning.

There exists (as you remember if you've been reading *Galaxy* attentively enough) a sort of procedure for exploring the future, pioneered by scientists associated with the RAND Corporation and called the Delphi technique. It's an interesting research tool. Although it is hard to say just how successfully it can predict what's going to happen (the only way you can really tell if a prediction is accurate is by waiting to see if it comes true — by which time it's no longer very useful), there are indications that it is pretty promising. It's fairly simple in concept. Basically, it is only a procedure for circulating questionnaires to a panel of well-informed people to achieve a consensus of opinions without distortion by oratory, seniority, personality conflicts and the other bi-

asing elements that confuse most committee studies — although in practice it requires a fair amount of pretty hard work to get it done. And above all, it's flexible. It can do more than give you a notion of what *will* happen. It can help evaluate the desirability of probable future events by quantitative criteria, and it can even be used to evaluate strategies for bringing about the desirable futures.

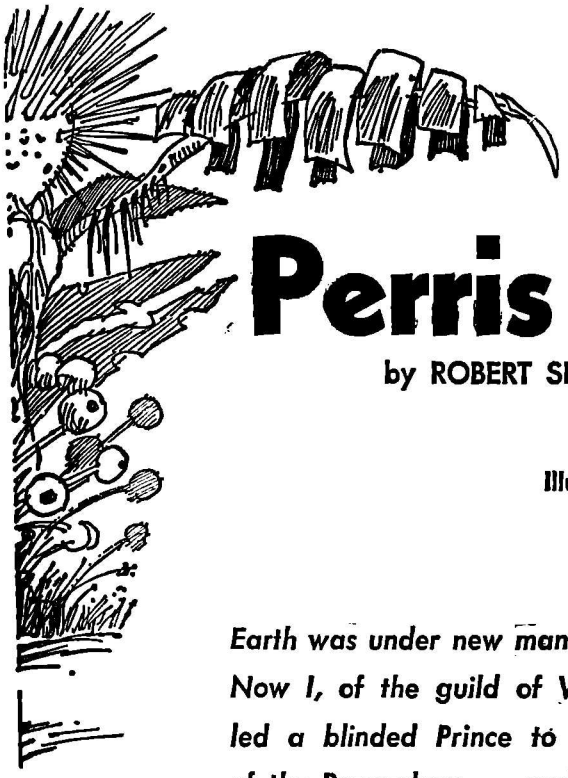
Naturally, this is not to say that there is anything omniscient or infallible about the technique. If you want hard and fast statements about the future you have to go to the fortune-tellers. (They will be wrong, but they will be positive.) Nevertheless, Delphi can organize the thinking of a competent group on any subject better than most other techniques that are anywhere near as easy to apply, and we've been thinking for some time that it really ought to be used for non-trivial hard problems about the real world.

That's what we're going to do with the suggestions that came in in response to the contest. Not just the winners, but all of them —all, at least, that survive preliminary screening. We have a list of 47 specific proposals. They are at this moment in process of being refined and reduced; hopefully we'll come out with perhaps 25 bright ideas to submit to our panel. A Delphic study has its own timetable, mostly determined by the length of time necessary to circulate the questionnaires and get them back, and the time needed to analyze the results; it should be about two months now before we have a complete study.

Selecting the panel has been a bit of a problem, to be sure. The basic prerequisites are pretty simple intelligence, knowledge, experience, freedom from bias. The only trouble with those prerequisites is that, particularly in a question about which as much passion has been spent as has been spent on this one, those four characteristics seldom come in the same package. The more likely a given person is to be able to give a useful opinion about the war, the more certain he is to have formed his opinion already — and likely enough to be pretty outspoken and determined about it. Fortunately Delphi has intrinsic safeguards which reduce the problem of bias . . . mostly because, fortunately human beings *can* if they are intelligent enough and informed enough to operate in an abstracted discussion as though their biases were temporarily disconnected.

Be interesting to see how it all comes out. We'll report the results as soon as they're ready probably in an early 1969 issue of *Galaxy*.

—THE EDITOR



Perris Way

by ROBERT SILVERBERG

Illustrated by GAUGHAN

Earth was under new management. Now I, of the guild of Watchers, led a blinded Prince to the Hall of the Remembers — and destiny.

I

To journey with a fallen Prince is no easy thing. His eyes were gone, but not his pride; blinding had taught him no humility. He wore the robes and mask of a member of the guild of Pilgrims, but there was no piety in his soul and little grace. Behind his mask he still knew himself to be the Prince of Roum, even though Roum, like all of Earth, was ruled now by beings from a far star.

I, the accidental companion of the fallen Prince, was all his court now, as we walked the road

to Perris in early springtime. I, the weary Watcher, my occupation gone, served him in his arrogance. I led him along the right roads; I amused him at his command with stories of my wanderings; I nursed him through moods of sulky bitterness. In return I got very little except the assurance that I would eat regularly. No one denies food to a Pilgrim, and in each village on our way we stopped in inns, where he was fed and I, as his companion, also was given meals. Once, early in our travels, he erred and haughtily told an innkeeper, "See that you feed my servant as well!" The blinded Prince could not see that look of shocked disbelief — for what would a Pilgrim be doing with a servant? — but I smiled at the innkeeper and winked and tapped my forehead, and the man understood and served us both without discussion. Afterward I explained the error to the Prince, and thereafter he spoke of me as his companion. Yet I knew that to him I was nothing but a servant. I had not been of a serving guild in former days, but even a Watcher is a humble thing in the mind of the Prince of Roum.

The weather was fair. Eyrop was growing warm as the year turned. Slender willows and poplars were greening beside the road, though for much of the way out of Roum the way was planted with lavish star-trees, imported during the gaudy days of the Second Cycle, and their blue-bladed leaves had resisted our puny Eyropan winter. The birds, too, were coming back from their season across the sea in Afreek. They sparkled overhead, singing, discussing among themselves the change of masters in the world. "They mock me," said the Prince one dawn. "They sing to me and defy me to see their brightness!"

Oh, he was bitter, and with good reason. His armies defeated, himself overthrown, his eyesight ripped away as an act of vengeance performed by one of the alien invaders — he who had had so much, and lost all, had a good deal to lament. For me, the defeat of Earth meant only an end to habits. Otherwise all the same; no longer need I keep my Watch, now that the invaders were finally here, but I still wandered the face of the world, alone even when, as now, I had a companion.

I wondered if the Prince knew why he had been blinded. I wondered if, in the moment of his triumph, the star-being Gormon had explained to the Prince that it was as elemental a matter as jealousy over a woman that had cost him his eyes.

"You took Avluela," Gormon might have said. "You saw a little Flier, and you thought she'd amuse you. And you said, here girl, come to my bed. Not thinking of her as a person. Not thinking she might prefer others. Thinking only as a Prince of Roum might think — imperiously. Here, Prince!"

And the quick forked thrust of long-tipped fingers —

But I dared not ask. That much awe remained in me for this fallen monarch. To penetrate his privacy, to strike up a conversation with him about his mishaps as though he were an ordinary companion of the road — no, I could not. I spoke when I was spoken to. I offered conversation upon command. Otherwise I kept my silence, like a good commoner in the presence of royalty.

Each day we had our reminders that the Prince of Roum was royalty no longer.

Overhead flew the invaders, sometimes in floaters or other chariots, sometimes under their own power. Traffic was heavy. They were taking inventory of their world. Their shadows passed over us, tiny eclipses, and I looked up to see our new masters and oddly felt no anger at them, only relief that Earth's long vigil was over. For the Prince it was different. He always seemed to know when some invader passed above, and he clenched his fists and scowled and whispered black curses. Did his optic nerves still somehow record the movements of shadows? Or were his remaining senses so sharpened by the loss of one that he could detect the imperceptible humming of a floater and sniff the skins of the soaring invaders? I did not ask. I asked so little.

Sometimes at night, when he thought I slept, he sobbed. I pitied him then. He was so young to lose what he had, after all. I learned in those dark hours that even the sobs of a Prince are not those of ordinary men. He sobbed defiantly, belligerently, angrily. But yet he sobbed.

Much of the time he seemed stoic, resigned to his losses. He put one foot before the other and walked on briskly beside me, every step taking him farther from his great city of Roum, nearer to Perris. At other times, though, it seemed I could look through the bronze grillword of his mask to see the curdled soul within. His pent-up rage took petty outlets. He mocked me for my age, for my low rank, for the emptiness of my life's purpose now that the invasion for which I had Watched had come. He toyed with me.

"What's your name, Watcher?"

"It is forbidden, Majesty."

"Old laws are now repealed. Come on, man, we have months to travel together. Can I go on calling you Watcher all that time?"

"It is the custom of my guild."

"The custom of mine," he said, is to give orders and have them obeyed. Your name!"

"Not even the guild of Dominators can have a Watcher's name without due cause and a guildmaster's writ."

He spat. "What a jackal you are to defy me when I'm like this! If we were in my palace, you'd never dare!"

"In your palace, Majesty, you would not make this unjust demand on me before your court. Dominators have obligations, too. One of them is to respect the ways of lesser guilds."

"He lectures me," said the Prince. Irritably he threw himself down beside the road. Stretching against the grassy slope, he leaned back, touched one of the star-trees, snapped off a row of blades, clenched them in his hand so that they must have pricked his palm painfully. I stood beside him. A heavy land-vehicle rumbled by, the first we had seen on that empty road this morning. Within it were invaders. Some of them waved to us. After a long while the Prince said in a lighter, almost wheedling tone, "My name is Enric. Now tell me yours."

"I beg you to let me be Majesty."

"But you have my name! It is just as forbidden for me to give mine as you yours!"

"I did not ask yours," I said firmly.

In the end I did not give him my name. It was a small enough victory, to refuse such information to a powerless Prince, but in a thousand little ways he made me pay for it. He nagged, chivvied, teased, blustered, cursed, and berated me. He spoke with contempt of my guild. He demanded menial service of me. I lubricated his metal mask; I sponged ointment into his ruined eyes; I did other things too humiliating to recall. And so we stumbled along the highway to Perris, the empty old man and the emptied young one, full of hatred for one another and yet bound by the needs and the duties of wayfarers. It was a difficult time. I had to cope with his changing moods as he soared to cosmic rapture over his plans for redeeming conquered Earth, and as he sank to abysses upon his realization that the conquest was final. I had to protect him from his own rashness in the villages, where he sometimes behaved as though he were still Prince of

Roum, ordering folk about, slapping them, even, in a way that was unbecoming to a holy man. Worse yet, I had to minister to his lusts, buying him women who came to him in darkness, unaware that they were dealing with one who claimed to be a Pilgrim. Somehow I got him past all of these crises, even the time when we encountered on the road another Pilgrim, a genuine one. This was a formidable and disputatious old man, full of theological quibbles. "Come and talk with me of the imminence of the Will," he said to the Prince, and the Prince, whose patience was frayed that afternoon, replied obscenely. I kicked the princely shin in a surreptitious way and to the shocked Pilgrim I said, "Our friend is unwell today. Last night he held communion with the Will and received a revelation that unsettled his mind. I pray you, let us go on and give no talk of holiness until he is himself once more."

With such improvisations I I managed our journey.

As the weather warmed, the Prince's attitude mellowed. Perhaps he was growing reconciled to his catastrophe, or possibly, in the prison of his lightless skull, he was teaching himself new tactics for meeting his changed existence. He talked almost idly of himself, his downfall his humiliation. He spoke of the power that had been his in terms that said unmistakably that he had no illusions about ever recapturing it. He talked of his wealth, his women, his jewels, his strange machines, his Changelings and Musicians and Servitors, the Masters and even Dominators who had knelt to him. I will not say that at any time I liked him, but at least at these times I recognized a suffering human being behind his impassive mask.

He even recognized me as a human being. I know it cost him much.

He said, "The trouble with power, Watcher, is that it cuts you off from people. People become things. Take yourself. To me, you were nothing but a machine that walked around Watching for invaders. I suppose you had dreams, ambitions, angers, all the rest, but I saw you as a dried-up old man without any independent existence outside of your guild function. Now I see much more by seeing nothing."

"What do you see?"

"You were young once, Watcher. You had a town you loved. A family. A girl, even. You chose or had chosen for you a guild; you went into apprenticeship; you struggled; your head ached you, your belly griped you; there were many dark moments when

you wondered what it was all about, what it was for. And you saw us ride by, Masters, Dominators, and it was like comets going past. Yet here we are together, cast up by the tides on the road to Perris. And which of us is happier now?"

"I am beyond happiness or sorrow," I said.

"Is that the truth? Is that the truth? Or is it a line you hide behind? Tell me, Watcher: I know your guild forbids you to marry, but have you ever loved?"

"Sometimes."

"And are you beyond that now?"

"I am old," I said evasively.

"But you could love. You could love. You're released from your guild vows now, eh? You could take a bride."

I laughed. "Who'd have me?"

"Don't speak that way. You're not that old. You have strengths. You've seen the world; you understand it. Why, in Perris you could find yourself some wench who — " He paused. "Were you ever tempted, while you still were under your vows?"

Just then a Flier passed overhead. She was a woman of middle years, struggling a little in the sky, for some daylight remained to press on her wings. I felt a pang, and I wanted to tell the Prince, yes, yes, I was tempted; there was a little Flier not long ago, a girl, a child, Avluela, whom I met in Agupt and brought with me over Land Bridge to Talya. And in my way I loved her, though I never touched her, and one whom I thought a Changeling also loved her, and then you commanded her into your bed, and afterwards the Changeling had your eyes from you for that on the day of invasion, and my Avluela soared through the sky beside him, beside the invader who blinded you. And I love her still.

I said nothing of this to Prince Enric.

I looked, though, at that Flier, freer than I for that she had wings, and in the warmth of that spring evening I felt the chill of desolation enfolding me.

"Is it far to Perris?" the Prince asked.

"We will walk, and one day we will get there."

"And then?"

"For me an apprenticeship in the guild of Rememberers, and a new life. For you?"

"I hope to find friends there," he said.

We walked on, long hours each day. There were those who went by and offered us rides, but we refused, for at the checkpoints the invaders would be seeking such wandering members of the

nobility as the Prince. We walked a tunnel miles long under sky-storming mountains sheathed in ice, and we entered a flat land of farming peasants, and we paused by awakening rivers to cool our toes. Golden summer burst upon us. We moved through the world but were not of it; we listened to no news of the conquest, although it was obvious that the invaders had taken full possession. In small vehicles they hovered everywhere, seeing our world that now was theirs.

I did the bidding of the Prince in all ways, including the unpleasant ones. I attempted to make his life less bleak. I gave him a sensation of being still a ruler, if even of only one useless old Watcher. I taught him, too, how best to masquerade as a Pilgrim. From what little I knew, I gave him postures, phrases, prayers. It was obvious that he had spent little time in contact with the Will while he reigned. Now he professed faith, but it was insincere, part of his camouflage.

II

In a town called Dijon he said, "Here I will purchase eyes."

Not true eyes. The secret of making such replacements perished in the Second Cycle. Out among the more fortunate stars, any miracle is available for a price, but our Earth is a neglected world in a backwater of the universe. The Prince might have gone out there in the days before conquest to purchase new sight, but now the best that was available to him was a way of distinguishing light from dark. Even that would give him a rudiment of sight; at present he had no other guidance than the reverberator that warned him of obstacles in his path. How did he know, though, that in Dijon he would find a craftsman with the necessary skills? And with what would he meet the cost?

He said, "The man here is a brother of one of my Scribes. He is of the guild of Artificers, and I often bought his work in Roum. He'll have eyes for me."

"And the cost?"

"I am not entirely without resources."

We stopped in a field of gnarled cork-trees, and the Prince undid his robes. Indicating a place in the fleshy part of his thigh, he said, "I carry a reserve here for emergencies. Give me your blade!" I handed it to him, and he seized the handle and pressed the stud that brought forth the cool, keen beam of light. With his left hand he felt his thigh, surveying for the exact place; then, stretching the flesh between two fingers; he made a surgical-

ly precise cut two inches long. He did not bleed, nor was there a sign that he felt pain. I watched in bewilderment as he slipped his fingers into the cut, spread its edges, and seemed to grope as if in a sack. He tossed my blade back to me.

Treasures tumbled from his thigh.

"Watch that nothing is lost," he ordered me.

To the grass there fell seven sparkling jewels of alien origin, a small and artful celestial globe, five golden coins of Imperial Roum of cycles past, a ring set with a glowing dab of quasi-life, a flask of some unknown perfume, a group of miniature musical instruments done in precious woods and metals, eight statuettes of regal-looking men, and more. I scooped these wonders into a dazzling heap.

"An overpocket," the Prince said coolly, "which a skilled Surgeon implanted in my flesh. I anticipated a time of crisis in which I might need to leave the palace hurriedly. Into it I stuffed what I could; there is much more where these came from. Tell me, tell me what I have taken out!"

I gave him the full inventory. He listened tensely to the end, and I knew that he had kept count of all that had poured forth, and was testing my honesty. When I was done, he nodded, pleased. "Take the globe," he said, "and the ring, and the two brightest jewels. Hide them in your pouch. The rest goes back within." He spread the lips of the incision and one by one I dropped the glories inside, where they joined who knew what splendid things lying in another dimension, the outlet from which was embedded in the Prince. He might have half the contents of the palace tucked away in his thigh. At the end he pressed the cut together, and it healed without a trace of a mark as I watched. He robed himself.

In town, we quickly located the shop of Bordo the Artificer. He was a squat man with a speckled face, a grizzled beard, a tic in one eye, and a flat coarse nose, but his fingers were as delicate as a woman's. His shop was a dark place with dusty wooden shelves and small windows; it could have been a building ten thousand years old. A few elegant items were on display. Most were not. He looked at us guardedly, obviously baffled that a Watcher and a Pilgrim should come to him.

At the Prince's prodding I said, "My friend needs eyes."

"I make a device, yes. But it is expensive, and it takes many

months to prepare. Beyond the means of any Pilgrim."

I laid one jewel on the weathered counter. "We have means."

Shaken, Bordo snatched up the jewel, turned it this way and that, saw the alien fires glowing at its heart.

"If you come back when the leaves are falling — "

"You have no eyes in stock?" I asked.

He smiled. "I get few calls for such things. We keep but a small inventory."

I put down the celestial globe. Bordo recognized it as the work of a master, and his jaw sagged. He put it in one palm and tugged at his beard with the other hand. I let him look at it long enough to fall in love with it, and then I took it back and said, "Autumn is too long to wait. We will have to go elsewhere. Perris, perhaps." I caught the Prince's elbow, and we shuffled toward the door.

"Stop!" Bordo cried. "At least let me check! Perhaps I have a pair somewhere — " And he began to rummage furiously in overpockets mounted in the rear wall.

He had eyes in stock, of course, and I haggled a bit on the price and we settled for the globe, the ring, and one jewel. The Prince was silent throughout the transaction. I insisted on immediate installation; and Bordo, nodding excitedly, shut his shop, slipped on a thinking cap, and summoned a sallow-faced Surgeon. Shortly the preliminaries of the operation were under way. The Prince lay on a pallet in a sealed and sterile room. He removed his reverberator and then his mask, and as those sharp features came into view Bordo, who had been to the court of Roum, grunted in amazement and began to say something. My foot descended heavily on his. Bordo swallowed his words; and the Surgeon, unaware, began tranquilly to swab the ruined sockets.

The eyes were pearl-gray spheres, smaller than real eyes and broken by transverse slits. What mechanism was within I do not know, but from their rear projected tiny golden connections to fasten to the nerves. The Prince slept through the early part of the task, while I stood guard and Bordo assisted the Surgeon. Then it was necessary to awaken him. His face convulsed in pain, but it was so quickly mastered that Bordo muttered a prayer at this display of determination.

"Some light here," said the Surgeon.

Bordo nudged a drifting globe closer. The Prince said, "Yes, yes, I see the difference."

"We must test. We must adjust," the Surgeon said.

Bordo went outside. I followed. The man was trembling, and his face was green with fear.

"Will you kill us now?" he asked.

"Of course not."

"I recognized — "

"You recognized a poor Pilgrim," I said, "who has suffered a terrible misfortune while on his journey. No more. Nothing else."

I examined Bordo's stock a while. Then the Surgeon and his patient emerged. The Prince now bore the pearly spheres in his sockets, with a meniscus of false flesh about them to insure a tight fit. He looked more machine than man, with those dead things beneath his brows, and as he moved his head the slits widened, narrowed, widened again, silently, stealthily. "Look," he said, and walked across the room, indicating objects, even naming them. I knew that he saw as though through a thick veil, but at least he saw, in a fashion. He masked himself again, and by nightfall we were gone from Dijon.

The Prince seemed almost buoyant. But what he had in his skull was a poor substitute for what Gormon had ripped from him, and soon enough he knew it. That night, as we slept on stale cots in a Pilgrims' hostelry, the Prince cried out in wordless sounds of fury, and by the shifting light of the true moon and the two false ones I saw his arms rise, his fingers curl, his nails strike at an imagined enemy, and strike again, and again.

III

It was summer's end when we finally reached Perris. We came into the city from the south, walking a broad, resilient highway bordered by ancient trees, amid a fine shower of rain. Gusts of wind blew shriveled leaves about us. That night of terror on which we both had fled conquered Roum now seemed almost a dream; we were toughened by a spring and summer of walking, and the gray towers of Perris seemed to hold out promise of new beginnings. I suspected that we deceived ourselves, for what did the world hold for a shattered prince who saw only shadows and a Watcher long past his proper years?

This was a darker city than Roum. Even in late winter, Roum had had clear skies and bright sunlight. Perris seemed perpetually clouded over, buildings and environment both somber. Even the city walls were ash-gray, and they had no sheen. The gate stood wide. Beside it there

lounged a small, sullen man in the garb of the guild of Sentinels, who made no move to challenge us as we approached. I looked at him questioningly. He shook his head.

"Go in, Watcher."

"Without a check?"

"You haven't heard? All cities were declared free six nights ago. Order of the invaders. Gates are never closed now. Half the Sentinels have no work."

"I thought the invaders were searching for enemies," I said. "The former nobility."

"They have their checkpoints elsewhere, and no Sentinels are used. The city is free. Go in. Go in."

As we went in, I said, "Then why are you here?"

"It was my post for forty years," the Sentinel said. "Where should I go?"

I made the sign that told him I shared his sorrow, and the Prince and I entered Perris.

"Five times I came to Perris by the southern gate," said the Prince. "Always by chariot, with my Changelings walking before me and making music in their throats. We proceeded to the river, past the ancient buildings and monuments, on to the palace of the Comt of Perris. And by night we danced on gravity plates high above the city, and there were ballets of Fliers, and from the Tower of Perris there was performed an aurora for us. And the wine, the red wine of Perris, the women in their saucy gowns, the red-tipped breasts, the sweet thighs! We bathed in wine, Watcher." He pointed vaguely. "Is that the Tower of Perris?"

"I think it is the ruin of this city's weather machine," I said.

"A weather machine would be a vertical column. What I see rises from a wide base to a slender summit, as does the Tower of Perris."

"What I see," I said gently, "is a vertical column, at least thirty men high, ending in a rough break. The Tower would not be this close to the southern gate, would it?"

"No," said the Prince, and muttered a foulness. "The weather machine it is, then. These eyes of Bordo's don't see so clearly for me, eh? I deceive myself, Watcher. I deceive myself. Find a thinking cap and see if the Comt has fled."

I stared a moment longer at the truncated pillar of the weather machine, that fantastic device which had brought such grief upon the world in the Second Cycle. I tried to penetrate its sleek, almost oily marble sides, to see the coiling intestines of mysterious devices that had been capa-

ble of sinking whole continents, that long ago had transformed my homeland in the west from a mountainous country to a chain of islands. Then I turned away, donned a public cap, asked for the Comt, got the answer I expected, and demanded to know the locations of places where we might find lodging.

The Prince said, "Well?"

"The Comt of Perris was slain during the conquest along with all his sons. His dynasty is extinguished, his title is abolished, his palace has been transformed into a museum by the invaders. The rest of the Perrisian nobility are dead or have taken flight. I'll find a place for you at the lodge of Pilgrims."

"No. Take me with you to the Rememberers."

"Is that the guild you seek now?"

He gestured impatiently. "No, fool! But how can I stay alone in a strange city, with all my friends gone? What would I say to true Pilgrims in their hostelry? I'll stay with you. The Rememberers can hardly turn away a blind Pilgrim."

He gave me no choice. And so he accompanied me to the Hall of Rememberers.

We had to cross half the city, and it took us nearly the whole day. Perris seemed to me to be in disarray. The coming of the invaders had upset the structure of our society, liberating from their tasks great blocs of people, in some cases whole guilds. I saw dozens of my fellow Watchers in the streets, some still dragging about with them their cases of instruments, others, like me, freed of that burden and scarcely knowing what to do with their hands. My guildmates looked glum and hollow; many of them were dull-eyed with carousing, now that all discipline was shattered. Then there were Sentinels, aimless and dispirited because they had nothing to guard, and Defenders, cowed and dazed at the ending of defense. I saw no Masters and of course no Dominators, but many unemployed Clowns, Musicians, Scribes, and other court functionaries drifted randomly. Also there were hordes of dull neuters, their nearly mindless bodies slumped from unfamiliar disuse. Only Vendors and Somnambulists seemed to be carrying on business as usual.

The invaders were very much in evidence. In twos and threes they strolled on every street, long-limbed beings whose hands dangled nearly to their knees; their eyelids were heavy, their nostrils were hidden in filtration pouches, their lips were full and, when not apart, joined

almost seamlessly. Most of them were dressed in identical robes of a deep, rich green, perhaps a uniform of military occupation; a few carried weapons of an oddly primitive kind, great heavy things slung across their backs, probably more for display than for self-defense. They seemed generally relaxed as they moved among us — genial conquerors, self-confident and proud, fearing no molestation from the defeated populace. Yet the fact that they never walked alone argued that they felt an inner wariness. I could not find it in me to resent their presence, nor even the implied arrogance of their possessive glances at the ancient monuments of Perris; yet the Prince of Roum, to whom all figures were merely upright bars of dark gray against a field of light gray, instinctively sensed their nearness to him and reacted with quick hostile intakes of breath.

Also there were many more outworld visitors than usual, star-beings of a hundred kinds, some able to breathe our air, others going about in hermetic globes or little pyramid-shaped breathing-boxes or contour suits, It was nothing new to see such strangers on Earth, of course, but the sheer quantity of them was astonishing. They were everywhere, prowling into the houses of Earth's old religions, buying shining models of the Tower of Perris from Vendors at streetcorners, clambering precariously into the upper levels of the walkways, peering into occupied dwellings, snapping images, exchanging currency with furtive hucksters, flirting with Fliers and Somnambulists, risking their lives at our restaurants, moving in shepherded groups from sight to sight. It was as though our invaders had passed the word through the galaxies: SEE OLD EARTH NOW. UNDER NEW MANAGEMENT.

At least our beggars were flourishing. The outworld ones fared poorly at the hands of the alien almsgivers, but those who were Earthborn did well, except for the Changelings who could not be recognized as native stock. I saw several of these mutants, disgruntled at being refused, turn on other beggars who had had better luck and beat them to the ground, while image-snappers recorded the scene for the delight of galactic stay-at-homes.

We came in time to the Hall of Rememberers.

It was an imposing building, as well it might be, housing as it did all of our planet's past. It rose to an enormous height

on the southern bank of the Senn, just opposite the equally massive palace of the Comt. But the dwelling of the deposed Comt was an ancient building, truly ancient, of the First Cycle even, a long, involuted structure of gray stone with a green metal roof in the traditional Perrisian style, while the Hall of Rememberers was a shaft of polished whiteness,its surface unbroken by window. About it there coiled from summit to base a golden helix of burnished metal that bore inscribed on it the history of mankind. The upper coils of the helix were blank. At a distance I could read nothing, and I wondered whether the Rememberers had taken the trouble to inscribe upon their building the tale of Earth's final defeat. Later I learned that they had not — that the story, in fact, terminated at the end of the Second Cycle, leaving much untold for which little pleasure was felt.

Night was falling now. And Perris, which had looked so dreary in the clouded and drizzly day, came to beauty like a dowager returning from Jorslem with her youth and voluptuousness restored. The city's lights cast a soft but dazzling radiance that magically illuminated the old gray buildings, turning angles hazy, hiding antiquity's grime, blurring ugliness into poetry. The Comt's palace was transformed from a heavy thing of sprawling bulk into an airy fable. The Tower of Perris, spotlighted against the dusk, loomed above us to the east like a giant gaunt spider, but a spider of grace and charm. The whiteness of the Hall of Rememberers now was intolerably beautiful, and the helical coil of history no longer seemed to wind to the summit, but plunged directly into one's heart. The Fliers of Perris were abroad at this hour, taking their ease above us in a graceful ballet, their filmy wings spread wide to catch the light from below, their slender bodies trailing at an angle to the horizon. How they soared, these genetically altered children of Earth, these fortunate members of a guild that demands only that its members find pleasure in life! They shed beauty upon the groundlings like little moons. They were joined in their airborne dance by invaders, flyng in some method unknown to me, their lengthy limbs drawn close to their bodies. I noticed that the Fliers showed no distaste for those who had come to share their sport, but rather appeared to welcome the outworlders, allowing them places in the dance. I thought of little Avluela and how gladly

she had given herself to the false Changeling Gormon, no mutant Earthman at all but an advance scout for the invasion of Earth.

Higher, on the backdrop of the sky itself, whirled the two false moons, blank and burnished, skimming from west to east; and blobs of disciplined light swirled in mid-atmosphere in what I supposed was a customary Perrisian diversion; and speakers floated beneath the clouds, showering us with sparkling music. I heard the laughter of girls from somewhere; I scented bubbling wine. If this is Perris conquered, I wondered, what must Perris free have been like?

"Are we at the Hall of Rememberers?" asked Prince Enric testily.

'This is it, yes," I replied. "A tower of white."

"I know what it looks like, idiot! But now — I see less well after dark — that building, there?"

"You point to the palace of the Comt, Majesty."

"There, then."

"Yes."

"Why have we not gone in?"

"I am seeing Perris," I said. "I have never known such beauty. Roum is attractive too, in a different way. Roum is an emperor; Perris is a courtesan."

"You talk poetry, you shriveled old man?"

"I feel my age dropping away. I could dance in the streets now. This city sings to me."

"Go in. Go in. We are here to see the Rememberers. Let it sing to you later."

I sighed and guided him toward the entrance to the great hall. We passed up a walkway of some black glossy stone, while beams of light played down on us, scanning us and recording us. A monstrous ebony door, five men wide and ten men high, proved to be only a projected illusion, for as we neared it I sensed the depth of it, saw its vaulted interior, and knew it for a deception. I felt a vague warmth and tasted a strange perfume as we passed through it.

Within was a mammoth antechamber nearly as awesome as the grand inner space of the palace of the Prince of Roum. All was white; the stone glowing with an inner radiance that bathed everything in brilliance. To right and left, heavy doorways led to inner wings. Although night had come, many individuals were clustered about access banks mounted on the rear wall of the antechamber, where screens and caps gave them contact with the master files of the guild of Remember-

ers. I noticed with interest that many of those who had come here with questions about mankind's past were invaders.

Our footsteps crackled on the tiled floor as we crossed it.

I saw no actual Rememberers, and so I went to an access bank, put on a thinking cap, and notified the embalmed brain to which it was connected that I sought the Rememberer Basil, he whom I had met briefly in Roum.

"What is your business with him?"

"I bring with me his shawl, which he left in my care when he fled Roum."

"The Rememberer Basil has returned to Roum to complete his research, by permission of the conquerors. I will send to you another member of the guild to receive the shawl."

IV

We did not have long to wait. We stood together near the rear of the antechamber, and I contemplated the spectacle of the invaders who had so much to learn, and in moments there came to us a thick-set, dour-faced man some years younger than myself, who wore about his broad shoulders the ceremonial shawl of his guild.

"I am the Rememberer Elegro," he announced quite portentously.

"I bring you Basil's shawl."

"Come. Follow."

He had emerged from an imperceptible place in the wall where a sliding block turned on pivots. Now he slid it once more and rapidly went down a passageway. I called out to him that my companion was blind and could not match his pace, and the Rememberer Elegro halted, looking visibly impatient. His downcurving mouth twitched, and he buried his short fingers in the deep black curls of his beard. When we had caught up with him he moved on, less swiftly. We pursued an infinity of passageways and ended in Elegro's domicile, somewhere high in the tower.

The room was dark but amply furnished with screens, caps, scribing equipment, voiceboxes, and other aids to scholarship. The walls were hung with a purple-black fabric, evidently alive, for its marginal folds rippled in pulsating rhythms. Three drifting globes gave less than ample light.

"The shawl," he said.

I produced it from my pouch. It had amused me to wear it for a while in those first confused days of the conquest — after all, Basil had left it in my hands when he fled down the street, and I had not meant to wrest it

from him, but he obviously had cared little for its loss — but shortly I had put it away, since it bred confusion for a man in Watcher's garb to wear a Rememberer's shawl. Elegro took it from me curtly and unfolded it, scrutinizing it as though looking for lice.

"How did you get this?"

"Basil and I encountered one another in the street during the actual moment of the invasion. He was highly agitated. I attempted to restrain him, and he ran past me, leaving me still grasping his shawl."

"He told a different story."

"I regret it if I have compromised him," I said.

"At any rate, you have returned his shawl. I'll communicate the news to Roum tonight. Are you expecting a reward for delivering it?"

"Yes."

Displeased at this, Elegro said, "Which is?"

"To be allowed to come among the Rememberers as an apprentice."

He looked startled. "You have a guild!"

"To be a Watcher in these days is to be guildless. For what should I watch? I am released from my vows."

"Perhaps. But you are old to be trying a new guild."

"Old yes, but not *too* old."

"Ours is a difficult one."

"I am willing to work hard. I desire to learn. In my old age curiosity is born in me."

"Become a Pilgrim like your friend here. See the world."

"I have seen the world. Now I wish to join the Rememberers and learn of the past."

"You can dial an information below. Our access banks are open to you, Watcher."

"It is not the same. Enroll me."

"Apprentice yourself to the Indexers," Elegro suggested. "The work is similar, but not so demanding."

"I claim apprenticeship here."

Elegro sighed heavily. He steepled his fingers, bowed his head, quirked his lips. This was plainly unique to him. While he pondered, an inner door opened and a female Rememberer entered the room, carrying a small turquoise music-sphere cradled in both her hands. She took four paces and halted, obviously surprised that Elegro was entertaining visitors.

She made a nod of apology and said, "I will return later."

"Stay," said the Rememberer. To myself and the Prince he said, "My wife. The Rememberer Olmayne." To his wife he said, "These are travelers newly come from Roum. They have

delivered Basil's shawl. The Watcher now asks apprenticeship in our guild. What do you advise?"

The Rememberer Olmayne's white brow furrowed. She put down her music-sphere in a dark crystal vase; the sphere was unintentionally activated as she did so, and it offered us a dozen shimmering notes before she switched it off. Then she contemplated us, and I her. She was notably younger than her husband, who was of middle years, while she seemed to be in first bloom. Yet there was a strength about her that argued for greater maturity. Perhaps, I thought, she had been to Jorslem to renew her youth; but in that case it was odd that her husband had not done the same, unless he prized his look of age. She was surely attractive. Her face was broad, with a high forehead, pronounced cheekbones, a wide, sensual mouth, a jutting chin. Her hair was lustrous black, contrasting most vividly with the strange pallor of her skin. Such white skin is a rarity among us, though now I know that it was more common in ancient times, when the breed was different. Avluela, my lovely little Flier, had displayed that same combination of black and white, but there the resemblance ended, for Avluela had been all fragility, and the Rememberer Olmayne was strength itself. Below her long slender neck, her body blossomed into well-set shoulders, high breasts, firm legs. Her posture was regal.

She studied us at length, until I could scarcely meet the level gaze of her widely-spaced dark eyes. Ultimately she said, "Does the Watcher regard himself as qualified to become one of us?"

The question appeared aimed at anyone in the chamber who cared to reply. I hesitated; Elegro did likewise; and at length it was the Prince of Roum who replied in his voice of command, "The Watcher is qualified to enter your guild."

"And who are you?" Olmayne demanded.

Instantly the Prince adopted a more accommodating tone." A miserable blind Pilgrim, milady, who has wandered here on foot from Roum, in this man's company. If I am any judge, you could do worse than admit him as an apprentice."

Elegro said, "And yourself? What plans have you?"

"I wish only refuge here," said the Prince. "I am tired of roaming, and there is much thinking I must do. Perhaps you could allow me to carry out small tasks here. I would not want

to be separated from my companion."

To me Olmayne said, "We will confer on your case. If there is approval, you will be given the tests. I will be your sponsor."

"Olmayne!" blurted Elegro in unmistakable amazement.

She smiled serenely at us all.

A family quarrel appeared on the verge; but it was averted, and the Rememberers offered us hospitality, juices, sharper beverages, a night's lodging. We dined apart from them in one section of their suite, while other Rememberers were summoned to consider my irregular application. The Prince seemed in strange agitation; he bolted down his food, spilled a flask of wine, fumbled with his eating utensils, put his fingers again and again to his gray metallic eyeballs as though trying to scratch an itch upon the lobes of his brain.

At length he said in a low, urgent voice, "Describe her to me!"

I did so, in detail, coloring and shading my words to draw him the most vivid picture I could.

"She is beautiful, you say?"

"I believe so. You know that at my age one must work from abstract notions, not from the flow of the glands."

"Her voice arouses me," said the Prince. "She has power. She is queenly. She *must* be beautiful; there'd be no justice if her body failed to match the voice."

"She is," I said heavily, "another man's wife, and the giver of hospitality."

I remembered a day in Roum when the Prince's palanquin had come forth from the palace, and the Prince had spied Avluela and ordered her to him, drawing her through the curtain to make use of her. A Dominator may command lesser folk that way; but a Pilgrim may not, and I feared Prince Enric's schemes now. He dabbed at his eyes again. His facial muscles worked.

"Promise me you'll not start trouble with her," I said in all seriousness.

The corner of his mouth jerked in what must have been the beginning of an angry retort, quickly stifled. With effort he said, "You misjudge me, old man. I'll abide by the laws of hospitality here. Be a good man and get me more wine, eh?"

I thumbed the serving niche and obtained a second flask. It was strong red wine, not the golden stuff of Roum. I poured; we drank; the flask was swiftly empty. I grasped it along its lines of polarity and gave it the proper twist, and it popped and

was gone like a bubble. Moments later the Rememberer Olmayne entered. She had changed her garments; earlier she had worn an afternoon gown of dull hue and coarse fabric, but now she was garbed in a sheer scarlet robe fastened between her breasts. It revealed to me the planes and shadows of her body, and it surprised me to see that she had chosen to retain a navel. It broke the smooth downward sweep of her belly in an effect so carefully calculated to arouse that it nearly incited even me.

She said complacently, "Your application has been approved under my sponsorship. The tests will be administered tonight. If you succeed, you will be pledged to our division." Her eyes twinkled in sudden mischief. "My husband, you should know, is most displeased. But my husband's displeasure is not a thing to be feared. Come with me, both of you."

She stretched forth her hands, taking mine, taking the Prince's. Her finger were cool. I throbbed with an inner fever and marveled at this sign of new youth, not even by virtue of the waters of the house of renewal in sacred Jorslem.

"Come," said Olmayne, and she led us away to the place of test.

V

And so I passed into the guild of Rememberers.

The tests were perfunctory. Olmayne brought us to a circular room somewhere near the summit of the great tower. Its curving walls were inlaid with rare woods of many hues, and shining benches rose from the floor, and in the center of all was a helix the height of a man, inscribed with letters too small to be read. Half a dozen Rememberers lounged about, plainly there only by Olmayne's whim, and not in the slightest interested in this old and shabby Watcher whom she had so unaccountably sponsored.

A thinking cap was offered me. A scratchy voice asked me a dozen questions, through the cap, probing for my typical responses, querying me on biographical details. I gave my guild identification so that they could contact the local guildmaster, check my bona fides, and obtain my release. Ordinarily one could not win release from a Watcher's vows, but these were not ordinary times, and I knew my guild was shattered.

Within an hour all was done. Olmayne herself placed the shawl over my shoulders.

"You'll be given sleeping quarters near our suite," she said.

"You'll have to surrender your Watcher garb, though your friend may remain in Pilgrim's clothes. Your training will begin after a probationary period. Meanwhile you have full access to any of our memory tanks. You realize, of course, that it will be ten years or more before you can win full admission to the guild."

"I realize that," I said.

"Your name now will be Tomis," Olmayne told me. "Not yet the Rememberer Tomis, but Tomis of the Rememberers. There is a difference. Your past name no longer matters."

The Prince and I were conducted to the small room we would share. It was a humble enough place, but yet it had facilities for washing, outlets for thinking caps and other information devices, and a food vent. Prince Enric went about the room, touching things, learning the geography. Cabinets, beds, chairs, storage units, and other furniture popped in and out of the walls as he blundered onto the controls. Eventually he was satisfied; not blundering now, he activated a bed, and a sheaf of brightness glided from a slot. He stretched out.

"Tell me something, Tomis of the Rememberers."

"Yes?"

"To satisfy curiosity that eats at me. What was your name in previous life?"

"It does not matter now."

"No vow binds you to secrecy. Will you thwart me still?"

"Old habit binds me," I said. "For twice your lifetime I was conditioned never to speak my name except lawfully."

"Speak it now."

"Wuellig," I said.

It was strangely liberating to commit that act. My former name seemed to hover in the air before my lips; to dart about the room like a jewelbird released from its captivity; to soar, to turn sharply, to strike a wall and shiver to pieces with a light tinkling sound. I trembled. "Wuellig," I said again. "My name was Wuellig."

"Wuellig no more."

"Tomis of the Rememberers."

And we both laughed until it hurt, and the blinded Prince swung himself to his feet and slapped his hand against mine in high good fellowship, and we shouted my name and his and mine again and again, like small boys who suddenly have learned the words of power and have discovered at last how little power those words really have.

Thus I took up my new life among the Rememberers.

For some time to come I did not leave the Hall of Remem-

berers at all. My days and nights were completely occupied, and I remained a stranger to Perris without. The Prince, too, though his time was not as fully taken up, stayed in the building almost always, going out only when boredom or fury overtook him. Occasionally the Rememberer Olmayne went with him, or he with her, so that he would not be alone in his darkness; but I know that on occasion he left the building by himself, defiantly intending to show that even sightless he could cope with the challenges of the city.

My waking hours were divided among these activities:

Preliminary orientations.

Menial duties of an apprentice.

Private researches.

Not unexpectedly, I found myself much older than the other apprentices then in residence. Most were youngsters, the children of Rememberers themselves; they looked upon me in bafflement, unable to comprehend having such an ancient for a schoolmate. There were a few fairly mature apprentices, those who had found a vocation for Remembering midway in life, but none approaching my age. Hence I had little social contact with my fellows in training.

For a part of each day we learned the techniques by which the Rememberers recapture Earth's past. I was shown wide-eyed through the laboratories where analysis of field specimens is performed; I saw the detectors which, by pinpointing the decay of a few atoms, give an age to an artifact; I watched as beams of many-colored light lancing from a ringed outlet turned a sliver of wood to ash and caused it to give up its secrets; I saw the very images of past events peeled from inanimate substance. We leave our imprint where we go; the particles of light rebound from our faces, and the photonic flux nails them to the environment, from which the Rememberers strip them, categorize them, fix them. I entered a room where a phantasmagoria of faces drifted on a greasy blue mist: vanished kings and guildmasters, lost dukes, heroes of ancient days. I beheld cold-eyed technicians prodding history from handsful of charred matter. I saw damp lumps of trash give up tales of revolutions and assassinations, of cultural change, of the discarding of mores.

Then I was instructed superficially in the techniques of the field. Through cunning simulation I was shown Rememberers at work with vacuum cores, digging through the mounds of the great ruined cities of Afreek and

Ais. I participated vicariously in the undersea quest for the remnants of the civilizations of the Lost Continents; teams of Rememberers entered translucent teardrop-shaped vehicles, like blobs of green gelatin, and sped into the depths of Earth Ocean, down and down to the slime-crusted prairies of the former land, and with lancing beams of violet force drilled through muck and girders to find buried truths. I watched the gatherers of shards, the diggers of shadows, the collectors of molecular films. One of the best of the orientation experiences they provided was a sequence in which some truly heroic Rememberers excavated a weather machine in lower Afreek, baring the base of the titanic thing, lifting it on power pulls from the soil, an extraction so mighty that the earth itself seemed to shriek when it was done. High aloft they floated the ponderous relic of Second Cycle folly, while shawled experts prodded in its root-place to learn how the column had been erected in the first place. My eyes throbbed at the spectacle.

I emerged from these sessions with an overwhelming awe for this guild I had chosen. Individual Rememberers whom I had known had struck me generally as pompous, disdainful, haughty, or merely aloof; I did not find them charming. Yet is the whole greater than the sum of its parts, and I saw such men as Basil and Elegro, so vacant, so absent from ordinary human concerns, so disinterested, as parts of a colossal effort to win back from eternity our brilliant yesterdays. This research into lost times was magnificent, the only proper substitute for mankind's former activities; having lost our present and our future, we had of necessity to bend all our endeavors to the past, which no one could take from us if we were only vigilant enough.

For many days I absorbed the details of this effort, every stage of the work from the collection of specks of dust in the field through their treatment and analysis in the laboratory to the highest endeavor of all, synthesis and interpretation, which was carried out by senior Rememberers on the highest level of this building. I was given but a glimpse of those sages: withered and dry, old enough to be grandfathers to me, white heads bent forward, thin lips droning comments and interpretations, quibbles and corrections. Some of them, I was told in a hushed whisper, had been renewed at Jorslem two and three times apiece and now were beyond renewal and in their final great age.

Next we were introduced to the memory tanks where the Rememberers store their findings and from which are dispensed informations for the benefit of the curious.

As a Watcher, I had had little curiosity and less interest in visiting memory tanks. Certainly I had never seen anything like this; for the tanks of Rememberers were no mere three-brain or five-brain storage units, but mammoth installations with a hundred brains or more hooked in series. The room to which they took us — one of dozens beneath the building, I learned — was an oblong chamber, deep but not high, in which brain-cases were arrayed in rows of nine, going back into shadowed depths. Perspective played odd tricks; I was not sure if there were ten rows or fifty, and the sight of those bleached domes was overpoweringly immense.

"Are these the brains of former Rememberers?" I asked.

The guide replied, "Some of them are. But there's no necessity to use only Rememberers. Any normal human brain will do; even a Servitor has more storage capacity than you'd believe. We had no need for redundancy in our circuits, and so we can use the full resources of each brain."

I tried to peer through the heavy block of sleekness that protected the memory tanks from harm. I asked, "What is recorded in this particular room?"

"The names of dwellers in Afreek in Second Cycle times, and as much personal data about each as we have so far recovered. Also, since these cells are not yet fully charged, we have temporarily stored in them certain geographical details concerning the Lost Continents, and information pertaining to the creation of Land Bridge."

"Can such information be easily transferred from temporary storage to permanent?" I asked.

"Easily, yes. Everything is electromagnetic here. Our facts are aggregates of charges; we shift them from brain to brain by reversing polarities."

"What if there were an electrical failure?" I demanded. "You say you have no redundancy here. Is there no possibility of losing data through some accident?"

"None," said the guide smoothly. "We have a series of fallback devices to insure continuity of power. And by using organic tissue for our storage cells, we have the best assurance of safety of all: for the brains themselves will retain their data in the event of a power interruption. It would be taxing but

not impossible to recapture their contents."

"During the invasion," I said, "were any difficulties experienced?"

"We are under the protection of the invaders who regard our work as vital to their own interests."

I found out how true that was not long afterward, at a general convocation of the Rememberers. We apprentices were permitted to look on from a balcony of the guildhall; below us, in full majesty, were the guild members, shawls in place, Elegro and Olmayne among them. On a dais that bore the helical symbol was Chancellor Kenishal of the Rememberers, an austere and commanding figure, and beside him was an even more conspicuous personage who was of the species that had conquered the Earth. Kenishal spoke briefly. The resonance of his voice did not entirely conceal the hollowness of his words; like all administrators everywhere, he gushed platitudes, praising himself by implication as he congratulated his guild for its notable work. Then he introduced the invader.

The alien stretched forth his arms until they seemed to touch the walls of the auditorium.

"I am Manrule Seven," he said I quietly. "I am Procurator of Perris, with particular responsibility for the guild of Rememberers. My purpose here today is to confirm the decree of the provisional occupational government. You Rememberers are to go totally unhampered in your work. You are to have free access to all sites on this planet or on any other world that may have bearing on your mastery of the past of this planet. All files are to remain open to you, except those pertaining to the organization of the conquest itself. Chancellor Kenishal has informed me that the conquest lies outside the scope of your present research in any case, so no hardship will be worked. We of the occupying government are aware of the value of the work of your guild. The history of this planet is of great significance, and we wish your efforts continued."

"To make Earth a better tourist attraction," said the Prince of Roum bitterly at my side.

Manrule Seven went on, "The Chancellor has requested me to inform you of one administrative change that will necessarily follow from the occupied status of your planet. In the past, all disputes among you were settled by the courts of your own guild, with Chancellor Kenishal having the highest right of appeal. For

the sake of sufficient administration, it now becomes mandatory for us to impose our jurisdiction over that of the guild. Therefore the Chancellor will transfer to us those litigations which he feels no longer fall into his sphere of authority."

The Rememberers gasped. There was a sudden shifting of postures and exchanging of glances on the floor below.

"The Chancellor's abdicating!" blurted an apprentice near me.

"What choice does he have, fool?" whispered another harshly.

The meeting broke up in some confusion. Rememberers flooded into the hallways, gesticulating, debating, expostulating. One venerable wearer of the shawl was so shaken that he crouched down and began to make the series of stabilizer responses, heedless of the throng. The tide swept over us apprentices, forcing us back. I attempted to protect the Prince, fearing that he would be thrown to the floor and trampled; but we were swept apart, and I lost sight of him for minutes. When I saw him again, he stood with Remembrer Olmayne. Her face was flushed; her eyes were bright; she was speaking rapidly, and the Prince was listening. His hand clung to her elbow as if for support.

VI

After the conclusion of the early period of orientations, I was given trivial tasks. Chiefly I was asked to do things that in an earlier time would have been performed wholly by machine: for example, to monitor the feed lines that oozed nutrients into the brain-boxes of memory tanks. For several hours each day I walked through the narrow corridor of the inspection panels, searching for clogged lines. It had been so devised that when a line became blocked, a stress pattern was created the length of the clear tubing that contained it, and beams of a special polarized light illuminated that pattern for benefit of the inspector. I did my humble task, now and again finding a blockage, and I did other little jobs as befit my status of apprenticeship.

However, I also had the opportunity to pursue my own investigations into the events of my planet's past.

Sometimes one does not learn the value of things until they are lost. For a lifetime I served as a Watcher, striving to give early warning of a promised invasion of Earth, while caring little who might wish to invade us, or why. For a lifetime I realized dimly that Earth had known grander

days than those of the Third Cycle into which I had been born, and yet I sought no knowledge of what those days had been like and of the reasons for our present diminished condition. Only when the starships of the invaders blossomed in the sky did I feel a sudden hunger to know of that lost past. Now, as the most elderly of apprentices, I, Tomis of the Rememberers, rummaged through the archives of vanished time.

Any citizen has the right to go to a public thinking cap and requisition an information from the Rememberers on any given subject. Nothing is concealed. But the Rememberers volunteer no aid; you must know how to ask, which means you must know what to ask. Item by item you must seek your facts. It is useful for those who must know, say, the long-term patterns of climate in Agupt, or the symptoms of the crystallization disease, or the limitations in the charter of one of the guilds; but it is no help at all to the man who wishes knowledge of the larger questions. One would need to requisition a thousand informations merely to make a beginning. The expense would be great; few would bother.

As an apprentice Rememberer I had full access to all data. More important, I had access to the indexes. The Indexers are a guild subsidiary to the Rememberers, a donkey-guild of drudges who record and classify that which they often do not understand; the end product of their toil serves the greater guild, but the indexes are not open to all. Without them one scarcely is able to cope with the problems of research.

I will not summarize the stages by which I came by my knowledge — the hours spent shuffling through interwoven corridors, the rebuffs, the bewilderments, the throbbing on the brain. As a foolish novice I was at the mercy of pranksters, and many a fellow apprentice, even a guild member or two, led me astray for the sheer wicked joy of it. But I learned which routes to follow, how to set up sequences of questions, how to follow a path of references higher and higher until the truth bursts dazzlingly upon one. With persistence rather than with great intellect, I wrung from the files of the Rememberers a coherent tale of the downfall of man.

There was a time in ages past when life on Earth was brutal and primitive. We call this time the First Cycle. I do not speak of the period before civilization, that time of grunting and hairiness, of caves and stone

tools. We consider the First Cycle to have commenced when man first learned to record information and to control environment. This occurred in Agupt and Sumir. By our way of reckoning the First Cycle commenced some 40,000 years ago, although we are uncertain of its true length in its own terms, since the span of the year was altered at the end of the Second Cycle and we have been unable thus far to determine how long, in previous eras, it took for our world to circle its sun. Somewhat longer than at present, perhaps.

The First Cycle was the time of Imperial Roum and of the first flowering of Jorslem. Eyrop remained savage long after Ais and parts of Afreek were civilized In the west, two great continents occupied much of Earth Ocean, and these two were held by savages.

It is understood that in this cycle mankind had no contact with other worlds or stars. Such solitude is difficult to comprehend; but yet so it occurred. Mankind had no way of creating light except through fire; he could not cure his ills; life was not susceptible to renewal. It was a time without comforts, a gray time, harsh in its simplicity. Death came early; one barely had time to scatter a few sons about, and one was carried off. One lived with fear, but mostly not fear of real things.

The soul recoils from such an era. But yet it is true that in the First Cycle magnificent cities were founded — Roum, Perris, Atin, Jorslem — and splendid deeds were accomplished. One stands in awe of those ancestors, foul-smelling (no doubt), illiterate, without machines, and still capable of coming to terms with their universe and to some extent of mastering it.

War and grief were constant throughout the First Cycle. Destruction and creation were nearly simultaneous. Flames ate man's most glorious cities. Chaos threatened always to engulf order. How could men have endured such conditions for thousands of years?

Towards the close of the First Cycle much of the primitivism was outgrown. At last sources of power were accessible to man; there was the beginning of true transportation; communication over distances became possible; many inventions transformed the world in a short time. Methods of making war kept pace with the technological growth in other directions; but total catastrophe was averted, although several times it appeared to have arrived. It was during this final phase of the cycle that the Lost Continents were colonized, also

Shalya, and that first contact was made with the adjoining planets of our solar system.

The transition from First Cycle to Second is arbitrarily fixed at the point when man first encountered intelligent beings from distant worlds. This, the Rememberers now believe, took place less than fifty generations after the First Cycle folk had mastered electronic and nuclear energy. Thus we may rightly say that the early people of Earth stumbled headlong from savagery to galactic contact — or, rather, that they crossed that gap in a few quick strides.

This too is cause for pride. For if the First Cycle was great despite its handicaps, the Second Cycle knew of no handicaps, and achieved miracles.

In this epoch mankind spread out to the stars, and the stars came to mankind. Earth was a marketplace for goods of all worlds. Wonders were commonplace. One might hope to live for hundreds of years: eyes, hearts, lungs, kidneys were replaced as easily as shoes; the air was pure, no man went hungry, war was forgotten. Machines of every sort served man. But the machines were not enough, and so the Second Cycle folk bred men who were machines, or machines who were men: creatures that were genetically humans, but were born artificially and were treated with drugs that prevented the permanent storing of memories. These creatures, analogous to our neuters, were capable of performing an efficient day's work, but were unable to build up that permanent body of experiences, memories, expectations, and abilities that is the mark of a human soul. Millions of such not-quite-humans handled the duller tasks of the day, freeing others for lives of glistening fulfillment. After the creation of the sub-humans came the creation of the super-animals, who through biochemical manipulation of the brain were able to carry out tasks once beyond the capacity of their species; dogs, cats, mice, and cattle were enrolled in the labor force, while certain high primates received functions formerly reserved for humans. Through this exploitation of the environment to the fullest, man created a paradise on Earth.

The spirit of man soared to the loftiest peak it had known. Poets, scholars, and scientists made splendid contributions. Shining cities sprawled across the land. The population was enormous, and even so there was ample room for all, with no shortage of resources. One could indulge

one's whims to any extent; there was much experimentation with genetic surgery and with mutagenetic and teratogenetic drugs, so that the human species adopted many new forms. There was, however, nothing yet like the valiant forms of our cycle.

Across the sky in stately procession moved space stations serving every imaginable need. It was at this time that the two new moons were built, although the Rememberers have not yet determined whether their purpose was functional or esthetic. The auroras that now appear each night in the sky may have been installed at this time, although some factions of Rememberers argue that the presence of temperate-zone auroras began with the geophysical upheavals that heralded the close of the cycle.

It was, at any rate, the finest of times to be alive.

"See Earth and die," was the watchword of the outworlders. No one making the galactic grand tour dared pass up this planet of miracles. We welcomed the strangers, accepted their compliments and their money, made them comfortable in the ways they preferred, and proudly displayed our greatnesses.

The Prince of Roum can testify that it is the fate of the mighty eventually to be humbled, and also that the higher one reaches for splendor, the more catastrophic one's downfall is apt to be. After some thousands of years of glories beyond my capacity to comprehend, the fortunate ones of the Second Cycle overreached themselves and committed two misdeeds, one born of foolish arrogance, the other born of excessive confidence. Earth is paying yet for those overreachings.

The effects of the first were slow to be felt. It was a function of Earth's attitude toward the other species of the galaxy, which had shifted during the Second Cycle from awe to matter-of-fact acceptance to contempt. At the beginning of the cycle, brash and naive Earth had erupted into a galaxy already peopled by advanced races that long had been in contact with one another. This could well have produced an ego-crushing trauma, but instead it generated an aggressive urge to excel and surpass. And so it happened that Earthmen quickly came to look upon most of the galactics as equals, and then, as progress continued on Earth, as inferiors. This bred the easy habit of contempt for the backward.

Thus it was proposed to establish "study compounds" on Earth for specimens of inferior races. These compounds would

reproduce the natural habitat of the races and would be accessible to scholars wishing to observe the life-processes of these races. However, the expense of collecting and maintaining the specimens was such that it quickly became necessary to open the compounds to the public at large, for purposes of amusement. It will be seen that these supposedly scientific compounds were, in fact, zoos for other intelligent species.

At the outset, only the truly alien beings were collected, those so remote from human biological or psychological norms that there was little danger of regarding them as people. A many-limbed thing that dwells in a tank of methane under high pressure does not strike a sympathetic response from those likely to object to the captivity of intelligent creatures. If that methane-dweller happens to have a complex civilization of a sort uniquely fitted to its environment, it can be argued that it is all the more important to duplicate that environment on Earth so that one can study so strange a civilization. Therefore the early compounds contained only the bizarre. The collectors were limited, also to taking creatures who had not attained the stage of galactic travel themselves. It would not have been good form to kidnap life-forms whose relatives took part in the interstellar tourist trade on which our world's economy had come so heavily to depend.

The success of the first compounds led to the demand for the formation of others. Less critical standards were imposed; not merely the utterly alien and grotesque were collected, but samplings of any sort of galactic life not in a position to register diplomatic protests. And, as the audacity of our ancestors increased, so did the restrictions on collection loosen, until there were samplings from a thousand worlds on Earth, including some whose civilizations were older and more intricate than our own.

The archives of the Remembrers show that the expansion of our compounds stirred some agitation in many parts of the universe. We were denounced as marauders, kidnappers, and pirates; committees were formed to criticize our wanton disregard for the rights of sentient beings; Earthmen traveling to other planets were occasionally beset by mobs of hostile life-forms demanding that we free the prisoners of the compounds at once. However, these protesters were only a minority. Most galactics kept an uncomfortable silence

about our compounds. They regretted the barbarity of them, and nevertheless made a point of touring them when they visited Earth. Where else after all, could one see hundreds of lifeforms, culled from every part of the universe, in a few days? Our compounds were a major attraction, one of the wonders of the cosmos. By silent conspiracy our neighbors in the galaxy winked at the amorality of the basic concept in order to share the pleasure of inspecting the prisoners.

There is in the archives of the Rememberers a memory-tank entry of a visit to a compound area. It is one of the oldest visual records possessed by the guild, and I obtained a look at it only with great difficulty and upon the direct intercession of the Rememberer Olmayne. Despite the use of a double filter in the cap, one sees the scene only blurredly; but yet it is clear enough. Behind a curved shield of a transparent material are fifty or more beings of an unnamed world. Their bodies are pyramidal, with dark blue surfaces and pink visual areas at each vertex; they walk upon short, thick legs; they have one pair of grasping limbs on each face. Though it is risky to attempt to interpret the inner feelings of extraterrestrial beings, one can clearly sense a mood of utter despair in these creatures. Through the murky green gases of their environment they move slowly, numbly, without animation. Several have joined tips in what must be communication. One appears newly dead. Two are bowed to the ground like tumbled toys, but their limbs move in what perhaps is prayer. It is a dismal scene. Later, I discovered other such records in neglected corners of the building. They taught me much.

VII

For more than a thousand Second Cycle years the growth of these compounds continued unchecked, until it came to seem logical and natural to all except the victims that Earth should practice these cruelties in the name of science. Then, upon a distant world not previously visited by Earthmen, there were discovered certain beings of a primitive kind, comparable perhaps to Earthmen in early First Cycle days. These beings were roughly humanoid in form, undeniably intelligent, and fiercely savage. At the cost of several Earthborn lives, a collecting team acquired a breeding colony of these people and transported them to an Earth compound.

This was the first of the Second Cycle's two fatal errors.

At the time of the kidnapping the beings of this other world—which is never named in the records, but known only by the code designation H362 — were in no position to protest or to take punitive steps. But shortly they were visited by emissaries from certain other worlds aligned politically in an anti-Earth position. Under the guidance of these emissaries, the beings of H362 requested the return of their people. Earth refused, citing the long precedent of interstellar condonement of the compounds. Lengthy diplomatic representations followed, in the course of which Earth simply reaffirmed its right to have acted in such a fashion.

The people of H362 responded with threats. "One day," they said, "we will cause you to regret this. We will invade and conquer your planet, set free all the inhabitants of the compounds, and turn Earth itself into a gigantic compound for its own people."

Under the circumstances this appeared quite amusing.

Little more was heard of the outraged inhabitants of H362 over the next few millenia. They were progressing rapidly, in their distant part of the universe, but since by all calculations it would take them a cosmic period to pose any menace to Earth, they were ignored. How could one fear spear-wielding savages?

Earth addressed itself to a new challenge: full control of the planetary climate.

Weather modification had been practiced on a small scale since late First Cycle. Clouds holding potential rain could be induced to release it; fogs could be dispelled; hail could be made less destructive. Certain steps were taken toward reducing the polar ice packs and toward making deserts more fruitful. However, these measures were strictly local and, with few exceptions, had no lasting effects on environment.

The Second Cycle endeavor involved the erection of enormous columns at more than one hundred locations around the globe. We do not know the heights of these columns, since none has survived intact and the specifications are lost, but it is thought that they equaled or exceeded the highest buildings previously constructed and perhaps attained altitudes of two miles or more. Within these columns was equipment which was designed, among other things, to effect displacements of the poles of Earth's magnetic field.

As we understand the aim of

the weather machines, it was to modify the planet's geography according to a carefully conceived plan arising from the division of what we call Earth Ocean into a number of large bodies. Although interconnected, these sub-oceans were considered to have individual existences, since along most of their boundary region they were cut off from the rest of Earth Ocean by land masses. In the north polar region, for example, the joining of Ais to the northern Lost Continent (known as Usa-amrik) in the west and the proximity of Usa-amrok to Eyrop in the east left only narrow straits through which the polar waters could mingle with those of the warmer oceans flanking the Lost Continents.

Manipulation of magnetic forces produced a libration of Earth on its orbit calculated to break up the north polar ice pack and permit the cold water trapped by this pack to come in contact with warmer water from elsewhere. By removing the northern ice pack and thus exposing the northern ocean to evaporation, precipitation would be greatly increased there. To prevent this precipitation from falling in the north as snow, additional manipulations were to be induced to change the pattern of the prevailing westerly winds, which carry precipitation over temperate areas. A natural conduit was to be established that would bring the precipitation of the polar region to areas in lower latitudes lacking in proper moisture.

There was much more to the plan than this. Our knowledge of the details is hazy. We are aware of schemes to shift ocean currents by causing land subsidence or emergence, of proposals to deflect solar heat from the tropics to the poles, and of other rearrangements. The details are unimportant. What is significant to us are the consequences of this grandiose plan.

After a period of preparation lasting centuries, and absorbing more effort and wealth than any other project in human history, the weather machines were put into operation.

The result was devastation.

The disastrous experiment in planetary alteration resulted in a shifting of the geographical poles, a lengthy period of glacial conditions throughout most of the northern hemisphere, the unexpected submergence of Usa-amrik and Sud-amrik its neighbor, the creation of Land Bridge joining Afreek and Eyrop, and the near destruction of human civilization. These upheavals did not take place with great

speed. Evidently the project went smoothly for the first several centuries; the polar ice thawed, and the corresponding rise in sea levels was dealt with by constructing fusion evaporators — small suns, in effect — at selected oceanic points. Only slowly did it become clear that the weather machines were bringing about architectonic changes in the crust of the Earth. These, unlike the climatic changes, proved irreversible.

It was a time of furious storms followed by unending droughts; of the loss of hundreds of millions of lives; of the disruption of all communications; of panicky mass migrations out of the doomed continents. Chaos triumphed. The splendid civilization of the Second Cycle was shattered.

Earth fell into receivership.

For the sake of saving what remained of its population, several of the most powerful galactic races took command of our planet. They established energy pylons to stabilize Earth's axial wobble; they dismantled those weather machines that had not been destroyed by the planetary convulsions; they fed the hungry, clothed the naked, and offered reconstruction loans. For us it was a Time of Sweeping, when all the structures and conventions of society were expunged. No longer masters in our own world, we accepted the charity of strangers and crept pitifully about.

Yet, because we were still the same race we had been, we recovered to some extent. We had squandered our planet's capital, and so could never again be anything but bankrupts and paupers, but in a humbler way we entered into our Third Cycle. Others were devised, working generally on different principles. Our guilds were formed to give order to society: Dominators, Masters, Merchants, and the rest. The Rememberers strove to salvage what could be pulled from the wreck of the past.

Our debts to our rescuers were enormous. As bankrupts, we had no way of repaying those debts; we hoped instead for a quitclaim, a statement of absolution. Negotations to that effect were already under way when an unexpected intervention occurred. The inhabitants of H362 approached the committee of Earth's receivers and offered to reimburse them for their expenses — in return for an assignment of all rights and claims in Earth to H362.

It was done.

H362 now regarded itself the owner by treaty of our world. It served notice to the universe at

large that it reserved the right to take possession at any future date. As well it might, since at that time H362 was still incapable of interstellar travel. Thereafter, though, H362 was deemed legal possessor of the assets of Earth, as purchaser in bankruptcy.

No one failed to realize that this was H362's way of fulfilling its threat to turn Earth itself into a gigantic compound, as revenge for the injury inflicted by our collecting team long before.

On Earth, Third Cycle society constituted itself along the lines it now holds, with its rigid stratification of guilds. The threat of H362 was taken seriously, for ours was a chastened world that sneered at no menace, however slight; and a guild of Watchers was devised to scan the skies for attackers. Defenders and all the rest followed. In some small way we demonstrated our old flair for imagination, particularly in the Years of Magic, when a fanciful impulse created the self-perpetuating mutant guild of Fliers, a parallel guild of Swimmers of whom little is heard nowadays, and several other varieties, including a troublesome and unpredictable guild of Changelings whose genetic characteristics were highly erratic.

The Watchers Watched. The Dominators ruled. The Fliers soared. Life went on, year after year, in Eyrop and in Ais, in Stralya, in Afreek, in the scattered islands that were the only remnants of the Lost Continents of Usa-amrik and Sud-amrik. The vow of H362 receded into mythology, but yet we remained vigilant. And far across the cosmos our enemies gathered strength, attaining some measure of the power that had been ours in our Second Cycle. They never forgot the day when their kinsmen had been held captive in our compounds, though all the compounds had been destroyed in the chaos at the end of the Second Cycle.

In a night of terror they came to us. Now they are our masters, and their vow is fulfilled, their claim asserted.

All this, and much more, I learned as I burrowed in the accumulated knowledge of the guild of Rememberers.

VIII

Meanwhile the former Prince of Roum was wantonly abusing the hospitality of our co-sponsorer, the Rememberer Elegro. I should have been aware of what was going on, for I knew the Prince and his ways better than any man in Perris. But I was too busy in the archives,

learning of the past. While I explored the details of the Second Cycle's protoplasm files and regeneration nodules, its timewind blowers and its photonic-flux fixers, Prince Enric was seducing the Rememberer Olmayne.

Like most seductions, I imagine that this was no great contest of wills. Olmayne was a woman of sensuality, whose attitude toward her husband was affectionate but patronizing. She regarded Elegro openly as ineffectual, a bumbler; and Elegro, whose haughtiness and stern mien did not conceal his underlying weakness of purpose, seemed to merit her disdain. What kind of marriage they had was not my business to observe, but clearly she was stronger, and just as clearly he could not meet her needs.

Then, too, why had Olmayne agreed to sponsor us into her guild?

Surely not out of any desire for a tattered old Watcher. It must have been the wish to know more of the strange and oddly commanding blind Pilgrim who was that Watcher's companion. From the very first, then Olmayne must have been drawn to Prince Enric: and he, naturally, would need little encouragement to accept the gift she offered.

Possibly they were lovers almost from the moment of our arrival in the Hall of Rememberers.

I went my way, and Elegro went his, and Olmayne and Prince Enric went theirs, and summer gave way to autumn and autumn to winter. I excavated the records with passionate impatience. Never before had I known such involvement, such intensity of curiosity. Without benefit of a visit to Jorslem I felt renewed. I saw the Prince infrequently, and our meetings were generally silent; it was not my place to question him about his doings, and he felt no wish to volunteer information to me.

Occasionally I thought of my former life, and of my travels from place to place, and of the Flier Avluela who was now, I supposed, the consort of one of our conquerors. How did the false Changeling Gormon style himself, now that he had emerged from his disguise and owned himself to be one of those from H362? Earthking Nine? Oceanlord Five? Overman Three? Wherever he was, he must feel satisfaction, I thought, at the total success of the conquest of Earth.

Toward winter's end I learned of the affair between the Rememberer Olmayne and Prince Enric of Roum. I picked up whispered gossip in the apprentice

quarters first; then I noticed the smiles on the faces of other Rememberers when Elegro and Olmayne were about; lastly, I observed the behavior of the Prince and Olmayne toward one another. It was obvious. Those little glances, those touchings of hand to hand, those sly exchanges of catchwords and private phrases — what else could they mean?

Among the Rememberers the marriage vow is regarded solemnly. As with the Fliers, mating is for life, and one is not supposed to betray one's partner as Olmayne was doing. When one is married to a fellow Rememberer — a custom in the guild, but not universal — the union is all the more sacred.

What revenge would Elegro take when in time he learned the truth?

It happened that I was present when the situation at last crystallized into conflict, and so I had a view of how the Rememberer Elegro is constructed. It was a night in earliest spring. I had worked long and hard in the deepest pits of the memory tanks, prying forth data that no one had bothered with since it had first been stored; and, with my head aswim with images of chaos, I walked through the glow of the Perris night, seeking fresh air. I strolled along the Senn and was accosted by an agent for a Somnambulist, who offered to sell me insight into the world of dreams. I came upon a lone Pilgrim at his devotions before a temple of flesh. I watched a pair of young Fliers in passage overhead, and shed a self-pitying tear or two. I was halted by a starborn tourist in breathing mask and jewelled tunic, who put his cratered red face close to mine and vented hallucinations in my nostrils. At length I turned to the Hall of Rememberers and went to the suite of my sponsors to pay my respects before retiring.

Olmayne and Elegro were there. So, too, was Prince Enric. Olmayne admitted me with a quick gesture of one fingertip, but took no further notice of me, nor did the others. Elegro was tensely pacing the floor, stomping about so vehemently that the delicate life-forms of the carpet folded and unfolded their petals in wild agitation. "A Pilgrim!" Elegro cried. "If it had been some trash of a Vendor, it would only be humiliating. But a Pilgrim? That makes it monstrous!"

Prince Enric stood with arms folded, body motionless. It was impossible to detect the expression beneath his mask of Pilgrimage, but he appeared wholly calm.

Elegro said, "Will you deny that you have been tampering with the sanctity of my pairing?"

"I deny nothing. I assert nothing."

"And you?" Elegro demanded, whirling on his lady. "Speak truth, Olmayne! For once, speak truth! What of the stories do they tell of you and this Pilgrim?"

"I have heard no stories," said Olmayne sweetly.

"That he shares your bed! That you taste potions together! That you travel to ecstasy together!"

Olmayne's smile did not waver. Her broad face was tranquil. To me she looked more beautiful than ever.

Elegro tugged in anguish at the strands of his shawl. His dour, bearded face darkened in wrath and exasperation. His hand slipped within his tunic and emerged with the tiny glossy bead of a vision capsule, which he thrust forth toward the guilty pair on the palm of his hand.

"Why should I waste breath?" he asked. "Everything is here. The full record in the photonic flux. You have been under surveillance. Did either of you think anything could be hidden here, of all places? You, Olmayne, a Rememberer, how could you think so?"

Olmayne examined the capsule from a distance, as though it were a primed implosion bomb. With distaste she said, "How like you to spy on us, Elegro. Did it give you great pleasure to watch us in our joy?"

"Beast!" he cried.

Pocketing the capsule, he advanced toward the motionless Prince. Elegro's face now was contorted with righteous wrath. Standing an arm's length from the Prince he declared icily, "You will be punished to the fullest for this impiety. You will be stripped of your Pilgrim's robes and delivered up to the fate reserved for monsters. The Will shall consume your soul!"

Prince Enric replied, "Curb your tongue."

"Curb my tongue? Who are you to speak that way? A Pilgrim who lusts for the wife of his host — who doubly violates holiness — who drips lies and sanctimony at the same moment?" Elegro frothed. His iciness was gone. Now he ranted in nearly incoherent frenzy, displaying his interior weakness by his lack of self control. We three stood frozen, astounded by his torrent of words, and at last the stasis broke when the Rememberer, carried away by the tide of his own indignation, seized the Prince by the shoulders and began violently to shake him.

"Filth," Enric bellowed, "you

may not put your hands to me!"

With a double thrust of his fists against Elegro's chest he sent the Rememberer reeling backward across the room. Elegro crashed into a suspension cradle and sent a flask of watery artifacts tumbling; three flasks of scintillating fluids shivered and spilled their contents; the carpet set up a shrill cry of pained protest. Gasping, stunned, Elegro pressed a hand to his breast and looked to us for assistance.

"Physical assault — " Elegro wheezed. "A shameful crime!"

"The first assault was your doing," Olmayne reminded her husband.

Pointing trembling fingers, Elegro muttered, "For this there can be no forgiveness, Pilgrim!"

"Call me Pilgrim no longer," Enric cried. His hands went to the grillwork of his mask. Olmayne cried out, trying to prevent him; but in his anger the Prince knew no check. He hurled the mask to the floor and stood with his harsh face terribly exposed, the cruel features hawklean, the gray mechanical spheres in his eyesockets masking the depths of his fury. "I am the Prince of Roum," he announced in a voice of thunder. "Down and abase! Down and abase! Quick, Rememberer, the three prostrations and the five abasements!"

Elegro appeared to crumble. He peered in disbelief; then he sagged, and in a kind of reflex of amazement he performed a ritual obeisance before his wife's seducer. It was the first time since the fall of Roum that the Prince had asserted his former status, and the pleasure of it was so evident on his ravaged face that even the bland eyeballs appeared to glow in regal pride.

"Out," the Prince ordered. "Leave us."

Elegro fled.

I remained, astounded, staggered. The Prince nodded courteously to me. "Would you pardon us, old friend, and grant us some moments of privacy?"

IX

A weak man can be put to route by a surprise attack, but afterward he pauses, reconsiders, and hatches schemes. So was it with the Rememberer Elegro. Driven from his own suite by the unmasking of the Prince of Roum, he grew calm and crafty once he was out of that terrifying presence. Later that same night as I settled into my sleeping cradle and debated aiding slumber with a drug, Elegro summoned me to his research cell on a lower level.

There he sat amid the paraphernalia of his guild: reels and spools, data flakes, capsules, caps, a quartet of series-linked skulls, a row of output screens, a small ornamental helix, all the symbology of the gatherers of information. In his hands he grasped a tension-draining crystal from one of the Cloud worlds; its milky interior was rapidly tinging with sepia as it pulled anxieties from his spirit. He pretended a look of stern authority, as if forgetting that I had seen him exposed in his spinelessness.

He said, "Were you aware of this man's identity when you came with him to Perris?"

"Yes."

"You said nothing about it."

"I was never asked."

"Do you know what a risk you have exposed all of us to, by causing us knowingly to harbor a Dominator?"

"We are Earthmen," I said. "Do we not still acknowledge the authority of the Dominators?""

"Not since the conquest. By decree of the invaders, all former governments are dissolved and their leaders subject to arrest."

"But surely we should resist such an order!"

The Rememberer Elegro regarded me quizzically. "Is it a Rememberer's function to meddle in politics? Tomis, we obey the government in power, whichever it may be and however it may have taken control we conduct no resistance activities here."

"I see."

"Therefore we must rid ourselves at once of this dangerous fugitive. Tomis, I instruct you to go at once to occupation headquarters and inform Manrule Seven that we have captured the Prince of Roum and hold him here for pickup."

"*I* should go?" I blurted. "Why send an old man as a messenger in the night? An ordinary thinking-cap transmission would be enough!"

"Too risky. Strangers may intercept cap communications. It would not go well for our guild if this were spread about. This has to be a personal communication."

"But to choose an unimportant apprentice to carry it — it seems strange."

"There are only two of us who know," said Elegro. "I will not go. Therefore you must."

"With no introduction to Manrule Seven I will never be admitted."

"Inform his aides that you have information leading to the apprehension of the Prince of Roum. You'll be heard."

"Am I to mention your name?"

"If necessary. You may say that the Prince is being held prisoner in my quarters with the cooperation of my wife."

I nearly laughed at that. But I held a straight face before this cowardly Rememberer, who did not even dare to go himself to denounce the man who had cuckolded him.

Ultimately," I said, "the Prince will become aware of what we have done. Is it right of you to ask me to betray a man who was my companion for so many months?"

"It is not a matter of betrayal. It is a matter of obligations to the government."

"I feel no obligation to this government. My loyalties are to the guild of Dominators. Which is why I give assistance to the Prince of Roum in his moment of peril."

"For that," said Elegro, "your own life could be forfeit to our conquerors. Your only expiation is to admit your error and cooperate in bringing about his arrest. Go Now."

In a long and tolerant life I have never despised anyone so vehemently as I did the Rememberer Elegro at that moment.

Yet I saw that I was faced with few choices, none of them palatable. Elegro wished his undoer punished, but lacked the courage to report him himself; therefore I must give over to the conquering authorities one whom I had sheltered and assisted, and for whom I felt a responsibility. If I refused, Elegro would perhaps hand me to the invaders for punishment myself, as an accessory to the Prince's escape from Roum; or he might take vengeance against me within the machinery of the guild of Rememberers. If I obliged Elegro, though, I would have a stain on my conscience forever, and in the event of a restoration of the power of the Dominators I would have much to answer for.

As I weighed the possibilities, I triply cursed the Rememberer Elegro's wife and her invertebrate husband.

I hesitated a bit. Elegro offered more persuasion, threatening to arraign me before the guild on such charges as unlawfully gaining access to secret files and improperly introducing into guild precincts a proscribed fugitive. He threatened to cut me off forever from the information pool. He spoke vaguely of vengeances.

In the end I told him I would go to the invaders' headquarters and do his bidding. I had by then conceived a betrayal that would — I hoped — cancel the betrayal Elegro was enforcing on me.

Dawn was near when I left the building. The air was mild and

sweet; a low mist hung over the streets of Perris, giving them a gentle shimmer. No moons were in sight. In the deserted streets I felt uneasy, although I told myself that no one would care to do harm to an aged Rememberer; but I was armed only with a small blade, and I feared bandits.

My route lay on one of the pedestrian ramps. I panted a bit at the steep incline, but when I had attained the proper level I was more secure, since here there were patrol nodes at frequent intervals, and here, too, were some other late-night strollers. I passed a spectral figure garbed in white satin through which alien features peered: a revenant, ghostly inhabitant of a planet of the Bull, where reincarnation is the custom and no man goes about installed in his own original body. I passed three female beings of a Swan planet who giggled at me and asked if I had seen males of their species, since the time of conjugation was upon them. I passed a pair of Changelings who eyed me speculatively, decided I had nothing on me worth robbing, and moved on, their piebald dewlaps jiggling.

At last I came to the squat octagonal building occupied by the Procurator of Perris .

It was indifferently guarded. The invaders appeared confident that we were incapable of mounting a counterassault against them, and quite likely they were right; a planet which can be conquered between darkness and dawn is not going to launch a plausible resistance afterward. Around the building rose the pale glow of a protective scanner. There was a tingle of ozone in the air. In the wide plaza across the way, Merchants were setting up their market for the morning; I saw barrels of spices being unloaded by brawny Servitors, and dark sausages carried by files of neuters. I stepped through the scanner beam and an invader emerged to challenge me.

I explained that I carried urgent news for Manrule Seven, and in short order with amazingly little consultation of intermediaries, I was ushered into the Procurator's presence.

The invader had furnished his office simply but in good style. It was decked entirely with Earthmade objects: a drapery of Afreek weave, two alabaster pots from ancient Agupt, a marble statuette that might have been early Roumish, and a dark Talyan vase in which a few wilting deathflowers languished. When I entered, he seemed preoccupied with several message

cubes; as I had heard, the invaders did most of their work in the dark hours, and it did not surprise me to find him so busy now. After a moment he looked up and said, "What is it, old man? What's this about a fugitive Dominator?"

"The Prince of Roum," I said. "I know of his location."

At once his cold eyes sparkled with interest.. He ran his many-fingered hands across his desk, on which were mounted the emblems of several of our guilds, Transporters and Rememberers and Defenders and Clowns, among others. "Go on," he said.

"The Prince is in this city. He is in a specific place and has no way of escaping from it."

"And you are here to inform me of his location?"

"No," I said. "I'm here to buy his liberty."

Manrule Seven seemed perplexed. "There are times when you humans baffle me. You say you've captured this runaway Dominator, and I assume that you want to sell him to us, but you say you want to *buy* him. Why bother coming to us? Is this a joke?"

"Will you permit an explanation?"

He brooded into the mirror top of his desk while I told him in a compressed way of my journey from Roum with the blinded Prince, of our arrival at the Hall of Rememberers, of Prince Enric's seduction of Olmayne, and of Elegro's petty fuming desire for vengeance. I made it clear that I had come to the invaders only under duress and that it was not my intention to betray the Prince into their hands. Then I said, "I realize that all Dominators are forfeit to you. Yet this one has already paid a high price for his freedom. I ask you to notify the Rememberers that the Prince of Roum is under amnesty, and to permit him to continue on as a Pilgrim to Jorslem. In that way Elegro will lose power over him."

"What is it that you offer us," asked Manrule Seven, "in return for this amnesty for your Prince?"

"I have done research in the memory tanks of the Rememberers."

"And?"

"I have found that for which you have been seeking."

Manrule Seven studied me with care. "How would you have any idea of what we seek?"

"There is in the deepest part of the Hall of Rememberers," I said quietly, "an image recording of the compound in which your kidnapped ancestors lived while they were prisoners on Earth. It shows their sufferings

in poignant detail. It is a superb justification for the conquest of Earth by H362."

"Impossible! There's no such document!"

From the intensity of the invader's reaction, I knew that I had stung him in the vulnerable place.

He went on, "We've searched your files thoroughly. There's only one recording of compound life, and it doesn't show our people. It shows a non-humanoid pyramid-shaped race, probably from one of the Anchor worlds."

"I have seen that one," I told him. "There are others. I spent many hours searching for them, out of hunger to know of our past injustices."

"The indexes — "

" — are sometimes incomplete. I found this recording only by accident. The Rememberers themselves have no idea it's there. I'll lead you to it — if you agree to leave the Prince of Roum unmolested."

The Procurator was silent a moment. At length he said, "You puzzle me. I am unable to make out if you are a scoundrel or a man of the highest virtue."

"I know where true loyalty lies."

"To betray the secrets of your guild, though — "

"I am no Rememberer, only an apprentice, formerly a Watcher. I would not have you harm the Prince at the wish of a cuckolded fool. The Prince is in his hands; only you can obtain his release now. And so I must offer you this document."

"Which the Remembers have carefully deleted from their indexes, so it will not fall into our hands."

"Which the Remembers have carefully misplaced and forgotten."

"I doubt it," said Manrule Seven. "They are not careless folk. They hid that recording; and by giving it to us, are you not betraying all your world? Making yourself a collaborator with the hated enemy?"

I shrugged. "I am interested in having the Prince of Roum made free. Other means and ends are of no concern to me. The location of the document is yours in exchange for the grant of amnesty."

The invader displayed what might have been his equivalent of a smile. "It is not in our best interests to allow members of the former guild of Dominators to remain at large. Your position is precarious, do you see? I could extract the document's location from you by force — and still have the Prince as well.

"So you could," I agreed. "I

take that risk. I assume a certain basic honor among people who come to avenge an ancient crime. I am in your power, and the whereabouts of the document is in my mind, yours for the picking."

Now he laughed in an unmistakable show of good humor.

"Wait one moment," he said. He spoke a few words in his own language into an amber communication device, and shortly a second member of his species entered the office. I recognized him instantly, although he was shorn of some of the flamboyant disguise he had worn when he traveled with me as Gormon, the supposed Changeling. He offered the ambivalent smile of his kind and said, "I greet you, Watcher."

"And I greet you, Gormon."

"My name now is Victorious Thirteen."

"I now am called Tomis of the Rememberers," I said.

Manrule Seven remarked, "When did you two become such fast friends?"

"In the time of the conquest," said Victorious Thirteen. "While performing my duties as an advance scout I encountered this man in Talya and journeyed with him to Roum. But we were companions, in truth, and not friends."

I trembled. "Where is the Flier Avluela?"

"In Pars, I believe," he said offhandedly. "She spoke of returning to Hind, to the place of her people."

"You loved her only a short while, then?"

"We were more companions than lovers," said the invader. "It was a passing thing for us."

"For you, maybe," I said.

"For us."

"And for this passing thing you stole a man's eyes?"

He who had been Gormon shrugged. "I did that to teach a proud creature a lesson in pride."

"You said at the time that your motive was jealousy," I reminded him. "You claimed to act out of love."

Victorious Thirteen appeared to lose interest in me. To Manrule Seven he said, "Why is this man here? Why have you summoned me?"

"The Prince of Roum is in Perris," said Manrule Seven.

Victorious Thirteen registered sudden surprise.

Manrule Seven went on, "He is a prisoner of the Rememberers. This man offers a strange bargain. You know the Prince better than any of us; I ask your advice."

The Procurator sketched the outlines of the situation. He who had been Gormon listened thoughtfully, saying nothing. At

the end, Manrule Seven said, "The problem is this: shall we give amnesty to a proscribed Dominator?"

"He is blind," said Victorious Thirteen. "His power is gone. His followers are scattered. His spirit may be broken, but he presents no danger to us. I say accept the bargain."

"There are administrative risks in exempting a Dominator from arrest," Manrule Seven pointed out. "Nevertheless, I agree. We undertake the deal." To me, he said, "Tell us the location of the document we desire."

"Arrange the liberation of the Prince of Roum first," I said calmly.

Both invaders displayed amusement. "Fair enough," said Manrule Seven. "But look: how can we be certain that you'll keep your word? Anything might happen to you in the next hour while we're freeing the Prince."

"A suggestion," put in Victorious Thirteen. "This is not so much a matter of mutual mistrust as it is one of timing. Tomis, why not record the document's location on a six-hour delay cube? We'll prime the cube so that it will release its information only if within that six hours the Prince of Roum himself, and no one else, commands it to do so. If we haven't found and freed the Prince in that time, the cube will destruct. If we do release the Prince, the cube will give us the information, even if — ah — something should have happened to you in the interval."

"You cover all contingencies," I said.

"We are agreed," I said.

"Are we agreed?" Manrule Seven asked.

They brought me a cube and placed me under a privacy screen while I inscribed on its glossy surface the rack number and sequence equations of the document I had discovered. Moments passed; the cube everted itself and the information vanished into its opaque depths. I offered it to them.

Thus did I betray my Earth-born heritage and perform a service for our conquerors, out of loyalty to a blinded wifestealing Prince.

X

Dawn had come by this time. I did not accompany the invaders to the Hall of Remembrers; it was no business of mine to oversee the intricate events that must ensue, and I preferred to be elsewhere. A fine drizzle was falling as I turned down the gray streets that bordered Senn. The timeless river, its surface stippled by the drops,

swept unwearyingly against stone arches of First Cycle antiquity, bridges spanning uncountable millennia, survivors from an era when the only problems of mankind were of his own making. Morning engulfed the city. Through an old and ineradicable reflex I searched for my instruments so that I could do my Watching and had to remind myself that that was far behind me now. The Watchers were disbanded; the enemy had come, and old Wuellig, now Tomis of the Rememberers had sold himself to Mankind's foes.

In the shadow of a twin-steepled religious house of the ancient Christers I let myself be enticed into the booth of a Somnambulist. This guild is not one with which I have often had dealings; in my way I am wary of charlatans, and charlatans are abundant in our time. The Somnambulist, in a state of trance, claims to see what has been, what is, and what will be. I know something of trances myself, for as a Watcher I entered such a state four times each day; but a Watcher with pride in his craft must necessarily despise the tawdry ethics of those who use second sight for gain, as Somnambulists do.

However, while among the Rememberers I had learned, to my surprise, that Somnambulists frequently were consulted to aid in unearthing some site of ancient times, and that they had served the Rememberers well. Though still skeptical, I was willing to be instructed. And, at the moment, I needed a shelter from the storm that was breaking over the Hall of Rememberers.

A dainty, mincing figure garbed in black greeted me with a mocking bow as I entered the low-roofed booth.

"I am Samit of the Somnambulists," he said in a high whining voice. ""I offer you welcome and good tidings. Behold my companion, the Somnambulist Murta."

The Somnambulist Murta was a robust woman in lacy robes. Her face was heavy with flesh, deep rings of darkness surrounded her eyes, a trace of mustache lined her upper lip. Somnambulists work their trade in teams, one to do the huckstering, one to perform; most teams were man and wife, as was this. My mind rebelled at the thought of the embrace of the flesh-mountain Murta and the miniature man Samit, but it was no concern of mine. I took my seat as Samit indicated. On a table nearby I saw some food tablets of several colors; I had interrupted this family's breakfast. Murta, deep in trance, wandered the room

with ponderous strides, now and again grazing some article of furniture in a gentle way. Some Somnambulists, it is said, waken only two or three hours of the twenty, simply to take meals and relieve bodily needs; there are some who ostensibly live in continuous trance and are fed and cared for by acolytes.

I scarcely listened as Samit of the Somnambulists delivered his sales talk in rapid, feverish bursts of ritualistic word-clusters. It was pitched to the ignorant; Somnambulists do much of their trade with Servitors and Clowns and other menials. At length, seemingly sensing my impatience, he cut short his extolling of the Somnambulist Murta's abilities and asked me what it was I wished to know.

"Surely the Somnambuliist already is aware of that," I said. "You wish a general analysis?"

"I want to know the fate of those about me. I wish particularly for the Somnambulist's concentration to center on events now occurring in the Hall of Rememberers."

Samit tapped long fingernails against the smooth table and shot a glaring look at the cowlike Murta. "Are you in contact with the truth?" he asked her.

Her reply was a long feathery sigh wrenched from the core of all the quivering meat of her

"What do you see?" he asked her.

She began to mutter thickly. Somnambulists speak in a language not otherwise used by mankind; it is a harsh thing of edgy sounds, which some claim is descended from an ancient tongue of Agupt. I know nothing of that. To me it sounded incoherent, fragmentary, impossible to hold meaning. Samit listened a while, then nodded in satisfaction and extended his palm to me.

"There is a great deal," he said.

We discussed the fee, bargained briefly, came to a settlement. "Go on," I told him. "Interpret the truth."

Cautiously he began, "There are outworlders involved in this, and also several members of the guild of Rememberers." I was silent, giving him no encouragement. "They are drawn together in a difficult quarrel. A man without eyes is at the heart of it."

I sat upright with a jolt.

Samit smiled in cool triumph. "The man without eyes has fallen from greatness. He is Earth, shall we say, broken by conqueror? Now he is near the end of his time. He seeks to restore his former condition, but he knows it is impossible. He has caused a Rememberer to violate

an oath. To their guildhall have come several of the conquerors to — chastise him? No. No. To free him from captivity. Shall I continue?"

"Quickly!"

"You have received all that you paid for."

I scowled. This was extortion; but yet the Somnambulist had clearly seen the truth. I had learned nothing here that I did not already know, but that was sufficient to tell me I might learn more. I added to my fee.

Samit closed his fist on my coin and conferred once more with Murta. She spoke at length, in some agitation, whirling several times colliding violently with a musty divan.

Samit said, "The man without eyes has come between a man and his wife. The outraged husband seeks punishment; the outworlders will thwart that. The outworlders seek hidden truths; they will find them, with a traitor's help. The man without eyes seeks freedom and power; he will find peace. The stained wife seeks amusement; she will find hardship."

"And I?" I said into an obstinate and expensive silence. "You say nothing of me!"

"You will leave Perris soon, in the same manner as you entered it. You will not leave alone. You will not leave in your present guild."

"What will be my destination?"

"You know that as well as we do, so why waste your money to tell you?"

He fell silent again.

"Tell me what will befall me as I journey to Jorslem," I said.

"You could not afford such information. Futures become costly. I advise you to settle for what you know."

"I have some questions about what has already been said."

"We do not clarify at any price."

He grinned. I felt the force of his contempt. The Somnambulist Murta, still bumbling about the room, groaned and belched. The powers with whom she was in contact appeared to impart new information to her; she whimpered, shivered, made a blurred chuckling sound. Samit spoke to her in their language. She replied at length. He peered at me. "At no cost," he said, "a final information. Your life is in no danger, but your spirit is. It would be well if you made your peace with the Will as quickly possible. Recover your moral orientation. Remember your true loyalties. Atone for well intentioned sins. I can say no more."

Indeed, Murta stirred and seemed to wake. Great slabs of

flesh jiggled in her face and body as the convulsion of leaving the trance came over her. Her eyes opened, but I saw only whites, a terrible sight. Her thick lips twitched to reveal crumbling teeth. Samit beckoned me out with quick brushing gestures of his tiny hands. I fled into a dark rain-drenched morning.

Hurriedly I returned to the Hall of Rememberers, arriving there out of breath, with a red spike of pain behind my breastbone. I paused a while outside the superb building to recover my strength. Floaters passed overhead, leaving the guildhall from an upper level. My courage nearly failed me. But in the end I entered the hall and ascended to the level of the suite of Elegro and Olmayne.

A knot of agitated Rememberers filled the hall. A buzz of whispered comment drifted toward me. I pressed forward; and a man whom I recognized as high in the councils of the guild held up a hand and said, "What business do you have here, apprentice?"

"I am Tomis, who was sponsored by the Rememberer Olmayne. My chamber is close.

"Tomis!" a voice cried.

I was seized and thrust ahead, into the familiar suite, now a scene of devastation.

A dozen Rememberers stood about, fingering their shawls in distress. I recognized among them the taut and elegant figure of Chancellor Kenishal, his gray eyes now dull with despair. Beneath a coverlet to the left of the entrance lay a crumpled figure in the robes of a Pilgrim: the Prince of Roum, dead in his own pooled blood. His gleaming mask, now stained, lay beside him. At the opposite side of the room, slumped against an ornate credenza containing Second Cycle artifacts of great beauty, was the Rememberer Elegro, seemingly asleep, looking furious and surprised both at once. His throat was transfixed by a single slender dart. To the rear, with burly Rememberers flanking her, stood the Rememberer Olmayne, looking wild and disheveled. Her scarlet robe was torn in front, revealing high white breasts; her black hair tumbled in disorder; her satiny skin glistened with perspiration. She appeared lost in a dream, far from these present surroundings.

"What has happened here?" I asked.

"Murder twice over," said Chancellor Kenishal in a broken voice. He advanced toward me, a tall haggard man, white-haired, an uncontrollable tic working in the lid of one eye." When did

you last see these people alive, apprentice?"

"In the night."

"How did you come to be here?"

"A visit, no more."

"Was there a disturbance?"

"A quarrel between the Rememberer Elegro and the Pilgrim, yes," I admitted.

"Over what?" asked the Chancellor thinly.

I looked uneasily at Olmayne, but she saw nothing and heard less.

"Over her," I said.

I heard snickerings from the other Rememberers They nudged each other, nodded, even smiled; I had confirmed the scandal. The Chancellor grew more solemn.

He indicated the body of the Prince.

"This was your companion when you entered Perris," he said. "Did you know of his true identity?"

I moistened my lips. "I had suspicions."

"That he was — "

"The fugitive Prince of Roum," I said. I must not attempt subterfuges; my status was precarious.

More nods, more nudges. Chancellor Kenishal said, "This man was subject to arrest. It was not your place to conceal your knowledge of his true identity."

I remained mute.

The Chancellor went on, "You have been absent from this Hall for some hours. Tell us of your activities after leaving the suite of Elegro and Olmayne."

"I called upon the Procurator Manrule Seven," I said.

Sensation.

"For what purpose?"

"To inform the Procurator," I said, "that the Prince of Roum had been apprehended and was now in the suite of a Rememberer. I did this at the instruction of the Rememberer Elegro. After delivering my information I walked the streets several hours for no particular end, and returned here to find — to find—"

"To find everything in chaos," said Chancellor Kenishal. "The Procurator was here at dawn. He visited this suite; both Elegro and the Prince must still have been alive at that time. Then he went into our archives and removed — and removed—material of the highest sensitivity — removed — material not believed accessible to — the highest sensitivity — " The Chancellor faltered. Like some intricate machine smitten with instant rust, he slowed his motions, emitted rasping sounds, appeared to be on the verge of systemic breakdown. Several high Rememberers rushed to his aid; one thrust

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a drug against his arm. In moments the Chancellor appeared to recover. "These murders occurred after the Procurator departed from the building," he said. "The Rememberer Olmayne has been unable to give us information concerning them. Perhaps you, apprentice, know something of value."

"I was not present. Two Somnambulists near the Senn will testify that I was with them at the time the crimes were committed."

Someone guffawed at my mention of Somnambulists. Let them; I was not seeking to retrieve dignity at a time like this. I knew that I was in peril.

The Chancellor said slowly, "You will go to your chamber, apprentice, and you will remain there to await full interrogation. Afterwards you will leave the building and be gone from Perris within twenty hours. By virtue of my authority I declare you expelled from the guild of Rememberers."

Forewarned as I had been by Samit, I was nevertheless stunned.

"*Expelled?* Why?"

"We can no longer trust you. Too many mysteries surround you. You bring us a Prince and conceal your suspicions; you are present at murderous quarrels; you visit a Procurator in the middle of the night. You may even have helped to bring about the calamitous loss suffered by our archive this morning. We have no desire for men of enigmas here. We sever our relationship with you." The Chancellor waved his hand in a grand sweep. "To your chamber now, to await interrogation, and then go!"

I rushed from the room. As the entrance pit closed behind me I looked back and saw the Chancellor, his face ashen, topple into the arms of his associates, while in the same instant the Rememberer Olmayne broke from her freeze and fell to the floor, screaming.

XI

Alone in my chamber, I spent a long while gathering together my possessions, though I owned little. The morning was well along before a Rememberer whom I did not know came to see me, bearing interrogation equipment. I eyed it uneasily thinking that all would be up with me if the Rememberers found proof that it was I who had betrayed the location of that compound record to the invaders. Already they suspected me of it; the Chancellor had hesitated to make the accusation only because it must have seemed odd to him that an apprentice such

as myself would have cared to make a private search of the guild archive.

Fortune rode with me. My interrogator was concerned only with the details of the slaying; and once he had determined that I knew nothing on that subject, he let me be, warning me to depart from the hall within the allotted time. I told him I would do so.

But first I needed rest. I had had none that night; and so I just drank a three-hour draught, and settled into soothing sleep. When I awakened a figure stood beside me: the Rememberer Olmayne.

She appeared to have aged greatly since the previous evening. She was dressed in a single chaste tunic of a somber color, and she wore neither ornament nor decoration. Her features were rigidly set. I mastered my surprise at finding her there, and sat up, mumbling an apology for my delay in acknowledging her presence.

"Be at ease," she said gently. "Have I broken your sleep?"

"I had my full hours."

"I have had none. But there will be time for sleep later. We owe each other explanations, Tomis."

"Yes." I rose uncertainly. "Are you well? I saw you earlier, and you seemed lost in trance."

"They have given me medicines," she replied.

"Tell me what you can tell me about last night."

Her eyelids slid momentarily closed. "You were there when Elegro challenged us and was cast out by the Prince. Some hours later, Elegro returned. With him were the Procurator of Perris and several other invaders. Elegro appeared to be in a mood of great jubilation. The Procurator produced a cube and commanded the Prince to put his hand to it. The Prince balked, but Manrule Seven persuaded him finally to cooperate. When he had touched the cube, the Procurator and Elegro departed, leaving the Prince and myself together again, neither of us comprehending what had happened. Guards were posted to prevent the Prince from leaving. Not long afterward the Procurator and Elegro returned. Now Elegro seemed subdued and even confused, while the Procurator was clearly exhilarated. In our room the Procurator announced that amnesty had been granted to the former Prince of Roum and that no man was to harm him. Thereupon all of the invaders departed."

"Proceed."

Olmayne spoke as though a Somnambulist. "Elegro did

not appear to comprehend what had occurred. He cried out that treason had been done; he screamed that he had been betrayed. An angry scene followed. Elegro was womanish in his fury; the Prince grew more haughty; each ordered the other to leave the suite. The quarrel became more violent that the carpet itself began to die. The petals drooped; the little mouths gaped. The climax came swiftly. Elegro seized a weapon and threatened to use it if the Prince did not leave at once. The Prince misjudged Elegro's temper, thought he was bluffing, and came forward as if to throw Elegro out. Elegro slew the Prince. An instant later I grasped a dart from our rack of artifacts and hurled it into Elegro's throat. The dart bore poison; he died at once. I summoned others, and I remember no more."

"A strange night," I said.

"Too strange. Tell me now, Tomis: why did the Procurator come, and why did he not take the Prince into custody?"

I said, "The Procurator came because I asked him to, under the orders of your late husband. The Procurator did not arrest the Prince because the Prince's liberty had been purchased."

"At what price?"

"The price of a man's shame," I said.

"You speak a riddle to me."

"The truth dishonors me. I beg you not to press me for it."

"The Chancellor spoke of a document that had been taken by the Procurator — "

"It has to do with that," I confessed, and Olmayne looked toward the floor and asked no further questions.

I said ultimately, "You have committed a murder, then. What will your punishment be?"

"The crime was committed in passion and fear," she replied. "There will be no penalty of the civil administration. But I am expelled from my guild for my adultery and my act of violence."

"I offer my regrets."

"And I am commanded to undertake the Pilgrimage to Jorslem to purify my soul. I must leave within the day, or my life is forfeit to the guild."

"I too am expelled," I told her. "And I too am bound at last for Jorslem, though of my own choosing."

"May we travel together?"

My hesitation betrayed me. I had journeyed here with a blind Prince; I cared very little to depart with a murderous and guildless woman. Perhaps the time had come to travel alone. Yet the Somnambulist had said I would have a companion.

Olmayne said smoothly, "You

luck enthusiasm. Perhaps I can create some in you." She opened her tunic. I saw mounted between the snowy hills of her breasts a gray pouch. She was tempting me not with her flesh but with an overpocket. "In this," she said, "Is all that the Prince of Roum carried in his thigh. He showed me those treasures; and I removed them from his body as he lay dead in my room. Also here are certain objects of my own. I am not without resources. We will travel comfortably. Well?"

"I find it hard to refuse."

"Be ready in two hours."

"I am ready now," I said.

"Wait, then."

She left me to myself. Nearly two hours later she returned, clad now in the mask and robes of a Pilgrim. Over her arm she held a second set of Pilgrim's gear, which she offered me. Yes,

I was guildless now, an unsafe way to travel. I would go, then, as a Pilgrim to Jorslem. I donned the familiar gear. We gathered our possession.

"I have notified the guild of Pilgrims," she declared as we left the Hall of Rememberers. "We are fully registered. How does the mask feel, Tomis?"

"Snug."

"As it should be."

"Our route out of Perris took us across the great plaza before the ancient holy building of the old creed. A crowd had gathered; I saw invaders at the center of the group. Beggars made the profitable orbit about it. They ignored us, for no one begs from a Pilgrim; but I collared one rascal with a gouged face and said, "What ceremony is taking place there?"

"Funeral of the Prince of Roum," he said. "By order of the Procurator. State funeral with all the trimmings. They're making a real festival out of it."

"Why hold such an event in Perris?" I asked. "How did the Prince die?"

"Look, ask somebody else. I got work to do."

He wriggled free and scrambled on to work the crowd.

"Shall we attend the funeral?" I asked Olmayne.

"Best not to."

"As you wish."

We moved toward the massive stone bridge that spanned the Senn. Behind us, a brilliant blue glow arose as the pyre of the dead Prince was kindled. That pyre lit the way for us as we made our slow way through the night, eastward to Jorslem.

—ROBERT SILVERBERG

Keep Moving

by MIRIAM ALLEN DeFORD

The best way to upset the applecart is to stop all the apple-polishing and let the stones gather some moss!

When in 2119 James Stokes instituted the first Live-in, nobody thought he was inaugurating a revolution. At most he was considered a minor nuisance, a subject for wisecracks on tridimens comedy shows. Because, how would he Stay Put when there was nowhere to stay put on?

In the Historical Museum of Midwestcity there is preserved one of the first tapes he broadcast, and it is consulted for playoff by students more frequently than any other in the files. At the time all it got him was ridicule and harrassment, but now it is recognized as a prophecy.

It began with a survey of Universal Moving, all the way back to the mid-20th century. Probably the first adumbration was the drive-in movies, or perhaps the restaurant drive-ins. Then came drive-in bank deposit, drive-in laundries and cleaners, then drive-in funerals (that was started by a mortician in Atlanta — now part of Southeastcity — who installed picture windows so that acquaintances of the deceased could drive by and pay their respects without stopping), then drive-in supermarkets and drugstores, then drive-in everything, from church to school to postoffice. Once everybody in the United States owned or had familiar part-own-

ership in a car, and once every car was equipped with a short-wave phone so that orders, messages, and inquiries could be phoned ahead to auto-receptors and the goods, acceptances, or answers be ready at the requested moment, there was no longer any need or place for stationary dwellings from which the inhabitants had to emerge to do business or carry on their social or civic life.

It was the one possible solution of the overcrowded and unsafe cities. Gradually people gave up their houses and apartments and moved permanently into their autos. The auto companies in response provided equipment that made every car a compact dwelling outfitted with every possible labor-saving device. Children learned to drive as early as once they had learned to walk. People who were tired of driving could turn off on the nearest spacious Rest Stop to recuperate; otherwise every car had to Keep Moving — which became the first commandment of the American Decalogue.

With all except public, commercial, and industrial buildings torn down, and freeways, throughways, and crossways covering all the space they had once occupied, major social changes naturally followed. For one thing, all the permanent buildings left were fully automated and operated by remote control. For another, the former urban units ceased to exist, and the country was divided into geographical sections called—by courtesy—cities, from Northeastcity to Southwestcity, and from Southeastcity to Northwestcity. It became obvious then that a man could no longer be affiliated with any political collective such as state or county. He voted by short wave and all elections were national. All goods, services, and communication systems were identical all over the country, so it did not matter where anyone was at any given time.

There were always odd-balls, of course, long before James Stokes, who could not accommodate themselves comfortably to this completely sensible way of living. They had an out. They could drive to the nearest Parking Area (each as large as a big town used to be), with its adjacent Air Terminal, and take a flying holiday for as long as they could afford one. Usually that would be to the moon or to one of the satellites, for there was no point in flying to another part of the earth when one could always drive to it at will and everybody had been everywhere many times. Once the oceans would have made that impossi-

ble, but by 2075 underwater engineering had connected the whole world by air-conditioned sub-oceanic tunnels through which any car could drive.

For those still more atavistically inclined, there were the primitive Wilderness Areas, though no one received an entry passport to them who could not produce his certificate of graduation from a physio-training school and his proof of qualification as a pedestrian. Youth being what it is, nearly all adolescent boys and girls did qualify, and the Wilderness Areas were reputedly *the* place for Boy to meet Girl for temporary or permanent association. (It was a stale joke how many first-born children were named Sequoia or Appalachia or Bryce in loving memory.) Of course vacationers who outdid their strength or suffered accidents could be rescued quickly; there was always a nearby transmitter to summon a chopper-ambulance to take them to the district hospital.

Hospitals themselves were fully automated; physicians, surgeons, and supervising nurses, immediately alerted, kept in constant touch with the robotechs. Most doctors had never been inside a hospital, any more than they had been inside a medical college except for the final examinations after their years of study by means of the tridimens.

It was a beautifully organized economy, and 99.9% of its beneficiaries took it for granted as normal and functioned smoothly within it. And then along came James Stokes with his absurd and heretical and even treasonable insistence that, with the exception of Bedouins and Gypsies and Australian Blackfellows and Pygmies, mankind had given up the nomadic life back in the Neolithic Age, and that he for one wanted not to Keep Moving but to Stay Put.

To which the logical answer was: sure, for thousands of years human beings had lived in permanently stationed houses. But they had also, for thousands of years before that, lived in caves. You can't buck progress.

Or can you? After his first broadcasts had brought him nothing but sarcastic or belligerent phone calls — plus a polite warning from Government that much more of this would cause him to be examined by psychiatrists and if necessary consigned to one of the few permanent residences still in existence — a Corrective Hospital — for an indefinite term after a thoroughly fair and legal court hearing, James Stokes blew a gasket. He announced that he, individually, would defy the Establishment.

On a named date in the near future, he proposed to stop his car at a specified place and stay there. As a citizen he was co-owner of all land currently beneath his wheels; and he intended to transform his car into a stationary dwelling. He would disregard all orders to submit himself to examination or trial; let them come and get him. He would fight to the last ditch any attempt to incarcerate him; it would constitute a test case which would be the beginning of a new deal for the social order.

It should be made clear that James Stokes was not a mere insignificant crank or eccentric. He was a distinguished lawyer, who had often functioned as judge, under the communicative judicial system. He had served in several high-up administrative and political posts. He had plenty of money. And he was a bachelor, with no close relatives, so that he was not subjecting anyone else to the hazards he knew he faced.

In his rather grandiloquent definite broadcast, he compared himself to Luther — "Here I stand; I cannot do otherwise" — and to Galileo, only instead of saying "But still it moves," he was saying, "I will not move." He concluded with a couplet from a forgotten author named Scott: "Come one, come all! This rock shall fly From its firm base as soon as I."

On September 28, 2119, James Stokes halted his car toward evening on a Rest Stop about a hundred miles from Midwestcity. So did several other drivers, but after a short pause for rest and use of the facilities they took off again. He did not. Instead, he took out of the car four large stones he had collected and hammered them firmly in place under his four wheels. Then he settled down for the night, sure that no one would bother him until morning; strictly speaking, it was taboo to remain at a Rest Stop more than an hour or two, but people who had no other driver to spell them off frequently slept over in one, and the authorities were lenient, since solitary drivers were so few.

It was the first Live-in. The Stay Put Revolution had begun.

He was awake early, and after a heartening breakfast he waited impatiently for the hostilities to begin. When nothing happened, he brought out a large placard he had prepared and propped it up against his right-hand front door. It read: "Permanent Residence of James Stokes."

It was mid-morning before any of the stream of cars passing by in both directions turned into the Rest Stop. The driver of

the first was a woman, a good-looking, red-haired young woman, and she was alone. She drew up to about ten feet from him. James Stokes, watching her, saw her attention attracted by his sign, and though he could not be sure, he thought he saw her smile. But she made no attempt to accost him; instead, she settled down with a tape-recorder into which she dictated, inaudibly to him. Undoubtedly that had been her reason for leaving the freeway.

Perhaps she was a reporter? Publicity was what he needed most. He watched and waited so as not to interrupt her, and the minute she stopped dictating, before she could take the wheel and leave, he jumped out of his car and ran over to her.

She looked at him interrogatively. Irrelevantly he noticed that her eyes were beautiful — a true violet, that rarest of eye-colors. There was no fear in her glance, and there was no reason why there should have been; the kind of danger that had existed in the bad old times whenever a woman alone faced a strange man of course had vanished with the cities. The constant streams of drivers-by, and the button in every car which would instantly summon a police chopper, made every driver safe.

"Excuse me," said Stokes politely. "But I noticed you were taping, and I wondered if by chance you were a tridimens or newstape reporter."

She smiled.

"Far from it," she said. "I'm a poet. I was working on a poem."

"Oh."

"But if you mean, did I notice your sign, and the rocks under your wheels, yes, I did. And yes, I'm curious. Tell me."

He told her, at considerable length. She was a good listener, though she smiled too often to suit him. He reminded himself that he must not become a fanatic, or only other fanatics would become his disciples.

"So what do you call your project?" she asked when he had finished.

"I call it a Live-in. I propose to stay here until they take me off forcibly, and then I shall carry the case all the way to the World Court if necessary."

"I see."

She sat pondering. Then she said: "If I *had* been a reporter, what would you have expected me to do?"

"I'd have hoped that you would broadcast or tape a story about the project, so as to get my campaign going."

Again she was silent for a few minutes, then she smiled again— a different and much more welcome kind of smile.

"I don't understand exactly what you have in mind, or why, but I like anyone who comes out against the deadly boredom this peripatetic life of ours has become. I don't have a thing I must do until next month, when I must be in Northeastcity for the publication of a book. I'm Mary Ellen Carrington. I don't suppose you've ever heard of me?" she added wistfully.

James Stokes never had — he didn't read poetry more modern than the early 21st century — but he was a gentleman. "Of course I have," he lied gallantly, hoping devoutly that she wouldn't expect him to go into particulars.

She probably saw through him, but she responded in kind. "And you?" she inquired.

"I'm James Stokes, as my sign says." She looked blank, so he added hastily, "Lawyer, judge, political administrator — quite respectable, I assure you."

"Why, certainly, James *Stokes*," she said brightly. "I should have realized. This is quite an honor." He decided she was a good fibber, too.

"Now, this is my idea," she went on. "Suppose I stop here also, and you make me a placard like yours. Not that I really expect to stay here permanently," she added hastily, "but the more of us there are, the faster the news will get around."

"Wonderful. I'll letter the sign at once. And I have some more rocks in the trunk to shore your car up."

Now there were two of them. And it worked like wildfire — perhaps the sight of a good-looking woman helped more than that of an also good-looking but indubitably middle-aged male. People drove past, gaped, drove on to where they could turn, came back, drove onto the Rest Stop, and asked questions. Most of them laughed and went away again; some of them got angry and argued and went away. But before dark there were three more in the colony — an elderly couple and a boy of about 20. By noon the next day there was no more room in the Rest Stop for other cars, and what Stokes knew must happen arrived soon after — some of the scoffers and arguers had reported their find, and the authorities landed.

The sound of the police helicopters caused a sudden exodus. Five of the colonists started their cars at once and got out in a hurry. But as the first chopper landed Stokes made a quick count and found that the Live-in still boasted 16 members besides Mary Ellen Carrington and himself.

"What's going on here?" growl-

ed the fuzzsarge in immemorial police phraseology. James Stokes, pioneer, founder, and spokesman, came forward and addressed him suavely.

"This is a Live-in. We are tired of being perpetually on the move, and we have decided to settle down and Stay Put."

"Not in my precinct you won't!" retorted the sergeant.

"Okay," Mary Ellen said suddenly. "Arrest us!"

At which nine of the 16 quietly escaped. James was too startled to notice them. Mary Ellen had all at once become an ally instead of an amused tolerator. Her violet eyes were flashing — the first time he'd even known that violets could flash.

"I *hate* being bullied," she muttered.

The fuzzsarge sounded his supersonic whistle and two more choppers came down. In the excitement — what about their cars, Stokes demanded, and the fuzzsarge said he'd post men to tow them in — the other seven recruits sneaked away. So now he and the red-haired poet were the only permanent Stay Putters, and he decided not to go meekly after all.

"Are we under arrest?" he asked mildly.

"You guessed right, brother."

"But for what? I'm a lawyer, I've been a judge, and I know the law backwards. What law have we violated?"

The sergeant looked a trifle taken aback. He hadn't expected to catch quite so large a fish.

"Well," he sputtered, "you're not supposed to park here overnight."

"That ruling's been abrogated by consistent neglect."

"But you say you're going to settle down for good."

"There's no law that forbids action that hasn't yet taken place — except proof of conspiracy to murder, and neither I nor this lady would dream of murdering you or anyone else. We're not obstructing traffic, our licenses are in order, and we haven't so far broken one solitary viable statute. How would the commissioner like it if we sued the department for false arrest?

The sergeant glanced angrily at his official inferiors, some of whom were concealing grins. They had gathered quite a large audience from the freeway by now, too. His face purpled.

"You know, Mr. Stokes," said Mary Ellen sweetly, "I was just reading a booktape about all those demonstrations for different causes, back 150 years ago. Do you know what they used to do when they were threatened with arrest? They would go limp and let the cops drag them to the — well, they had police cars then

instead of choppers, but it's the same idea. If somebody drags you over rough ground, it's a good basis for a charge of police brutality."

The fuzzsarge gave up.

"I'll be back!" he yelled. "I'll be back tomorrow, and I'll have a copy of the rules and regulations about parking in Rest Stops. And if you're still here—"

"Do that, sergeant," Stokes retorted. "You'll find they're very vague. And we'll be here. This is a Live-in."

Mary Ellen Carrington nodded firm assent.

"This is simply marvelous publicity," she chirruped. "Just what we needed. Do give us more."

Whatever happened between the sergeant and his superiors, he didn't come back the next day. Neither did any other officials. Apparently the idea was to bury the rebels in neglect.

But it was too late. The newstapes and the tridimens had the story, and they blew it up to full capacity. In 24 hours there was a massive block on the freeway. There was no room left at all in the Rest Stop.

Something had to give — and it wasn't going to be James Stokes and Mary Ellen Carrington.

Two days later they had a caller, of distinctly higher rank. He represented the national government — a Mr. McDiarmuid from the Department of Public Relations, which had long ago acquired Cabinet rank and ambassadorial status. The urbane Mr. McDiarmuid must have been at the very least a *charge d'affaires*.

"We have been considering your case, Judge Stokes," he began.

"I am not at present a judge," James said stiffly. But it helped that he still had some standing in the Establishment. He suspected that video wires had been busy in an emergency. The Stay Put movement must not be allowed to burgeon in an atmosphere of journalistic sensationalism. "Burgeon" was the proper word; Mr. McDiarmuid was here to nip it in the bud.

"We can appreciate the need of an honored public servant for rest and relief in his well earned retirement," he went on smoothly. "Believe me, many of us would wish to follow your example if duty did not chain us to our phones and screens.

"And I think we have hit on the ideal solution of your problem. How would you like a permanent parking place for your car in any of the Wilderness Areas you may select? As for this young lady — "

"I am not retired," roared James Stokes, "nor superannuated nor weary! I am on a crusade! And I do not intend to be relegated to a wilderness concentration camp where I can be displayed like an animal in a zoo. I am inaugurating a campaign for a new way of life. I want freedom for myself, and for anyone else who feels as I do, to settle down on one spot in the midst of my fellow-citizens.

"This seems to me an admirable location," he concluded in a meditative tone.

Mr. McDiarmuid repeated himself imperturably.

"As for this young lady — "

"I am Mary Ellen Carrington," she said icily. "Mary Ellen Carrington, the well known poet."

"Oh, of course," McDiarmuid murmured. It was obvious that he had never heard of her.

"And I agree entirely with Mr. Stokes. I don't want to be sequestered or segregated, either."

"But the Rest Stops," McDiarmuid objected, "are public property."

"And we are members of the public," said Stokes.

"But if you people fill up all the Rest Stops — "

"Ah! you prophesy we shall soon have that many followers? Thank you!"

"I said *if*. If you do, where will the — the normal people be able to stop and rest?"

"If there are enough of us, few Rest Stops will be needed any more. And by that time we'd be willing to give them up — for traffic would be reduced to the point where more and more of the present freeways could be cleared and used as dwelling sites. As in the better days of the past."

"The *better* days!" McDiarmuid sounded about ready to explode. "You mean the days of individual cities, of fuel-driven cars and air and water pollution and overcrowding and rampant crime in the filthy streets?"

"None of those things is necessary. Look, Mr. McDiarmuid, let's be sensible about this. I grant that the majority of Americans today like the peripatetic life — they've known nothing else but that all their lives and it seems normal to them. All I'm — " He glanced at Mary Ellen, and the admiration in those violet eyes sent a small squiggle down his spine. "All we are asking is that those of us — call us throwbacks or whatever you like — who *don't* enjoy Keeping Moving, who want to Stop and Stay Put; be allowed to do so and to find reasonable places for our permanent location. Is that too much to ask?"

McDiarmuid's face showed

plainly that he thought it was. But his training in diplomacy kept him from the retort he would have liked to make. So he merely bowed and said:

"You may be right; I shan't argue with you. But you will agree you will have to prove your point legally — you as a lawyer certainly know that. And that being so, I am empowered to tell you that you have 24 hours to leave this Rest Stop and be on your way; and if you take a similar stand anywhere else you will be given 24 hours to get out of there too. You and Miss Carrington don't intend to spend the rest of your lives going from Rest Stop to Rest Stop for a day and a night at a time, do you?"

"That would be most unconventional," remarked Mary Ellen demurely. James opened his mouth to add that Miss Carrington was due in Mideastcity in a month to see her book off the press and was his temporary associate only. He closed it again then reopened it in astonishment as he heard her say:

"But you needn't worry about that aspect of the matter, Mr. McDiarmuid. We are planning to dial the License Bureau and the Marriage Registry today. Anything the authorities want to do from now on they will have to do to the two of us together."

"Why — " James Stokes began and shut up at a warning glance from her. "Exactly," he mumbled in corroboration.

"I congratulate you," said Mr. McDiarmuid. "The eviction notice will be served on you at — " He looked at his finger-watch. "—3:15 p.m. tomorrow. It will bear both your maiden and your married names, Miss Carrington, to avoid any slip-up. My best wishes for your happiness."

He bowed again and dialed for the chopper which had been hovering above to await his departure.

Alone again, James gazed bemused at Mary Ellen. She laughed.

"Please don't be alarmed," she remarked lightly. "I'm not shanghaiing you. I could see that he was getting ready to invoke the Illegal Cohabitation Act of the 2104 code if he could not get us any other way, and I thought I'd stall him for 24 hours while we talked things over."

"But — " That was as far as he could get. He was overcome by a flood of conflicting emotions — surprise, sudden realization, diffidence, determination.

"I — I wish you had meant it. But of course you couldn't have."

"Why?" So women still blushed!

"Because — why, good Lord, you scarcely know me. You never saw me till a few days ago. For all you know, I might be married already."

"You're too modest. If you must know, last night I dialed the Biographical Reference Computer Center and I know your whole life history. Perhaps *I'm* inveigling *you* into a trap."

"And I'm old enough to be your — "

"Don't say it. You're certainly not. You're just 41 and I'm nearly 33. I never heard of an eight-year-old human father, did you?

"Incidentally, I'm not married, either — I've never had time, and I never met a man I felt I wanted to spend the rest of my life with. What with the new Neo-Puritanical Code — which I'd never thought of that way, but which is certainly an outgrowth of all this constant wandering life among strangers — it's altogether too hard to get out of an unsatisfactory marriage nowadays, so I've never wanted to tie myself up in one.

" . . . Until now." Her voice dropped, and she looked away.

"Me too!" choked James in a sudden burst of glory. He reached out his arms, and she melted into them. There was a tableau which a number of drivers-by enjoyed to the full, though none of them was loutish enough to stop. One tooted his horn, and that brought them to their senses. They separated, both a little dazed.

"Come on," said James, heading for his car — his house. "Let's dial that Bureau right away."

By the blessings of automation, James Stokes and Mary Ellen Carrington were electronically wedded before sundown. They moved their cars together to make a two-room house, and the wedding supper they ordered delivered from the nearest store was graced with champagne. The delivery boy stared at them curiously, but honeymooners often spent their wedding night in a Rest Stop. Apparently he did not connect them with the story of the Stay Putters which was headlining the human interests sections of all the newstapes and the tridimens.

Mr. McDiarmuid did not reappear the next afternoon. Neither did the original fuzzsarge. What arrived was a process server with a subpoena. The authorities had done their homework, and it was made out to summon James and Mary Ellen Stokes. They were to appear without fail by 6 p.m. that day at the branch court and police headquarters ten miles away. If they did not come on time, officers

would be dispatched to evict them and bring them in.

The thought of subjecting his bride to this humiliation — undoubtedly witnessed by hordes of curious and jeering drivers-by — for a moment weakened James' resolution. But Mary Ellen was made of more ferrous stuff.

"Take this back," she commanded the process server. "Neither of us will accept it. And tell them to come and get us if they dare."

As the baffled official departed, she smiled comfortingly into her new husband's worried face.

"It's all right, darling," she said soothingly. "I have an inspiration. We'll be ready for them."

"I'm afraid I don't see how. I'm a lawyer, and this time I have to admit they've got the law on their side."

He had been willing to undergo any martyrdom for the sake of principle, he reflected dourly, but that was when he was on his own. How could he stand the thought of Mary Ellen in a cell in a Corrective Hospital?

"You're a lawyer," she said, "but I'm a poet. And it wasn't just vanity that made me tell that man I was a well known one. I am. I have readers and admirers in some very high places — why else do you think they wanted me in Mideastcity for a big party to celebrate the publication of my latest book? Just because you've never read my work — and believe me, my love, when all this is over you're going to — "

"I will," said James humbly. "But — "

"We've got only two hours," his wife interrupted. "I've got to start phoning."

Six o'clock came and went, but nobody arrived to evict them. Instead, the Rest Stop began rapidly filling with newcomers who parked their cars and then came over to consult with Mary Ellen. She had had James busy making placards, which she passed out to the new arrivals. In a free moment, James requested information.

"Oh," she said casually, "it's not just here. Every Rest Stop in the country is being infiltrated, with a deputation there first to give out signs. That's another thing I learned from the history of the 20th-century demonstrations and sit-ins — pack the jails and the authorities will be overwhelmed."

"But who are they? Where do they come from?"

"My colleagues," Mary Ellen said smugly. "We professional writers stick together. I alerted the Authors League and the Po-

etry Society of America. Then the news spread, and the rest of the old established professional societies joined in — first the Science Fiction Writers of America, then the Mystery Writers of America, and then the American Newspaper Guild. Pretty soon it will be spreading to the other creative arts — to Actors Equity and the American Guild of Variety Artists and the Artists Guild and all the rest. And of course a lot of them have families to swell the throng."

"I see," said James dazedly. He tried in vain to imagine the Bar Association moved by such a stimulus.

By the next morning, when they turned on the tridimens, they learned that a national crisis was at hand. Every Rest Stop on the continent was jammed and ordinary drivers were unable to leave the freeways for even five minutes' rest. It was utterly impossible to evict or arrest all these announced Stay Putters; there wouldn't be room for them anywhere even if they could have been arrested, and government officials were running around in circles. What made it worse was that these people were not mere private citizens, but outstanding and articulate members of venerable and distinguished organizations— and many of them, as individuals, known to every adult American. The announcer almost shrieked as he reported that the Associated Advertising Clubs were threatening to join in. Then he said abruptly: "Sorry, folks; I just got word from my own union and I have to leave." The tridimens went dead.

Half an hour later James had a phone call from the National Council itself — successor of both the executive and legislative branches of national government, and the highest authority there was in the U.S.A.

This time nobody was scolding, jeering, or threatening him; the speaker was respectful flattering and appealing. Would Mr. and Mrs. Stokes be so good as to drive to national headquarters for a personal conference to try to find some solution satisfactory to all concerned? They could leave one of their cars as a residence token and come in the other. Would they — please? The voice almost broke; the worried face looked close to tears.

"Uh-uh," said James Stokes succinctly. "If you want to talk to us, send somebody here. This is our permanent home."

There was a gasp, a splutter, a shocked groan, and then another official took over and said they would call back in ten minutes.

"We've won!" cried Mary Ellen triumphantly. "We have them on the run."

"Thanks to you."

"No, thanks to you — you started it. I'm only implementing your plan."

They were still trying to give each other credit when the phone rang again. A third speaker — stiff voice but harassed countenance — said that a delegation would call on Mr. and Mrs. Stokes that afternoon. Mary Ellen grabbed a loud-speaker and gave the news to all their new neighbors and in the echo of their cheers started phoning it to headquarters of all the organizations concerned, for relay to their members.

Both sides knew very well that 99% of the new adherents had no intention of actually Staying Put. But they also knew that none of them would leave their intrenched positions until the real Stay Putters had won their victory. When an irresistible force meets an immovable body, the immovable body learns to move if the irresistible force commands sufficient publicity.

All this of course, was 20 years ago.

Mr. and Mrs. James Stokes no longer live in a Rest Stop. There are enough Stay Putters now to have reduced traffic sufficiently, all over the country — and, indeed, all over the world — to allow many freeways to have been torn down and transformed into dwelling sites. The Stokeses still own cars, but they do not live in them; the latest fashion is to build actual immobile houses—prefabricated, of course, and with all the amenities of the car-homes. Naturally they take to the road often — when Mary Ellen has a speaking engagement, or when James is needed for personal attendance in connection with his new post as Dwelling Dispute Judge, or just to attend meetings of their respective professional groups or to rendezvous with friends — but when they come back it is to a stationary home surrounded by stationary neighbors.

Neither of their teen-age children has ever learned to drive.

— MIRIAM ALLEN DE FORD

Building On The Line

by GORDON R. DICKSON

Illustrated by MORROW

Building on the Line is how the human race expands to the stars — at a price only heroes can pay!

I

Crack-voiced, off-key, in every way like a fingernail drawn across the blackboard of his soul, the song cauterwauled in John Clancy's helmet earphones:

"... *Building on the Line, Team! Building on the Line!*
Building Transmit Stations, all along the goddamn Line!
Light-years out, and all alone —
We have cannibalized the drone —
And there's no way to go home —
'Till we get the Station finished for the goddamn Line!"

Clancy closed his mind to the two thousandth, four hundred and — what? He had even got to the point where he had lost count of the times Arthur Plotchin had sung it. Was that a win, he wondered, suddenly — a point for Plotch, in finally driving him to lose count? Or was it a point for him, in that he had managed to shut out the singing, at least to the point of losing his involuntary count of the times Plotch had sung it?

A bright light hit him in the faceplate, momentarily blinding him; and the singing broke off.

"Heads up, Clance!" It was Plotch's voice, cracking like static now in the earphones. "Keep your mind on your work, dimbulb! Time to fire the wire!"

Clancy deliberately did not answer, while he slowly counted off six seconds — *One-Mississippi, two-Mississippi* . . . " It was one of the things he could be sure rubbed Plotch the wrong way; even as he knew Plotch was sure by this time that the endless repetition of the *Line Song* was like sandpaper to Clancy's raw nerves.

"What?" Clancy said, at the end of the sixth second.

"You heard me, you . . . " Plotch choked a little and went silent, in his turn.

Clancy grinned savagely inside his helmet. With the flash from Plotch's signal-light blinked out of his eyes, now, he could make out the other's silver-suited figure with the black rectangle of tinted glass that was its faceplate. Plotch stood holding his wire gun by the other of the last two terminal rods in the almost-completed Star-Point. He was some hundred yards off across the barren rock of this hell-born world, with its two hundred degrees below zero temperature, its atmosphere that was poisonous, and almost non-existent to boot, with its endless rock surface, its red clouds always roiling threateningly overhead and the not-quite-heard gibber of uneasy native spirits always nagging at a man just below the level of his hearing.

Plotch was trying to turn the deaf treatment back on Clancy. But that was a game Clancy played better than his dark-haired, round-headed teammate. Clancy waited; and, sure enough, after a few moments, Plotch broke first.

"Don't you want to get back to the ship, horse's-head," shouted Plotch, suddenly. "Don't you ever want to get home?"

Was Plotch starting to sound a little hysterical? Or was it Clancy himself, imagining the fact? Maybe it was neither. Maybe it was just the hobgoblins, as

Line Team 349 had come to call the native life-form, putting the thought into Clancy's head.

For the hobgoblins were real enough. There was no doubt by this time that some form of immaterial life existed in the fugitive flickers of green light among the bare rocks of XN-4010, as this frozen chunk of a world had been officially named. Something was there in the green flickering, alive and inimical; and it had been trying to get at him and Plotch all through the five days they had been out on the job here, setting up Number Sixteen of the twenty-six Star-Points required for a Transmit Receive Line Relay Station. Luckily, one of the few good things about the survival suits they were wearing this trip was that they seemed to screen out at least part of whatever emanations the hobgoblins threw at them.

Clancy broke off in the middle of his thoughts to switch the living hate within him, for a moment, from Plotch to R. and E. — the Research and Experimental Service, which seemed to be just about taking over the Line Service, nowadays. Thanks to an evident lack of guts on the part of the Line Service Commandant.

The work on the Line Teams was bad enough. Fifteen men transmitted out to a drone receiver that had been lucky enough to hit a world suitable for a Relay or Terminal Station. Fifteen men, jammed into a transmit ship where every cubic inch of space and ounce of mass was precious because of their construction equipment, was balanced against the weak resolving powers of the drone. Jammed together, blind-transmitted on to a world like this, where you lived and worked in your suit for days on end. That was bad enough.

Add Plotch for a partner, and it became unbearable. But then add R. and E. and it went beyond unbearable. It was bad enough five years back, in the beginning, when a fifteen-man Team would be testing perhaps a dozen new items for R. and E. Now Clancy had a dozen new gadgets in his suit alone. He was a walking laboratory of specialized untried gimmicks, dreamed up on comfortable old Earth. Plotch had a dozen entirely different ones; and so did all the others. Though who could keep count.

Clancy bent ostentatiously to tug once more on the immovable terminal rod he had just spent three hard physical hours of labor in planting six feet deep in XN-4010's native rock.

He had in fact been down with the terminal for some min-

utes before Plotch called. But he had been pretending to be still working, for the sake of making Plotch struggle to get him to finish up. But now it was time to tie in. These terminals were the last two of the nineteen that made up a Star-point, as the twenty-six Star-points, spread out over a diameter of eighty miles, would, when finished, make a working Relay Station. Tying in these last two terminals would activate the Star-point. They could go back to the transmit ship for ten blissful hours outside their suits before they were sent out on the next job. Head down, still tugging at the rod, Clancy grinned bitterly to himself.

There was usually a closeness between members of a Line Team that was like blood-brotherhood. But in this case, if the hobgoblins were trying to stir up trouble between Plotch and him, they were breaking their immaterial thumbs trying to punch a button that was already stuck in *on* position. Clancy straightened up from the rod and spoke over his helmet phone to Plotch.

"Yeah," he said. "I'm done."

He drew his own wire gun and, resting it in the sighting touch of the terminal rod, aimed it at the rod Plotch had just set up. He saw Plotch's gun come up, glinting red light from the glowing clouds overhead, and aim in his direction. For a second the pinhole of light that was sighting beam from Plotch's gun flickered in his eyes. Then, looking at his post, he saw its illumination there, like a small white dot.

"Ready?" Plotch's voice sounded in his earphones.

"Ready!" answered Clancy. "On the count of three, fire together with me. *One . . . two . . three!*"

"Ready?" Plotch's voice sounded in his earphones.

"Ready!" answered Clancy. "On the count of three, fire together with me. *One . . . two . . . three!*"

He pressed the firing button of his wire gun as he spoke the final word. An incredibly thin streak of silver lightning leaped out from the end of his gun through the receptor on the side of the post before him and buried its far end in the receptor on the post beside Plotch. In almost the same second a similar streak of lightning-colored wire joined Plotch's post in reverse to his. The physical shock of the suddenly activated Star-Point field sent both men stumbling backward awkwardly in their protective suits; and a varicolored aurora of faint light sprang up about the star-shaped area of grounded Relay equipment, enclosed by the twenty rods joined

by double lengths of fine wire.

Number Sixteen Star-Point of the Relay terminal on XN-4010 was in and working. Now they could get back to the ship.

But then, as if the Star-Point's completion had been a signal, the low-hung clouds just over them opened up in a sort of hail-storm. Objects came hurtling toward the surface below — objects of all shapes and sizes. They looked like large rocks or small boulders, most of them. But for one weird moment, incredibly, it seemed to Clancy that some of them had the shape of Mark-70 anti-personnel homing missiles; and one of these was headed right for Plotch.

"*Plotch!*" shouted Clancy. Plotch whirled and his dark faceplate jerked up to stare at the rain of strange objects arcing down at them. Then he made an effort to throw himself out of the path of whatever was coming at him.

But he was not quite fast enough. The missile, or whatever it was, struck him a glancing blow high on the shoulder, knocking him to the rock surface underfoot. Clancy himself huddled up on the ground having no place to hide. Something rang hard against his helmet, but the shock of the blow went into his shoulders, as the supporting metal collar of his suit — another of R. and E.'s test gadgets — for once paid its way by keeping the helmet from being driven down onto the top of his head, inside.

Around him there were heavy thuddings. One more, just beside him. Then silence.

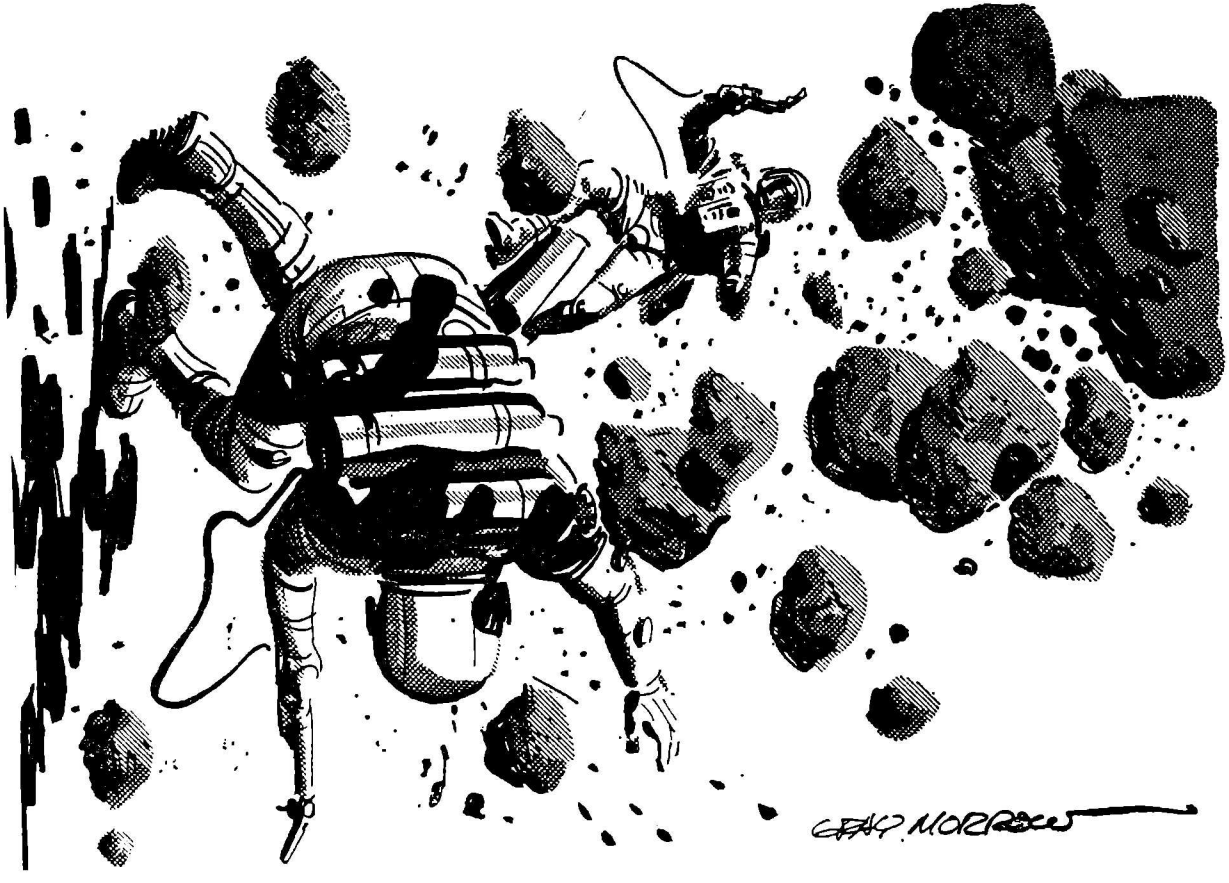
He got up. There were no more rocks falling from the skies. All around him there was only the silent, shifting, colorful aurora of radiation from the connected terminal rods; and the motionless, spacesuited figure of Plotch was a hundred yards off.

Clancy scrambled to his feet and began to slog toward the still figure. It did not move as he got closer, in the stumbling run which was the best speed he could manage, wearing his suit.

II

When at last he stood over Plotch, he saw his teammate was completely unmoving. Plotch's suit had a bad dent at the top front of the right shoulder joint; and there was a small, dark, open crack in the suit at the center of the dent. There was only rock nearby; no sign of any missile. But Plotch lay still. With that crack in it, his suit had to have lost air and heat instantly. His faceplate was white now, plainly opaqued on the inside by a thick coat of ice crystals.

Clancy swore. The gibbering of


CRAIG MORRISON

the hobgoblins, just out beyond the frontiers of his consciousness, seemed to rise in volume triumphantly. He reached down instinctively and tried to straighten out Plotch's body, for the other man lay half-curled on his side. But the body would not straighten. It was as a figure of cast iron. There was no doubt about it. Within his suit, Plotch was now as rigid as the block of ice that, for all practical purposes, he now was.

Plotch was frozen. Dead.

Or was he?

Clancy abruptly remembered something about the experimental gadgets in Plotch's suit. Had not one of them been an emergency cryogenic unit of some sort? If that was so, maybe it was the unit that had frozen Plotch — working instantly to save him when the suit was pierced.

If that was so, maybe Plotch was salvagable after all. If it really was so. . . .

"Calling Duty Lineman at Transmit ship!" Clancy croaked automatically into his helmet phone, activating the long-distance intercom with his tongue. "Calling whoever's on duty, back on the *Xenophon!* Come in, Duty Lineman! Emergency! Repeat, Emergency! This is Clancy! Answer me, Duty Lineman. . . . "

Static — almost but not quite screening out the soundless gibbering of the hobgoblins — answered, roaring alone in Clancy's earphones. His head, a little dizzzy since the rain of rocks, cleared somewhat and he remembered that he should not have expected an answer from this ship. There was interference on XN-4010 that broke communication between a suit transmitter and the mother ship. It cut off, at times, even communication between a flitter's more owerful communication unit and the *Xenophon.* He struggled to his feet and, bending down, took hold of Plotch's stiff body underneath the armpits of the suit. He began to drag it toward their flitter, just out of sight over a little rise of the rocky ground, a couple of hundred yards away.

The ground was rough, and Clancy sweated inside his suit. He sweated and swore at his frozen partner, the hobgoblins, the R. and E. Service for its experimenting — and Lief Janssen, the Line Service Commandant, for letting R. and E. do it. The gravity on XN-4010 was roughly .78 of Earth normal, but the rocky surface was so fissured and strewn with stones of all sizes from pebble to boulder that Plotch's unyielding figure kept getting stuck as it was pulled along. Eventually, Clancy was

forced to pick it up clumsily in his arms and try to carry it that way. He made one attempt to put it over his shoulder in a grotesque variation of the fireman's lift; but the position of the arms, crook-elbowed at the sides prevented the bend in the body from balancing on his shoulder. In the end he was forced to carry what was possibly Plotch's corpse, like an oversized and awkward baby in his arms.

So weighed down, he staggered along, tripping over rock, detouring to avoid the wider cracks underfoot until he topped the rise that hid the flitter from him. Just below him and less than thirty feet off, it had been waiting — an end and solution to the grisly and muscle-straining business of carrying the frozen and suited figure of Plotch in his arms.

It was still there.

— But it was a wreck.

A boulder nearly two feet in circumference had struck squarely in the midst of the aft repulsor units, and the tough but lightweight hull of the flitter had cracked open like a ceramic eggshell under the impact.

Clancy halted, swaying, where he stood, still holding Plotch.

"I don't believe it," he muttered into the static-roar of his helmet. "I just don't believe it. That flitter's *got* to fly!"

For a moment he felt nothing but numb shock. It rose and threatened to overwhelm him. He fought his way up out of it, however; not so much out of determination, as out of a sudden rising panic at the thought of the nearly thirty miles separating him from the transmit ship.

The flitter could not be wrecked. It could not be true that he was stranded out here alone, with what was left of Plotch. The flitter *had* to save them.

Then, suddenly, inspiration came to him. Hastily, he dropped onto one knee and eased Plotch onto a flat area of the rock under foot. Leaving Plotch there, balanced and rocking a little, grotesquely, behind him, Clancy plunged down the rubbled slope to the smashed flitter, crawled over its torn sides into what had been the main cabin and laid hands upon the main control board. He plugged his suit into the board, snatched up the intercom hand phone and punched the call signal for *Xenopon.*

"Duty-Lineman!" he shouted into the phone. "Duty-Lineman! Come in, *Xenophon!* Come in!"

Suddenly, then, he realized that there were no operating lights glowing at him from the control panel before him. The phone in

his hand was a useless weight, and his helmet ear phones, which should have linked automatically with the flitter receivers of the intercom sounded only with the ceaseless static and the endless, soundless gibbering.

Slowly, almost tenderly, he unplugged his suit, laid the phone back down on the little shelf before the dark instrument panel and dropped down on the one of three seats before the control board that was not wrecked. For a little while he simply sat there, with the hobgoblins gibbering at him. His head swam. He found himself talking to Plotch.

"Plotch," he was saying, quite quietly into his helmet phone. "Plotch, there's nothing else for it. We're going to have to wait here until the ship figures there's something wrong and sends out another flitter to find out what happened to us."

He waited a few moments. "You hear me, Plotch?"

Still there was only silence, static, voiceless gibbering in his earphones.

"We can stick it out of course, Plotch," Clancy muttered, staring at the dead control panel. "Inside of two days they ought to figure we're overdue. Then they'll wait a day, maybe, figuring it's nothing important. Finally they'll send one of the other teams out, even if it means taking them off one of the other jobs. Oh, they'll send somebody eventually, Plotch. They'll have to. Nobody gets abandoned on the Line, Plotch. You know that."

The five days of bone-grinding manual labor on the Star-Point took effect on him, suddenly. Clancy fell into a light doze, inside his suit, sitting in the wrecked control room of the flitter. In the doze he half-dreamed that the gibbering voices took on their real hobgoblin shape. They were strange, grotesque parodies of the human figure, with bulbous bodies, long skinny arms and legs and turnip-shaped heads with the point upward, possessing wide, grinning, lipless mouths, a couple of holes for a nose, and perfectly round, staring eyes with neither eyebrows nor eyelashes. They gibbered and grinned and danced around him, kicking up their heels and flinging their arms about in joy at the mess he was in. They stretched their faces like rubber masks into all sorts of ugly and leering shapes, while they chanted at him in their wordless gibberish that they had got Plotch —and now they were going to get him, too.

"No!" he said, suddenly aloud in his helmet — and the spoken word woke him.

III

He glanced around the ruined flitter. The hobgoblin shapes of his dream had disappeared, but their gibberish still yammered at him from somewhere unseen.

"No," he said to them, again. "If you could rain rocks like that all the time, you'd still be doing it. I don't think you can do that except now and then. Even if it was you who did it. All I've got to do is wait." He corrected himself. "All we've got to do is wait — Plotch and I. And a flitter will come to pick us up."

Plotch is dead! Plotch is dead! gibbered the hobgoblins triumphantly.

"Maybe," muttered Clancy. "Maybe not. Maybe the cryogenic unit caught him in time. Maybe it froze him in time to save him. You don't know. I don't know."

A thought struck him. He got wearily up from his seat, clambered out of the wrecked flitter and struggled up the slope to where Plotch's frozen body in its suit still sat balanced, although by now it had stopped rocking. Clancy stood staring down at it —at the thick coating of white on the inside of the faceplate, ruddied by the red light from the clouds overhead.

"You dead, Plotch?" he asked after a little while. But there was no answer.

"So, maybe you're alive, then, Plotch, after all," said Clancy out loud to himself in the helmet. "And if you're alive, then that cryogenic unit works. So you're safe. You won't even have to know about the time we spend waiting for them to send a flitter after us. — Or, maybe . . . ?"

A sudden, new cold doubt had struck Clancy. Something he half-remembered Plotch's saying about the unit.

"I can't remember, Plotch," he muttered fretfully. "Was it supposed to be good for as long as necessary, that cryogenic action? Or was it just supposed to keep you for a few hours, or a few days, until they could freeze you properly, back at the ship? I can't remember, Plotch. Help me out. You ought to remember. What was it? Permanent or temporary?"

Plotch did not answer.

"Because if it's temporary, Plotch," said Clancy, finally, "then even if you're alive now, maybe you won't still be alive by the time the rescue flitter gets here. That's not good, Plotch. It's a dirty trick; having a cryogenic unit that won't last for more than a few hours or a few days. . . . " For a moment he was on the verge of emotional reaction; but he got his feelings

under control. Anger came to stiffen him.

"Well, how about it, Plotch?" he shouted after a moment into the silence and the gibbering. "How about it — can you last until the flitter gets here or not. Answer me!"

But Plotch still did not answer. And a cold, hollow feeling began to swell like a bubble under Clancy's breastbone. It was a realization of the dirtiest trick in the universe — and Plotch just lay there, saying nothing, letting him, Clancy, flounder about with it in him, like a hook in a fish.

"You dirty skull!" burst out Clancy. "You planned it like this! You deliberately got in the way of that rock or whatever it was! I saw you! You deliberately got yourself all frozen up the way you are now! Now you want me to let you just sit here; and maybe sit too long before the ship sends somebody to rescue us? Is that it? Well, you know what, Plotch?"

Clancy paused to give Plotch a chance to answer. But Plotch maintained his unchanging silence. He was finally learning how to outdo Clancy on the not-answering bit; that was it, thought Clancy lightheadedly. But Plotch's learning that was nothing now, compared to this other, dirtier trick he was pulling.

"Well, I'll tell you what, Plotch," said Clancy, more quietly, but venomously. "I'm not going to take you into the ship myself. How do you like that?"

Plotch obstinately said nothing. But the hobgoblin voices chanted their gibber in the back of Clancy's head.

All that way with a dead man! Plotch's dead! Plotch's dead! chanted the hobgoblin voices. But Clancy ignored them. He was busy calculating.

They had come out due east of the ship, Plotch and he. It was now afternoon where they were. All he had to do was to walk into where the clouds were reddest, because that was where the western sunlight was. The days were sixteen hours long right now in this latitude on XN-4010, and the nights were a brief four hours. He had a good six hours to walk now, before darkness came. Then he could rest for four hours before picking up Plotch again, keeping the brightest light at his back this time, and carry on. It would be six days at least before the ship would be likely to come to a certain conclusion that he and Plotch were in trouble — and at least another day, if not two, before another flitter and two-man team could be diverted from their regular job to investigate what had happened out here. Seven

days at least — and thirty miles to the ship.

Thirty miles — why, that was only a little over four miles a day. He could do that any time, carrying Plotch. In fact, he ought to be able to do twice as much as that much in a day. Three times as much. Ten or twelve miles in a sixteen-hour day ought to be nothing. It was less than a mile an hour. Clancy got Plotch up in his arms and started off, his feet in the boots of the suit jarring one after the other against the naked rock beneath them. He walked down, past the damaged flitter, no longer looking at it, and thumped away, carrying his unyielding load in the direction of the brightest red clouds.

Far ahead, as far as he could see to the horizon, the rock plain seemed fairly level. But this was an illusion. As he proceeded, he discovered that there were gentle rises and equally gentle hollows that blended into the general flatness of the area, but which caused him to spend at least a share of his time walking either downhill or uphill. His legs took this effort without complaint; but it was not long before his arms began to ache from holding Plotch's stiff body in front of him, although he leaned back as much as he could to counterbalance the weight.

Eventually he stopped and once more tried to find some other way of carrying his burden. Several times he tried to find a position in which Plotch could be balanced on one of his shoulders, but without success. Then, just before he was ready to give up completely, he had a stroke of genius, remembering the gimmick collar on his suit that kept the inside of his helmet top from touching the top of his head. Testing, he discovered that it was possible to carry Plotch grotesquely balanced on top of his head, with the top of Clancy's helmet resting against the frozen man's unyielding stomach and with a knee and an elbow resting on Clancy's right and left shoulders, respectively. The helmet pressed down upon the collar and the weight upon it was distributed to the rigid shoulders of Clancy's suit, with the assistance of Plotch's frozen knee and elbow — and for the first time Clancy had a balanced load to carry.

"Well, Plotch," said Clancy, pleased. "You aren't so bad to take after all."

The flush of success that spread through Clancy lightened his spirits and all but drove away the unending gibbering of the hobgoblins. For a moment his mind was almost clear; and in that bit of clear-headedness it

suddenly occurred to him that he had not set his pedometer. Carefully rotating about, holding Plotch balanced on his head and shoulders, he looked back the way he had come.

The wrecked flitter was just barely visible in the distance. its torn parts reflecting a few ruddy gleams of red light. Gazing at the smashed vehicle, Clancy did his best to estimate the ground he had covered so far. After a few seconds, he decided that he had come approximately a third of a mile. That was very good going indeed, carrying Plotch the way he had, to begin with. Carefully holding Plotch in place now with his left hand, he reached down with his right and set the pedometer, which was inset in the front leg of his suit just above the knee, giving himself credit for that third of a mile he had already covered. Only twenty-nine and some two-thirds of a mile to go to reach the ship, he told himself triumphantly.

"How do you like that, Plotch?" he asked his partner.

He started off with fresh energy. Perched on top of Clancy's head, Plotch rode with a fine, easy balance, except when Clancy came to one of the hollows and was forced to walk downslope. Then it was necessary to hold hard to Plotch's knee and elbow, to keep the frozen body from sliding forward off the helmet. For some reason, going upslope, the knee and elbow dug Clancy's shoulders and helped hold Plotch in place, almost by themselves. All in all, thought Clancy, he was doing very well.

He continued to slog along, facing into the dwindling western light behind the fiery masses of the clouds. Like all Line Team members, he was in Class Prime physical shape, checked every two weeks in the field, and every two months back on Earth to make sure he was maintaining his position in that class. He was five feet eleven inches in height, somewhat large-boned and normally weighed around a hundred and ninety. Here on XN-4010, his weight was reduced by the lesser gravity to about a hundred and fifty pounds. Plotch, who was five-nine, lighter boned and usually weighed around a hundred and sixty on Earth, here weighed probably no more than a hundred and thirty. On Earth, Clancy would have expected himself to be able to put on a hundred and thirty pound pack and equipment load on top of his suit and make at least a mile an hour with it over terrain like this — and for at least as many hours in a row as there were in the ordinary working day. That

was, provided he stopped routinely for a rest — something like a ten-minute break every hour.

Here, he should do at least as well as that. Still, the calculation had reminded him that periodic rest was necessary. He sat down, eased Plotch off his shoulders and looked at his watch to measure off a rest period of ten minutes. He looked almost genially at the figure of Plotch with its frosted faceplate, as he sat, elbows on knees, resting.

"How do you like that, Plotch, you bastard?" he asked Plotch. "It's no trouble for me to carry you. No trouble at all. Maybe you thought you'd get out of something by playing dead on me. But you're not. I'm going to take you in; and they're going to thaw you out and fix you up. How do you like that, Plotch?"

Plotch maintained his silence. Clancy's thoughts wandered off for a while and then came back to the present with a jerk. He glanced down at his watch and stared at what he saw. A good half hour had gone by — not just the ten minutes he had planned on. Had he fallen asleep, or what?

The light filtering redly through clouds was now low on the horizon ahead of him. He looked at the pedometer on his leg and saw that he had only covered a little over a couple of miles. Sudden fear woke in him. There would be no making the ship in a few days if he went along at this pace — no hope of it at all.

Suddenly his throat felt dry. He tongued his drinking tube into position before his mouth and drank several swallows before he realized what he was doing and pushed the tube away again. The recycling equipment in these light-weight survival suits could not be all that perfect. Certain amounts of water were lost in the ejection of solid body wastes and in various other ways which, though minuscule, were important. That loss had to be made up from the emergency tank built into the back shoulder plates of his suit; and with the flitter wrecked, now some miles behind him, there would be no chance of refilling that tank — which at best was only supposed to carry enough supplementary water for two or three days. He would have to watch his liquid intake. Food he could do without . . . but he suddenly remembered, he had plenty of stimulants.

He tongued the stim dispenser lever in his helmet and swallowed the small pill that rolled onto his outstretched tongue, getting it down with only the saliva that was in his mouth. Then he struggled to his feet. He had stiffened, even in this short period of sit-

ting; and he had to go down on one knee again to get Plotch back up on his shoulders before rising.

Once more burdened, he plodded ahead again toward the horizon and the descending red light behind the unending clouds. Now that he was once more on his feet and moving, the voiceless gibber of the hobgoblins made itself noticeable again. The stim pill was working through him now, sending new energy throughout his body. Up on his shoulders, the frozen body of Plotch felt literally light. But the increase of energy he got from the pill had a bad side effect — for he seemed to hear the hobgoblin voices louder, now.

IV

He had about another two and a quarter hours before the sun started to set along the edge of the horizon; and the wide rocky land began to mix long, eerie black shadows with its furnace-glare of sunset light. He stopped at last for the night, before the last of the light was gone, wanting to take time to pick a spot where he could be comfortable. He found it, at last, in a little hollow half-filled with stones, so small that they could fairly be called gravel. But, when he laid Plotch down and checked with the pedometer at his knee, he found that the day's walk so far had brought him only a little over seven miles — although the last two hours he had been making as good speed as he could without working himself into breathlessness inside his suit — which could have been dangerous.

He lay down on the gravel. It felt almost soft, through the protection of his suit. He stared up at the darkening cloud-belly overhead. The hobgoblin voices began to increase in volume until they roared in his head, and he began to imagine he saw their faces and bodies as he had in his dream of them, imagined now in the various, scarlet-marked formations of the blackening clouds. He tongued for a tranquilizer; and as it took effect, the light and the forms faded together. The roar sank to a whisper. He slept.

He woke abruptly — to find that the sun was already well above the opposite horizon behind him. The roiling clouds were furnace-bright with a morning redness too fierce to look on, even through his tinted faceplate. He drank a little water, took a stim pill to get himself started and got himself back on his feet with Plotch on his shoulders. Turning his back on the morning light he began a new day's march.

Even through the clouds, the light was strong enough to throw shadows. He kept his own moving shadow pointing straight ahead of him, to be sure he was headed due west. Even with the best he could do about maintaining his bearings, the odds were all against his passing within sight of the ship, itself. On the other hand, once the pedometer showed he was within a three or four mile radius of the ship, he could try to reach them with a constant signal from his suit intercom. And even if the intercom had trouble, the regular scanar watch by the Duty Lineman then should pick up his moving figure on its screen, if he passed anywhere within horizon distance of the ship.

He took his rest regularly every hour; and he was alert each time to see that he did not exceed the ten minutes he had allowed himself. Together with the exercise and the increasing daylight, he began to warm to his task — even to become expert at it, this business of plodding over an endless rocky desert with the frozen body of Plotch balanced on his shoulders. He grew clever to anticipate little dips, hollows or fissures. The hobgoblins were clamorous; but under the combined effect of the walking and the stim he almost welcomed them.

"Thought you'd helped Plotch to get away from me, didn't you?" he taunted their gibbering, voiceless voices. "Well, see what I'm doing? I'm hanging on to him, after all. How about that, you hobgoblins? Why don't you throw some more rocks at us?"

The voices jabbered without meaning. It struck him suddenly, as an almost humorous fact, that they were not entirely voiceless now. They had gained volume. He could actually—if he concentrated — hear them in his earphones; about as loud as a small crowd of buzzing gnats close to his ears.

"I'll tell you why you don't throw any more rocks at us," he told them, after a while. "It's the way I figured it out back at the flitter. You've got to work something like that up; and that takes several days. And you've got to work it up for a particular spot — and I'm moving all the time now. You can't hit a moving target."

His own last words sent him off into a humorous cackle, which he stopped abruptly when he realized it was hurting his dry throat to laugh. He plodded along, trying to remember whether it was time for him to allow himself a drink. Finally, he worked out that it was time — in fact, it was past time. He allowed himself three sips of the recycled water. If he was correct, his shoulder

tanks should still be about half full.

But as he went on through the day and as his shadow shortened before him until the most glaring cloud light was directly overhead, he began to feel the effort of his labors, after all. He took advantage of the sunlight being overhead to rest for a little longer than usual, until SN-4010's star should once more have moved ahead of him.

It was still too high in the cloud-filled sky for him to use it as a directional guide, when he forced himself to his feet once more. But he walked with his faceplate looking ahead and down, noting the short shadows thrown backward by the rocks he passed and making sure that he walked parallel to those shadows.

Meanwhile, the hobgoblin voices got louder. By mid-afternoon they were very nearly deafening. He was tempted to take a tranquilizer, which he knew would tune them down. But he was afraid that a tranquilizer would have just enough of a sedative effect to make the now almost intolerable job of carrying Plotch over the uneven ground too much for him.

By the time the sun was far enough down the western sky to be visible as a bright spot behind the clouds ahead of him, he was staggering with fatigue. He stopped for one of his breaks and fell instantly asleep — waking over an hour later. It took two stim pills this time, washed down with several extra swallows of the precious water to get him on his feet and moving. But once he was upright he cackled at the hobgoblin voices which had once more thronged around him.

"Just call me Iron Man Clancy!" he jeered at them hoarsely, through a raw throat and staggered on toward the horizon.

At the end of the day, his pedometer showed that he had covered nearly sixteen miles. He exulted over this; and, exulting, fell into sleep the way a man might fall into a thousand-foot-deep mine shaft. When he woke, the next day was well started. The sun was a full quarter of the way up the eastern horizon.

Cursing himself and Plotch both, he stimulated himself and struggled to his feet and set out once more. That day he began to walk into nightmares. The hobgoblin voices became quite clear — even if they still gibbered without sense — in his earphones. Moreover, now as he staggered along, it seemed to him that from time to time he caught glimpses of turnip heads and skinny limbs peering at him from time to time, or flickering out of

sight when he glanced quickly in the direction of some boulder larger than the others.

Also, this third day of walking, he found he had lost all logical track of the time and the periods of his rest halts. Several times he fell asleep during a halt in spite of himself; and, by the time the red furnace-glow of the sun was low behind the clouds on the horizon before him, he was simply walking until he could walk no more, then resting until he could walk again... and so on...

At the end of the day the pedometer showed that, to the nearly sixteen miles covered the previous two days, he had added only seven. There was a good eight miles to go yet before he would be — theoretically at least — in the neighborhood of the spaceship.

Eight miles seemed little after covering more than twenty. But also, it seemed to him, as he sank down for the night and unloaded Plotch from his shoulders, that the eight miles might as well be eight hundred. Literally, he felt as if he could not take another step. Without bothering to find a comfortable position, he stretched out on the bare rock beneath him; and sleep took him with the suddenness of a rabbit taken by the silent swoop of a great horned owl.

— When he woke on the fourth day, he had Plotch on his shoulders and was already walking. It seemed to him that he had been walking for some time, and the moving shadow of himself projected before him, which he followed, was already short.

Around him, the desert of bare rock had altered. Its loose boulders, its little rises and hollows, its fissures — all of these had somehow melted together and changed so that they made up the walls and rooftops of a strange weird city of low buildings, straggling in every direction to the horizon. The flat rock he walked on flowed upward off to his left to become a wall, tilted away to his right to become a roof; and among all these buildings, the city was aswarm with the hobgoblins.

V

Gray-bodied, turnip-headed and skinny-limbed, they swarmed the streets of their city; and all those within view of Clancy were concerned with him and Plotch. They were concerned *for* him, they implied, in their leering, jeering way. Their gibber still would not resolve itself into words; but somehow he understood that they were trying to tell him that the way he was going he would never make the spaceship. For one thing, he had

gotten turned around and was headed in the wrong direction. His only hope of making it to the ship was to sit down and rest. — Or, at least, to leave Plotch behind, turn around and head back the way he had come. They were trying to help him, they suggested, even as they sniggered, and postured and danced about him. But somehow, a certain sort of animal cunning would not let him believe them.

"No!" he stumbled on through their insubstantial mass of gesticulating bodies. "Got to get Plotch to the ship. If I leave him, he'll get away from me." Clancy giggled suddenly, and was shocked for a second at hearing the high-pitched sound within the close confines of his own helmet. "I want him back Earthside."

No! No! The hobgoblins gibbered and made faces and jostled about him. *Plotch is through living. Clancy will be through unless he leaves Plotch behind.*

"You don't fool me," Clancy muttered, reeling and stumbling ahead with the dead weight of Plotch on his shoulders. "You don't fool me!"

After a while, he fell.

He twisted as he went down, so that the stiff body of Plotch landed on top of him. Lying flat on his back on the ground with the hobgoblin's bodies and faces forming a dome over them, Clancy giggled once again at Plotch.

"Hope I didn't chip you any, old boy." He grinned at Plotch.

He lay there for a while, thinking about everything and nothing. The labor of getting back to his feet and getting Plotch once more up on his head and shoulders loomed before him like the labor of climbing up the vertical side of a mile-high mountain. It was just not to be done. It was humanly impossible. But, after a while, he found himself trying it.

He got to his knees, and after a great deal of slow effort, managed to get Plotch balanced once more stiffly on his helmet and his shoulders. But when he came to rise from his knees to his feet, bearing Plotch's weight, he found his legs would not respond.

You see, said a large hobgoblin smirking and pulling his rubbery face into different grotesque shapes directly in front of Clancy's faceplate, *Clancy has to leave Plotch if Clancy is going to get to the spaceship.*

"To hell with you!"

Somehow, with some terrific effort and a strength that he did not know was still in him, Clancy found himself back on his feet once more, carrying Plotch. He tottered forward, wading through the hobgoblins that clustered around him. There was nothing substantial about their

bodies to clog and hold back the movement of his legs, but their attempts to stop him wearied his mind. After forty or fifty steps he stumbled and fell again, this time losing his grip on Plotch, who tumbled to the rock, but lay there, apparently unbroken. Clancy crawled to the unmoving figure through the clutching mist of gray hobgoblin bodies.

"You all right, Plotch?" Clancy muttered.

He patted Plotch's stiff, suited body from helmet to boots. As far as touch could tell, there was no damage done. Then he saw that above the frost the faceplate was starred with cracks. Gently he probed it with the gloved fingers of his right hand. But, while cracked, the faceplate seemed to be still holding together.

"All right, Plotch," he muttered. He made one more effort to get Plotch on his shoulders, and himself on his feet; but his body would no longer obey him. Still kneeling, half-crouching over the figure of Plotch, he fell asleep. At first the sleep was like all the other sleeps, then gradually a difference began to creep in.

He found himself dreaming.

He was dreaming of his appointment ceremony as a Lineman back in the main tower of Line Service Headquarters, back on Earth. He and all the other cadets were dressed in the stiff, old-fashioned green dress uniforms, which, in his case, he had not put on again since. The uniforms had a high stand-up collar; and the collar edge of the cadet in front of him had already worn a red line on the back of the cadet's neck. The man kept tilting his head forward a little to get the tender, abraded skin away from the collar edge, while the voice of the Commandant droned on:

"... *You are dedicating yourself today,*" the Commandant was saying, harshly, "*to the Line, to that whole project of effort by which our human race is reaching out to occupy and inhabit the further stars. Therefore you are dedicating yourselves to the service of your race; and that service is found within the Line from everyone in our headquarters staff out to the most far-flung, two-man teams on new Terminal or Relay Worlds. All of us together make up the Team which extends and maintains the Line; and we are bound together by the fact that we are teammates. . . .*"

The Commandant, Leif Janssen, was still senior officer of the Line Service. He was a tall, stiff military-looking man with gray hair and gray mustache, trim and almost grimly neat in his green uniform with its rows of Station Clusters. He made an imposing

figure up on the rostrum; and at the time of the appointment ceremony Clancy had admired the Commandant greatly. It was the past five years that had changed Clancy's mind. Janssen was plainly pretty much a man of straw — at least where R. and E. was concerned. It was strange that such an effective-looking man should prove so weak; and that a small bookkeeperish-looking character like Charles Li, the Head of R. and E., should turn out to be such a successful battler. Theoretically, the two Services were independent and equal, but lately R. and E. had been doing anything it wanted to the Line Team.

Up on the platform, in Clancy's dream, the Commandant continued to drone on. . . .

". . . *For, just as the human race is the Line, so the Line is the Line Team, in its single ship sent out to hook up a new Relay or Terminal Station. And the Team in essence is its two and three-man units, sent out to work on planetary surfaces heretofore untrodden by human foot. The race is the Line Service. The Service is the Line Team, and the Line Team is each and every one of your fellow Lineman.* . . . "

The speech was interminable. Clancy searched for something in his mind to occupy himself with; and for no particular reason he remembered an old film made of the hunting of elephants in Africa, before such hunting was outlawed completely. The hunters rode in a wheeled car after the elephant herd, which, after some show of defiance had turned to run away. Standing up in the back of the wheeled car, one of the hunters shot — and one of the large bull elephants staggered and broke his stride.

Clearly the animal had been hit. Soon he slowed. A couple of the other bulls, evidently concerned, slowed also. The hit elephant was staggering; and they closed in on either side of him, pushing against him with their great gray flanks to hold him upright.

For a while this seemed to work. But the effects of the shot were telling — or perhaps the hunter had fired again, Clancy could not remember. The wounded elephant slowed at last to a walk, then to a standstill. He went down on his front knees.

The other two bulls would not abandon him. They tried to lift him with their trunks and tusks; but he was too heavy for them. Up close, the hunter in the wheeled cart fired another shot in close. There was a puff of dust from behind the elephant's ear where the bullet hit. The wounded bull shivered and rolled over on its

side and lay there very still.

It was plain he was finally dead. Only then did the other two bulls abandon him. Screaming with upcurled trunks at the wheeled cart, they faced the hunter for a moment, stamping, then turned and ran with the rest of the herd. The hunter and the others in the wheeled cart let them go . . .

In his dream, it seemed to Clancy that the elephant was suddenly buried. He lay in a cemetery with a headstone above his grave. Going close, Clancy saw that the name on the headstone was *Art*. There was something else written there; but when he tried to go closer to see — for it was just twilight in the graveyard and not easy to read the headstones — a dog lying on the grave, whom he had not noticed, growled and bared its fangs at him, so that he was forced to back off . . . .

Slowly, from his dreams of graduating ceremonies, elephants and graveyards, Clancy drifted back up into consciousness. It seemed that he must have been sleeping for some time; and his mouth was wet, which meant that somehow he must have been drinking water — whether from his suit reserves, or from some other source. But he did not feel now as if he had his suit around him.

VI

He opened his eyes and saw, at first, nothing but white, the white walls and ceiling of a small room aboard a spaceship. Then he became conscious of a girl standing beside the bed.

She was dressed in white, also, so at first he thought that she a nurse — and then he noticed that she wore no nurse's cap, only a small, strange-looking gold button in the lapel of her white jacket.

"Who're you?" asked Clancy, wonderingly. "Where is this?"

"It's all right, you can get up now," the girl answered. "You're on our ship. We're Research and Experimentation Service, and we just happened to land less than half a mile from where you were. So we picked you up and brought you in. Luckily for you. You were headed exactly in the wrong direction."

"And Plotch?" Clancy demanded.

"We brought in your teammate, too," she answered.

Clancy sat up on what he now saw was a bunk, and sat on the edge of it for a moment. He was wearing the working coveralls he normally wore underneath the suit; but they seemed to have been freshly cleaned and pressed — which was good. He would not have liked to face this very

good-looking girl in his coveralls, as they must have been after six days of his wearing the suit.

"R. and E.?" he echoed. For a second her words seemed to make sense. Then the great impossibility of what she was saying, struck him.

"But you can't have landed a ship on XN-4010!" he said to the girl, getting to his feet. "We're still just putting out the Star-Point terminals. The only way another ship could get here would be to home in on the drone that our Line ship homed in on; and that's been inactive since our second day here, when we started cannibalizing it for Station parts!"

"Oh, no. This ship," she answered, "uses a new experimental process, designed to bypass the wasteful process of sending out a thousand drones in hopes that one may home in on a planet that may be used as a Terminal or Relay point for a ship shifted from Earth. But here comes someone who can explain it much better than I can."

A short, round-faced man with black hair and a short, black mustache had come briskly into the room. After a second, Clancy recognized him from seeing him on news broadcasts, back on Earth. He was Charles Li, Head of the Research and Experimentation Service; and he wore a long white coat, or smock, buttoned in front, with a small gold button like the girl's in his lapel.

It was strange, thought Clancy woozily, how an impressive figure like Janssen could turn out to be so incapable of protecting his own Service, while someone like this fuzzy-looking little man could prove to be so effective. You certainly could not judge by appearances....

"I heard what you said, young man," snapped Li, now, "and I'd warn you against judging by appearances. The method that brought this special ship here is a gadget of my own invention. Of course, it's a million-to-one chance that we should land right beside you, out here; but that's what scientific research and experimentation deal with today, isn't it? Million-to-one chances?"

Clancy had to admit silently that it was. Certainly most of the R. and E. gadgets in their survival suits seemed to represent million-to-one shots at coming up with something useful. But Li was already taking Clancy by the arm and leading him out into and down a white-painted corridor of the ship.

"But there's something you need to do for us," he said in steely, commanding tones, his grip hard on Clancy's arm. "It's imperative your transmit ship be

told of our arrival, as soon as possible. But the very nature of the device which brought us here — top secret, I'm afraid, so I can't explain it to you now — places us under certain restrictions. None of us aboard here can be spared to make the trip to your ship; and the nature of our equipment makes it impossible for us to send a message over ordinary inter-ship channels."

He led Clancy into a room which Clancy recognized as an airlock. His suit was waiting for him there.

"We're sorry to put you to this trouble, particularly just after recovering from a good deal of exhaustion and exposure," said the black-mustached man briskly. "But we have to ask you to put your suit on once again and finish your walk to your spaceship, to tell them that we're here."

"Why not?" said Clancy. He began to get into his spacesuit, while the other two watched; the girl, he thought, with a certain amount of admiration in her eyes.

"Yes, it's too bad one of us can't be spared to go with you," said the mustached man. "But we have no outside suits aboard the ship, and then if nothing else one would be needed for protection from the hobgoblins."

"Protection—?" echoed Clancy. He paused, in the midst of sealing the trunk of his suit. For the first time it struck him that he could not hear the voiceless gibber of the hobgoblins here.

The mustached man must have divined his thought, for he answered it.

"Yes," he said. "The special hull materials of this ship shield us from hobgoblin attempts to control us. A refinement of the shielding material in your suits. That same sort of protection we now have will be necessary for future Line Teams and whoever chooses this planet. I will have to recommend it once we get back to Earth."

"Yeah," said Clancy, putting on his helmet, but with the faceplate still open. "I could have used some of that shielding myself, before this."

"You've done a marvelous job, Lineman," said Charles Li, "in resisting hobgoblin attack so far. They haven't been able to affect you at all, no matter how exhausted you've become. That will be going in my report, too. Well — good luck! And remember, head back the way you came."

Li reached out to shake hands. But, just at that moment, Clancy remembered something.

"Plotch!" he said. "I've got to take Plotch on in with me! He'll need medical attention."

"I'm afraid it's too late for medical attention." Li shook his head sharply. "Your teammate is dead."

"No, he isn't!" insisted Clansy. "You don't understand. There was a cryogenic unit in his suit."

"Yes, I know all about that," Li interrupted, "but you're mistaken. The cryogenic unit was actually in one of the other suits. Your teammate is indeed dead. Come along, I'll show him to you."

He turned and led the way once more into the corridor, the girl and Clancy following. They went down the corridor a little way and into another room with a single bunk in it. On this bunk lay Plotch, in his suit, but with the faceplate open and unfrosted; and with his hands folded on his chest. His face had the stiff, powdered and rouged look of a body that has been embalmed.

"You see?" said Li, after a moment. "I sympathize with you. But your friend is quite dead; and carrying him, you might not have the strength to make it to your ship. You can leave him safely to us to be taken care of." Clancy stared at Plotch, he did not believe Li. He thought he detected a slight rise and fall of Plotch's chest, under his coveralls, which were now as clean and pressed as Clancy's own.

But cleverly, Clancy saw the futility of arguing with the powerful Head of the R. and E. Service. Clancy nodded his head and went back out into the corridor; he began to fasten up his faceplate.

"Don't bother to show me out," he said, grinning. "I can handle the airlock by myself."

"Good luck, then," said the mustached man. He and the girl shook hands with him and then went off down the corridor, around a bend of it, and disappeared. Clancy turned and walked heavily to the airlock entrance, walked into it, waited a second, then turned and tiptoed back into the corridor and back up to the room in which Plotch lay.

Even thawed out in his suit, Plotch was a heavy load to get up from the bunk, but Clancy closed his faceplate and got him up in his arms in the same awkward, front-carrying position in which he had first tried to carry the other away from the smashed flitter. Carrying Plotch, he tiptoed back out into the corridor into the airlock and cycled the lock open. Once outside, with the airlock's outer door closed behind him, he started tiptoeing off toward a sunlight-blazoned patch of clouds, which was only an hour or two above

horizon. He was almost sure it was nearly sunset and that he was still headed in his original direction.

As he went, the weight of Plotch forced him down off his toes, to walk flat-footedly. Slowly, Plotch seemed to gain heaviness, and tremendous weariness began to flood back into Clancy. He was dreadfully thirsty. But when he gave in at last to temptation and sucked on the water tube in his helmet, only a little raspy gasp of moisture-laden air came through his mouth. Somehow, although he could not remember doing it, he must have emptied his reserve water supply. But he could have sworn that there had been some liquid still in reserve.

However, there was no help for him now. As if in compensation, he made the discovery that Plotch had frozen stiff once more in the same old position. Almost without thought, he maneuvered the frozen body back up on his helmet and shoulders in the same position in which he had carried it so far and tottered on toward the red, glaring patch of sunlight-illumined cloud before him.

His head swam. With every step, the efforts of moving seemed to grow greater. But now he had no strength left, even for the process of reason. He did not know exactly why he was carrying Plotch, with such great effort, toward the sunset; and it was too great an effort to reason it out. All he had strength for was to plod onward, one foot after another, one foot after another. . . .

Several times it seemed to him that he passed out, or went to sleep on his feet. But when he woke up he was still walking....

Finally, he had lost all contact with his body and its strange desire to carry a frozen Plotch into the sunset. He stood as if apart from it in his mind and watched with a detached and uncurious amazement as that body staggered on, tilting precariously now and then under its burden, but never quite going down, while the landscape danced about it, one moment being rocky plain — the next a fantastic, low-walled city thronged with hobgoblins — the next a dusty African plain where elephants fled before hunters in a wheeled cart. . . .

He was still walking when the sun went down. And after that he remembered nothing . . . when he finally came to again, it was to a fuzzy, unreal state. He was lying on some flat surface and a body was bending over him; but the features in the face of the body danced so that he could not identify whoever it was. But, in spite of the unreality of it all,

the smells were hard and familiar — the interior stink of a Line transmit ship, the smell of his own bunk aboard it, a mingled odor of men and grease.

VII

"He'll be all right," a familiar voice said above him. It came from the figure with the mixed-up features, but it was the voice of Jeph Wasca, his Team Captain.

"Plotch?" Clancy managed to croak.

"What?" The blurry figure with the dancing features bent down close to Clancy's face.

"Plotch. . . . " Clancy felt the strength draining out of him. After a few seconds, the figure straightened up, the dancing face withdrawing.

"I can't understand you. Tell me later, then," said Jeph's voice, brusquely. "I haven't got time to talk to you now, Clance. You go to sleep. When you wake up, you'll be back Earthside."

The indefinite figure withdrew, and all the fuzzy lights, colors, sounds and smells surrounding Clancy whirled themselves into a funnel that drew him down into dark unconsciousness.

When he woke this third time, he was indeed — as Jeph had promised — Earthside. He could tell it, if no way else, by the added pull of gravity, holding him down harder upon the bed in which he lay. The room he opened his eyes upon was plainly a hospital room, and there was a bottle of glucose solution with a tube leading to a needle inserted in his wrist.

He felt as if he had spent half a year locked up in a packing case with a pack of angry bobcats. Where he was not sore, he ached; and he did not feel as if he had strength enough to move the little finger of one hand. He lay for a while, placidly and contentedly watching the featureless white ceiling above him, and then a nurse came in. She put a thermometer sensor-strip into his mouth briefly, and then took it out again to examine it. Once his lips were free, he spoke to her.

"You're a real nurse?" he asked.

She laughed. She had freckles on her short nose, and they crowded together when she laughed out loud.

"They don't let imitations work in this ward," she said. "How're you feeling?"

"Terrible," he said. "But just as long as I don't try to move, I feel fine."

"That's good," she said. "You just go on not trying to move. That's doctor's orders for you anyway. Do you think you're up

to having some visitors later on this afternoon?"

"Visitors?" he asked

"Your Line Team Captain," she said. "Maybe some other people."

"Sure," Clancy said. She went out; and Clancy fell asleep.

He was awakened by someone speaking gently in his ear and a light touch on his shoulder. He opened his eyes and looked up into the face of Jeph standing at his bedside with another man — a tall man standing a little behind him.

"How are you feeling, Clance?" Jeph asked.

"Fine," answered Clancy sleepily. His fingers groped automatically for the bed-control lever at the bedside and closed upon it. He set the little motors whirring to raise him up into half-sitting position. "The nurse said you might be in to see me."

"I've been waiting to see you," said Jeph. "Got somebody here to see you." The man behind Jeph moved forward; but Clancy's eyes were all on Jeph.

"Plotch?" Clancy asked.

"He's going to be all right," Jeph answered. "They've got him defrosted and on his way back to normal — thanks to you."

"Don't thank me!" exploded Clancy. "Jeph, I can't take that guy any more! If I have to take any more of him, I'll kill him!"

"Relax," said Jeph. I've known that for some time. I made up my mind some months back that one of you had to leave the Team."

"One of us — " Clancy went rigid, under the covers of the bed.

"Plotch's being transferred."

Clancy relaxed.

"Thanks," he muttered.

"Don't thank me," said Jeph. "You earned it. You saved all our necks out there on XN-4010 — and more. That's why the Commandant's here to talk to you."

Clancy's gaze shot past Jeph for the first time; and the tall man stepped right up to the bedside. It was Janssen all right, with his gray, bristling little military mustache, just as Clancy remembered him. Janssen smiled stiffly down at Clancy.

Clancy's nerves, abraded by his sessions with the hobgoblins, took sudden alarm.

"What about?" he demanded warily.

"Let's get you briefed first," said Janssen sharply. He pulled up a chair and sat down, kicking another chair over to Jeph, who also sat down.

"Sorry to put you through your paces like this," Janssen said, not sounding sorry at all,

"just the minute you get your eyes open. But when the time's ripe, the time's ripe. We've got someone else due to meet us here; and he may want to ask you some questions. I'm going to be asking you some questions for his benefit, in any case; and what I want you to do is just speak up. Give us both straight answers, just the way they come to you. You've got that?"

Clancy nodded again, warily.

"All right. Now, to get you briefed on the situation," said Janssen. "First, it seems you ran into something new out there on XN-4010. That planet's got an actual sentient life form, which exists as something like clouds of free electrons. Beyond that, we don't know much about them, except for three things; none of which we'd have known if you hadn't managed to carry Plotch on foot all the way back to the ship. One — "

Janssen held up a knobby forefinger to mark the point.

" — They can move material objects up to a certain size, with a great deal of effort — as in that shower of rocks you remember," he said. "But evidently it's not easy for them. Also, they can affect human thinking processes — up to a point. Again, though, it's not easy for them. For one thing, any kind of material envelope, like the body of a ship, or a flitter, or a suit like you were wearing, shields them out to a certain extent, depending on its thickness. For another, it seems they only become really effective if the human is the way you were, near the end of your walk — in a highly exhausted condition; the kind of condition where lack of sleep or extreme effort might have brought you to the point of hallucinations, anyway. Third — and most important — they were trying to kill off all the men of your Team. It seems they were able to understand that with the drone dismantled, the ship unmanned and the terminal not yet fully built and operative, there'd be no way for another ship out to XN-4010. In fact, the chances of our hitting the planet on a blind-transmit once more, let alone getting another drone safely landed on it, were microscopic. For some reason they didn't want us to know about their existence; and that suggests that maybe they wanted to make preparations of some kind — either for defense or offense against the human race."

He paused.

"Lucky for us," he said brusquely to Clancy, "*you* frustrated them."

"Just by bringing Plotch in?" Clancy demanded. There was

something disproportionate in all this. He did not trust Janssen at all.

"That's right, Clance," said Jeph. "There's something you don't know. If you'd decided to sit down out there and wait for rescue, you'd have dried up to dust inside your suit before any rescue came."

Clancy stared at the Team Captain.

"All but one flitter and two-man crew," said Jeph slowly, "we're out on jobs — and the closest one out was farther away from the ship than you and Plotch were. Clance, every one of those flitters was smashed by rock showers, and its crew killed or stranded."

VIII

Clancy swallowed for the moment forgetting the Line Commandant.

"Who . . . " he could not finish the question. He only stared at Jeph with bright eyes. Jeph answered slowly, but without any attempt at emotion.

"Fletch," the Team Leader said, "Jim, Wally, Pockets, Ush and Pappy."

Clancy lay still for a moment, gazing at the wall of the room opposite. Then he looked back at Jeph.

"What kind of replacements are we getting?" he asked. He looked at Janssen challengingly.

"The best," answered the Commandant. "And I'll keep that promise. Again, because of you and your bringing Plotch in on foot."

"I still don't see what that did — " Clancy broke off, suddenly thoughtful.

"Now you start to see it, don't you?" said Jeph. "There were three of us and one flitter left in the spaceship. Twelve men and six flitters — including you and Plotch, all the other flitters and men we had — were out on work location. All of them overdue, and none of them back. What was I going to do? I could not risk sending out the two men I had left for fear the same thing would happen to them — they might not come back. On the other hand, without the Starpoints all finished, there was no way we could transmit the ship back Earthside. The only thing was for the three of us to stay put and keep the ship powered. We couldn't transmit or receive, but with luck we could act as a beacon for another blind drone transmit from Earth — once Earth figured we were in trouble."

Jeph paused. Clancy slowly nodded.

"Then you came staggering in, with your load of frozen

Plotch," said Jeph. "We shoved Plotch into the freeze-chamber and tried to find out from you what had happened. You weren't up to talking consciously; but I pumped you full of parasympathetic narcos, and you babbled in your sleep. You babbled it all. Once I knew what I was up against, I was able to risk my last flitter and my last two men to go out on quick rescue missions to each of the work-points. After that we went out with the men who were left for only a couple of hours on the job at a time, until the last Star-point was finished and we could transmit ourselves back here."

Clancy nodded again. He was thinking of Jim, Wally, and all the rest who had not come back, looking out the window of his room at the green hospital grounds outside with unfocused eyes. Someone else had just come into the room; but Clancy was too full of feeling to bother to look to see who it was. He was aware of Jeph and the Commandant turning briefly to glance toward the newcomer, then they were back looking at him.

"All right," Janssen said grimly, with one eye still on whoever had just come in. "Let's have your attention Lineman. There's a question some people may be wanting to ask you. That's how you were able to see through what the hobgoblins were trying to do to you, in making you leave Plotchin and go off in the wrong direction; once they'd gotten you to hallucinating about a new experimental type ship that didn't need the Line to shift from Earth out to XN-4010?"

Clancy scowled down at the white bedspread.

"Hell," he grumbled, "I didn't see through it! I mean I didn't start adding up reasons until later. Like the rescue ship landing right beside me; and the people on her using our Team's own word for the 'hobgoblins'; when they hadn't heard me calling them that myself."

"But you didn't leave Plotchin the way they wanted you to. And you didn't take their word for it that you were headed wrong for your ship," said Janssen.

"Of course not!" Clancy growled. "But it was just because I felt there was something wrong about it all; and I wasn't going to leave Plotch behind, as long as there was a chance they were lying about his being dead."

"All right. Wait a minute." It was the newcomer to the room speaking. He stepped close to the bedside. "Wasn't I given to understand you hated this teammate of yours — this, uh, Plotchin?"

Clancy looked up and goggled. He was gazing at a short man with a round face, black hair and a little black mustache. The man of his hallucination, only this time he was real: Charles Li, the head of Research and Experimentation Service.

Li's voice was not as deep as it had been in Clancy's hallucination — in fact there was almost a querulous note in it. But he sounded decisive enough.

"Why — I still hate him!" snapped Clancy. "I hate his guts! But that didn't mean I was going to leave him out there!"

He stared at Li. Li stared back down at him.

"I guess you haven't heard the latest interpretation of that, Charlie," Janssen said stiffly to Li, and the Head of R. and E. turned about to face the Commandant. "Our Service psychologists came up with a paper on it just a couple of hours ago — I'll see you get a copy of it by the end of the day."

Li frowned suddenly at Janssen.

"Never mind," Li said, "just give me the gist of it."

"It's simple enough," said Janssen. "The immaterial life forms on XN-4010 got control of Clancy's conscious mind. But the only way they could make him hallucinate was by telling him what he *ought* to see and then letting him drag the parts to build the hallucination out of his own mind and memory. So while they had control of him pretty well, consciously, they never did get down into the part of him where his unconscious reflexes live. And did you know that team loyalty lives down among the instincts in some men, Charlie?"

"Team loyalty, an instinct?" Li frowned again. "I don't know if I can see that."

"Take my word for it, then," said Janssen, "but it's easy enough to check." He looked down at the shorter man. "Not only humans, a lot of the social animals have the same reflex. Porpoises hold another porpoise up on top of the water after he's been knocked unconscious, so that he won't drown — that's because the porpoise breathing mechanism is conscious, not unconscious like ours. Land animals too."

"Elephants..." muttered Clancy, suddenly remembering. But none of the other men were paying any attention to him.

"Under an instinct like that," Janssen was going on, raspingly, to the R. and E. Service Head, "the loyalty of every team member is to the team. And every other man on it. And the loyalty of the team's to him, in return. As long as there's a spark of life

left in him, his teammates will do anything they can, at any cost to themselves, to care for him, to rescue him, or bring him home safely —"

"Lief, not one of your spiels, please —" began the shorter man, but Janssen overrode him by sheer power of voice.

"*But,*" went on the Commandant, "the minute he's dead, their obligation's lifted. Because they all know that now he has to be replaced by a new man on the Team, someone to whom the loyalty they used to owe the dead man will have to be transferred. What tripped up those hobgoblins on XN-4010 was the fact that Clancy here couldn't be sure Plotchin was dead. It didn't matter how much he hated Plotchin; or how overwhelming the evidence was that Plotchin was dead, or that trying to save Plotchin might only mean throwing his own life away, too. As long as the slightest chance was there that Plotchin could be rescued, Clancy was obligated by his Team instinct to do his best for his teammate. That's why Clancy brought the man in, in spite of how he felt about him, personally, and in spite of all those aliens could do, and in spite of the near physical impossibility, even under the lower gravity there, of carting a frozen dead man, weighing nearly as much as he did, for miles."

Janssen stopped talking. All the while he had been speaking, Li's face had been growing sourer and sourer, like a man who has discovered a worm in the apple into which he has just bitten.

"Can I talk now?" demanded Li. The querulous note in his voice was mounting to a pugnacious whine.

"Go ahead," said Janssen.

"All right." The smaller man drew a deep breath. "What's this all about? You got me over here to see this man, telling me you had something to show me. Evidently you wanted to prove to me he's a hero. All right, I agree. He's a hero. Now, what about it?"

Janssen turned to Jeph.

"Shut the door, there," he ordered. Jeph complied. Janssen's eyes raked from the Line Team Captain to Clancy. "And if either of you breathe a word of what you hear in this room from now on, I'll personally see that you get posted out on a job two hundred light-years from Earth, and forgotten there."

IX

Clancy's stomach floated suddenly inside him, as if an elevator he was in had just dropped away under the soles of his feet. His premonitions of trouble on seeing Janssen had been only too correct. Here, the man who

had evidently lost five years of battles with the Head of R. and E. was about to take one more swing at the other Service Head, using Clancy as a club. Two guesses, thought Clancy, as to what the outcome would be — and what would happen to Clancy himself as a result.

He had escaped the hobgoblins on XN-4010, only to be trapped and used by the super-hobgoblin of all — his own tough-talking, but ineffective Line Service Commandant. There he was now — Janssen — tying into Li as if he'd been the winner all these last five years, instead of the other way around.

"I'm glad to hear you admit that, Charlie," Janssen was snapping, "because Clancy here *is* a hero. A real, live hero. A man who damn near killed himself doing a superhuman job in the face of inimical alien action to save his teammate. Only he nearly didn't make it, because he was already chewed down past the exhaustion point when he started. Not just from fighting his job and the aliens — but from being worn thin by a round damn dozen of your Service's useless ivory-tower experiments, built into his working suit!"

Li stared at him.

"What're you talking about?" bristled Li. "It was the collar-innovation on his own suit that kept him from being brained when that rock hit his helmet. If it hadn't been for the experimental cryogenic unit in Plotchin's suit, Plotchin wouldn't be alive now!"

"Sure. Two!" snarled Janssen. "Two gadgets paid off, but of — what? A total of twenty-three, for both men's suits? What did the other twenty-one gadgets do for either of them? I'll tell you. Nothing! Nothing, except to wear them out to the point where they were ready to cut each other's throat like half the rest of my men on the Line Teams nowadays!"

Li's face was palely furious behind the black mustache.

"Sorry. I don't see that!" he snapped. "Your man's still only a hero because the cryogenic unit gave him a revivable teammate to bring back. And credit for the cryogenic unit being in Plotchin's suit belongs to us!"

"You think so?" grated Janssen. Li's voice had gone high in tone with the argument. Janssen's was going down into a bass growl. Both men looked ready to start swinging at each other at any minute. Janssen's gray mustache bristled at Li. "Stop and think again for a moment. What if your cryogenic unit hadn't worked? What if Plotchin had actually been dead? Clancy wouldn't have had any way of

knowing it, for sure. *And so he'd have brought Plotchin in, anyway!* You think you can take his hero status away from him just because your unit worked? He did what he did out of a sense of duty to his teammate — and whether there was a live man or a dead one on top of him at the time doesn't matter."

"So?" snarled Li.

"So!" barked Janssen. "I've been lying back and waiting for something to hang you with, Charlie, for four years. Now I've got it. I'm starting to punch buttons the minute I leave this hospital. We're both of us responsible to Earth Central, and Earth Central's responsible to the taxpayers. I'm going to set the wheels going to bring my hero up in front of a full-dress Central Investigating Committee — to determine whether the excessive number of experiments your Service has been forcing upon my Line Teams might not have caused the Relay Station installation on XN-4010 to fail in the face of attack by inimical aliens, who then might have gone undiscovered and eventually posed a threat to the whole Line, if not to the whole human race."

Clancy had a sudden, irrational impulse to pull the bedcovers up over his head and pretend they had all gone away.

"Are you crazy?" snarled Li. "You tried fighting me, five years ago, when we first got Central permission to test experimental equipment under working conditions, on your Line Teams. And Central went right along with me all the way."

"That was then, Charlie!" Janssen grated. "That was *then,* when you had all the little glittery, magic-seeming wonder-world-tomorrow type of gadgets to demonstrate on the TV screens and grab the headlines. All I had was honest argument. But now it's the other way around. All you've got is more of the same — but I've got the real glitter. I've got a hero. Not a fake hero, flanged up for the purpose. But a true hero — an honest hero. You can't shoot him down no matter what angle you try from. And I've got villains — real villains, in those alien hobgoblins, or whatever they are. I'm going to win this inquiry the same way you won the last one. Not in the Committee Room, but out in the News Services. I can get you and your experiment wiped clean out of my Service, Charlie! And I'll play hell with your next year's appropriations, to boot!"

Janssen shut up, his mustache stiff with anger. Clancy held his breath, resisting the impulse to shut his eyes. The Line Service Commandant had taken his

swing; and now — how, Clancy did not know, but there would undoubtedly turn out to be a way — Li would lower the boom.

"All right," said Li, bitterly. "Damn you, Lief! You know I can't afford any threat to next year's appropriations now that the drone by-pass system is ready to go into field testing! Name your price!"

Clancy blinked. He opened his eyes very wide and stared at Li.

"But you wipe me out, and you'll regret it, Lief!" continued the R. and E. Head, bursting out before Clancy could get his brains unscrambled. "Admit it or not, but a lot of our ivory-tower gadgets, as you call them, have ended up as standard equipment, saving the lives of men on your Teams!"

"Don't deny it!" snapped Janssen. "I don't deny it and never did. And I don't want to wipe you out. I just want to get back the right to put some limit on the number of wild-eyed ideas my men have to test for your lab jockeys! That's all!"

"All right," said Li. He, too was relaxing, though his face was still sour. "You've got it."

"And we'll draw up an intra-Service agreement," said Janssen.

"All right." Li's glance swung balefully to fasten for a second on Clancy. "I suppose you know you'll be holding up progress?"

"That won't matter so much," said Janssen, "as long as I'm upholding my Linemen."

"Excuse me," Li answered stiffly, looking back at him, "I don't see that. As far as I'm concerned, progress comes before the individual."

"It does, does it?" said Janssen. "Well, let me tell you something. You get yourself a fresh crop of laboratory boys out of the colleges, every year, all you want, to work in your nice, neat, air-conditioned labs. But I get only so many men for work on the Line — because it takes a special type and there's only so many of that type born each generation!"

Clancy stared guiltily at Janssen. Clancy's conscience was undergoing an uncomfortable feeling — as if he had just been punched in the pit of his stomach.

"I know," Li was answering, with a sour glance at Clancy. "Heroes."

"Heroes, hell!" exploded Janssen. "Race horses! That's what my boys are — race horses! And you wanted to turn them into pack mules for your own purposes. Not damn likely! Not any more damn likely than I was to roll over on my back and let you

get away with using a full-dress Central Investigation Committee to get permission to stick your nose into my Line Service! Open your eyes for once, Charlie! Use your imagination on something living! Can you imagine what it's like to do what these men do, jammed at best into the few clear cubic feet of a tiny transit ship you could cover with a large tent? And at worst — living in their suits out on the job for days on end, working harder than any manual laborer's worked on Earth in fifty years, always under strange conditions and unknown dangers like those hobgoblins on XN-4010?"

Janssen had to stop for a second to draw breath.

"Can you imagine doing that?" he went on. "Just to put in a Line Station for a million fat tourists to use; just about the time you're maybe getting killed or crippled putting in another Station out on some world the tourists have never heard of yet?"

"No, I can't," he said, dryly. "And I don't believe any normal, sensible man can. If the work's that bad, what makes any of your men want to do it?"

"Listen." Clancy propped himself up on one elbow. His conscience and the recognition of how wrong he had been about Janssen was finally bringing him into the fight. It was late. But better late than never.

"Listen —" he said again to Li. "You get a feeling you can't describe at the end of a job — when a working Station finally goes into the line. You feel good. You know you've done something, out there. Nobody else did it, but *you* — and nobody can take it away from you, that you've done it!"

"I see." The short man's mustache lifted a little. He turned to the door, opened it, and looked back at Janssen. "They're romantics, your Linemen. That's it in a nutshell. Isn't it?"

"That's right, Charlie," said the Commandant coldly. "You named it."

"Yes," said Li, "and no doubt the rest of the race has to have them for things like building the Line. But, if you'll excuse me, personally I can't see romantics. Or romanticism, either."

He went out shutting the door.

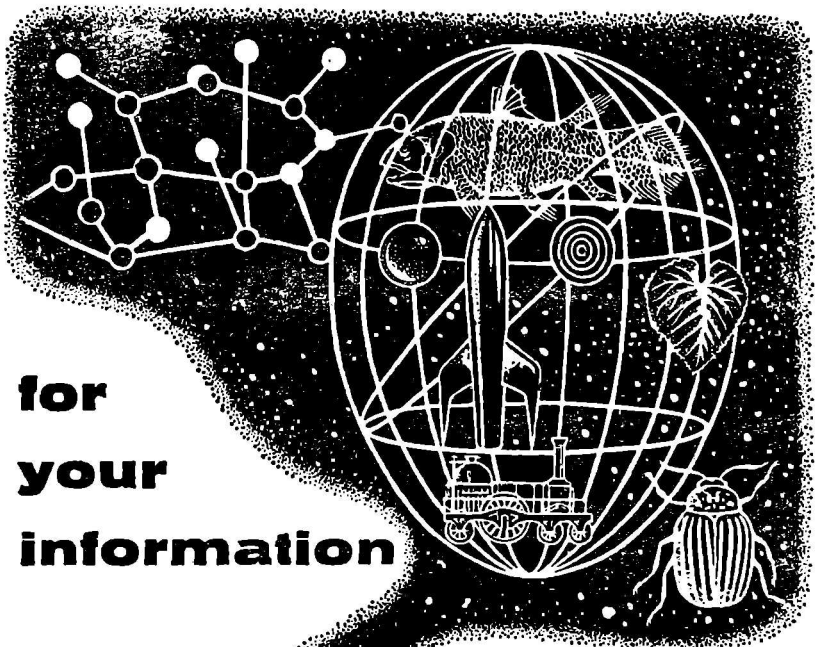
"No," said Janssen, grimly, looking at the closed door. "You wouldn't. Your kind never does. But we manage to get things done in spite of you, one way or another."

He glared suddenly at Clancy, who was staring at him with a powerful intensity.

"What're you gawking at, Lineman?" he barked.

"Nothing," said Clancy.

— GORDON R. DICKSON



for your information

BY WILLY LEY

MY FRIEND, THE NAUTILUS

One of the not really necessary things that clutter up my desk and make dusting dificult is a fine specimen of the shell of a nautilus.

This being the year 1968, I feel that I should explain that I do mean the shell of a nautilus, not a model of the *Nautilus,* the first "atomic" U.S. submarine. Of

course the submarine is named after the marine animal, but in a rather roundabout way. Back in 1924, Sir Hubert Wilkins acquired a surplus submarine from the first world war, intending to use it to reach the North Pole by traveling under the floating arctic ice (something that was actually done three decades later), and he re-named the submarine *Nautilus*. Both Admiral Rickover's and Sir Hubert's submarines were named after Jules Verne's fictitious submarine in *Twenty Thousand Leagues Under the Sea*. Jules Verne, in turn, named his submarine after an actual small submarine designed and built by the American painter and inventor Robert Fulton and tested in the Seine river during the early years of the nineteenth century. The river water proved to be so muddy that Fulton could see for a distance of about five feet, and that, combined with Napoleon's lack of interest, ended the experiments. But it started the use of the name.

Where did Fulton get the name?

He lived in the days — sometimes I think of them as the fortunate days from the point of view of education — where a young man had to learn the classical languages before he was admitted to the study of anything else. Hence he knew that in Greek *naus* means a ship, *nautes* means a sailor and that the latter word has a poetical form: *nautilos*. But Fulton did not have real or even ghostly sailors in mind, he thought of a shell of the kind that is in front of me on my dsek. It came from far away — namely the Philippine Islands — and could be bought in curio shops. When sawed in half carefully, it showed a large number of chambers; and since the days of George Everard Rumphius of the Dutch East India Company, it was known that something resembling an octopus lived in the foremost and largest of these chambers.

It is a peculiar octopus, but since it is peculiar mainly when compared with other octopi, we first need a general discussion of the tribe, before we can dwell on nautilus.

The scientific term for octopus-like animals is cephalopods, the "head-footed ones," for the simple reason that not all of them have eight arms as is implied by the name octopus. They are molluscs, like snails and clams, but they are the most highly evolved molluscs there are. Most molluscs are helpless in the face of an attack; at best they have a hard shell into which to retreat. The cephalopods are usually the attackers. Very many molluscs are blind; the cephalo-

pods have well developed and especially large eyes. Some deep-sea forms have even evolved luminous organs in addition to their eyes. (There is one, just one, blind cephalopod, a small deep-sea form discovered by the oceanographic expedition with S/S *Valdivia* in 1899.) It is quite impossible to imagine anything less intelligent than an oyster, but the cephalopods have a degree of intelligence that might be compared to that of a bird of prey, and it may well be higher. Most molluscs are small; some cephalopods are the largest living creatures in the ocean, if you don't count the whales. Finally molluscs, if they move around at all, do so at the proverbial snail's pace; the cephalopods are the speediest inhabitants of the oceans, if only for short dashes. As a matter of fact they use jet propulsion.

Like all other molluscs, the cephalopods are geologically old. The oldest known fossil of a cephalopod was found in rocks from the Cambrian period of 500 million years ago. They have flourished ever since and still do, though at times the number of different forms was larger than it is now. About 10,000 fossil forms are known; the number of living forms in around 650. It is an amusing fact that two or three of the living forms are known only from the contents of stomachs of toothed whales; they have not yet been caught directly.

For purposes of classification, the cephalopoda are divided into two orders: the *dibranchiata* (meaning: two gills) and the *tetrabranchiata* (four gills); nautilus is the only living form that belongs to the second order. The first order has a very obvious sub-division into two groups. One group consists of the *octopoda* with eight arms of about equal length and equipped along their whole length with suction disks; quite often the arms are joined by a web at their bases. The other group is that of the *decapoda* with eight arms of about equal length and two so-called tentacles that are longer, sometimes much longer, than the arms. The tentacles are without suction disks except at their broadened tips; in some forms, there are claws in addition to the suction disks on those tips.

The three most common and therefore best known types of the

Fig. 1. Common octopus, jumping a crab.

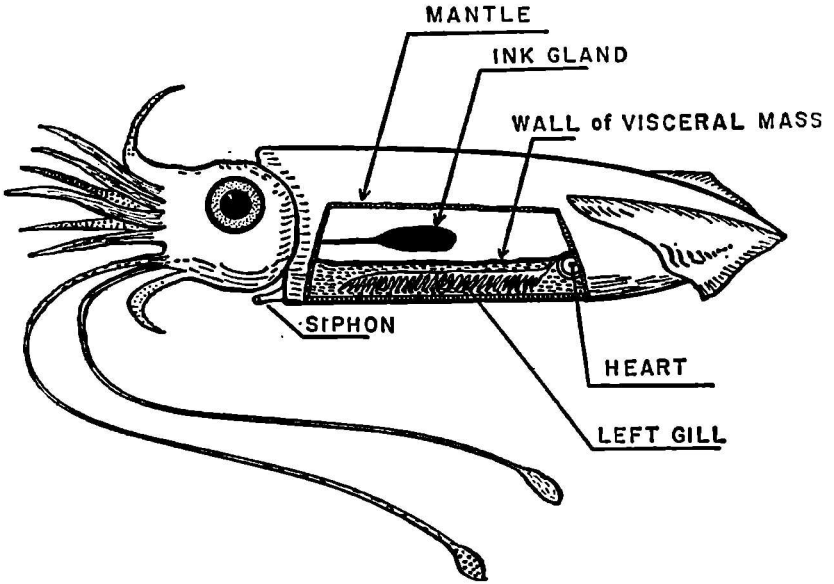


Fig. 2. Schematic drawing of a squid (Loligo), showing main anatomical features.

living cephalopods are the common octopus (the *Krake* of the Germans and Scandinavians) with an egg-shaped body and arms joined by a web. (Fig. 1) The scientific designation of the common type is *Octopus vulgaris*. The next one is the cuttlefish (*Sepia officinalis*), which provides the cuttlebone for caged canaries and finches and is slightly more elongated in body shape than the common octopus. The third well-known type is the squid, the *calamaro* of the Italians (scientific designation: *Loligo*), which has a torpedo-shaped body and especially large eyes. While the shapes differ, the internal construction is more or less the same — it might be called a bag within a bag.

The outer bag is known as the mantle, a flexible container of tough skin and many muscles. The inner bag bears the inelegant name of "visceral mass" and is attached to the mantle in only a few places. The space between visceral mass and mantle is filled with sea water; logically the gills are located in this watery space between the two bags (Fig. 2). The animal has complete control

of the mantle and can close it tightly around what must be called its neck. If it is closed in this manner and if the whole mantle is then contracted sharply, the water can escape only through the funnel (technically known as the *hyponome,* but more frequently called the "siphon") below the head. This produces a powerful jet of water, and the reaction principle causes the animal to move rapidly in the opposite direction. When this mechanism is used for escape, the discharge of the water from the mantle cavity is usually accompanied by a discharge from the ink sack, but this discharge does not act like an underwater "smoke screen" as one can read in many places. Anybody who has actually observed it has seen that the ink does not spread out rapidly; it stays in one blob for some time, a blob of about the size and the lumpy shape of an octopus. In short, the ink discharge produces something like a phantom octopus, while the animal itself is rapidly disappearing. This disappearance is aided by the fact that most cephalopods can change their color rapidly. A fleeting cephalopod makes itself look as pale as it can.

As for the color of the ink, it is deep brown in squids, blue-black in cuttlefish and plain black in the case of the octopus.

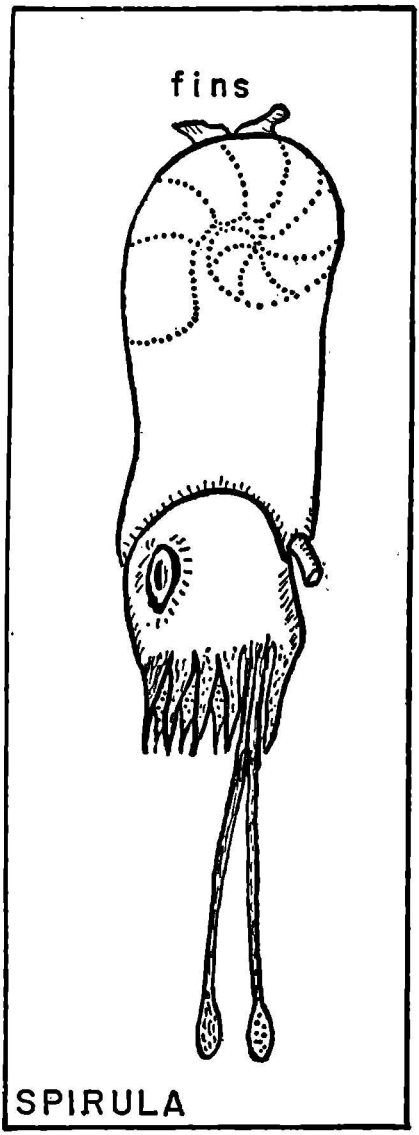


Fig. 3. The deep-sea decapod Spirula, showing internal shell.

Since the discussion is aiming in the direction of the shelled nautilus, we'll have to discuss the hard parts of the cephalopods next. The term mollusc comes from the Latin *molluscus*, meaning "soft," but most of the soft-bodied molluscs do produce something hard, the oyster shell being an example of exceptional hardness. The cephalopods of our seas have only two hard parts, namely the two mandibles of their beaks and the flat bony piece imbedded inside the mantle in their back. The mandibles are usually described as being like a parrot's beak in shape, and this description is quite good. To be fully accurate, however, it should read: like a parrot's beak upside down; for the lower mandible is the larger one which closes over the upper mandible. As for the bony material on the back, the cuttlefish has relatively the largest one, which covers the whole back of the visceral mass. The common octopus has only a small remnant of this "cuttlebone" — students who dissect an octopus sometimes have trouble finding it — while *Loligo* has what has been named its "pen" which looks like the active end of a native spear.

The foregoing discussion of the living cephalopods that do not produce shells can be summarized by saying that they have well organized and well coordinated bodies capable of rapid movement. They are characterized by highly evolved eyes with lenses just like our own, by the possession of ink sacks and the ability to change color at will.

At present there are three — not two as popular books have it — kinds of shell-producing cephalopods in the oceans. The one that became known last and also happens to be the smallest is a decapod named *Spirula spirula*. Its shell has a diameter of only half an inch and looks like a tiny snail shell. In fact, the shells were well known because they were often washed up along tropical shores. Just what kind of creature produced these shells was not known, and I doubt whether anybody guessed that it might be a cephalopod. The first specimen of the animal was dredged from a depth of 360 fathoms by the British oceanographic expedition of *H.M.S. Challenger* just about a hundred years ago. The decapod measures 1½ inches in length without the two tentacles; the tentacles, when fully extended, measure another 1½ inches. (Fig. 3).

In 1900 only four specimens were known. By 1920 the number had risen to fourteen. Then the Danish zoologist Johannes Schmidt began to look for the breeding grounds of the river eels and

found it to be under the Sargasso Sea. His nets, designed to capture tiny eel larvae, also caught *Spirula,* but many questions remained open until the two Danish expeditions on the ship *Dana* (twenty years ago) gathered a total of 188 specimens that could be observed alive and dead, could be photographed in black and white, in color and with X-rays. Because of these studies, conducted mainly by Anton F. Bruun, we know that *Spirula* lives at a depth of between 2000 and 3000 feet, that its normal position is vertical, with the head hanging down, that its movement in the ocean is also vertical with a vertical range of about half a mile, that the little shell is completely enclosed in the mantle, and that there are two small fins at the rear end of the mantle — that is, on top. Between the fins there is a luminous organ.

The shell-producing octopod that has been known for the longest time, namely since classical antiquity, because it occurs in the Mediterranean, has an appropriate classical name: *Argonauta argo.* Otherwise it is known as the paper nautilus because the shell it produces is paper thin and white and, incidentally, fairly elastic.

But here we are dealing with a specialized case that does not

Fig. 4. Cross section through a Nautilus, showing chambers in the shell.

have much to do with the general evolution of the cephalopods. To begin with, only the female forms a shell; the male is shellless and tiny, about half an inch long. The female has six normal arms and two that are broadened into nearly circular disks. A secretion from these two arms, upon exposure to the water, forms the shell. Classical writers told that these two arms were used as sails when Argonauta floated at the surface. This happens not to be true, but modern observers did see that they are used as paddles. The shell of the paper nautilus is not attached to the body anywhere and seems to serve mainly as a cradle for the eggs. Argonauta sometimes leaves its shell voluntarily, but Italian experts are firm in their assertion that it

will die when removed from the shell for any length of time.

And now we come to the true nautilus of the western Pacific, sometimes called the "pearly nautilus" because it occasionally forms inferior pearls in its shell, presumably as a response to a local irritation. That it differs fundamentally from other living cephalopods is shown by the fact that it has four gills. But it differs in many other ways too. Its eyes are not like the lens-equipped eyes of the other cephalopods — they are "pinhole cameras." It does not have an ink sack, and it lacks salivary glands. It has "many" arms instead of eight or ten, but they are all short, soft instead of tough, and they lack suction cups. Evidently we have here a primitive form of the cephalopods, an ancient type that managed to survive without major and probably even minor changes. (Fig. 4). But the very fact that it survived unchanged shows that Nature made a certain invention at an early date.

The animal lives in the large front chamber of its shell, but maintains a connection with the gas-filled smaller chambers by means of an appendage (called the siphuncle) that goes through small holes in the chamber walls, all the way back to the smallest chambers. Not many observations could be made, but it seems that there is also a gas bubble in the front chamber behind its body. When the animal protrudes a little from its shell, all the gas expands and the whole becomes lighter so that it rises to the surface, or to nearer the surface. When it squeezes itself back in its shell, the gas is compressed and nautilus dives deeper. Since Spirula has a similar, though internal, chambered shell and a siphuncle, it probably uses this method for performing its vertical migrations, with the fins used only for course corrections.

Even if one knew nothing about the primitive organization of nautilus except that it has a chambered shell, one would immediately think of the extinct forms of cephalopods and wonder what connection there is. One type of extinct cephalopods goes under the name of ammonites (Fig. 5). In some areas of Europe they are the best known fossils, and vintners and quarry workers have picked them up by the dozens each year for hundreds of years, probably taking them to be gigantic snails. Ammonites come in all sizes, from a few inches in diameter to the unbelievable *Pachydiscus seppenradensis,* found near a place named Seppenrade a century ago. The not quite complete shell measures nine feet in diameter.

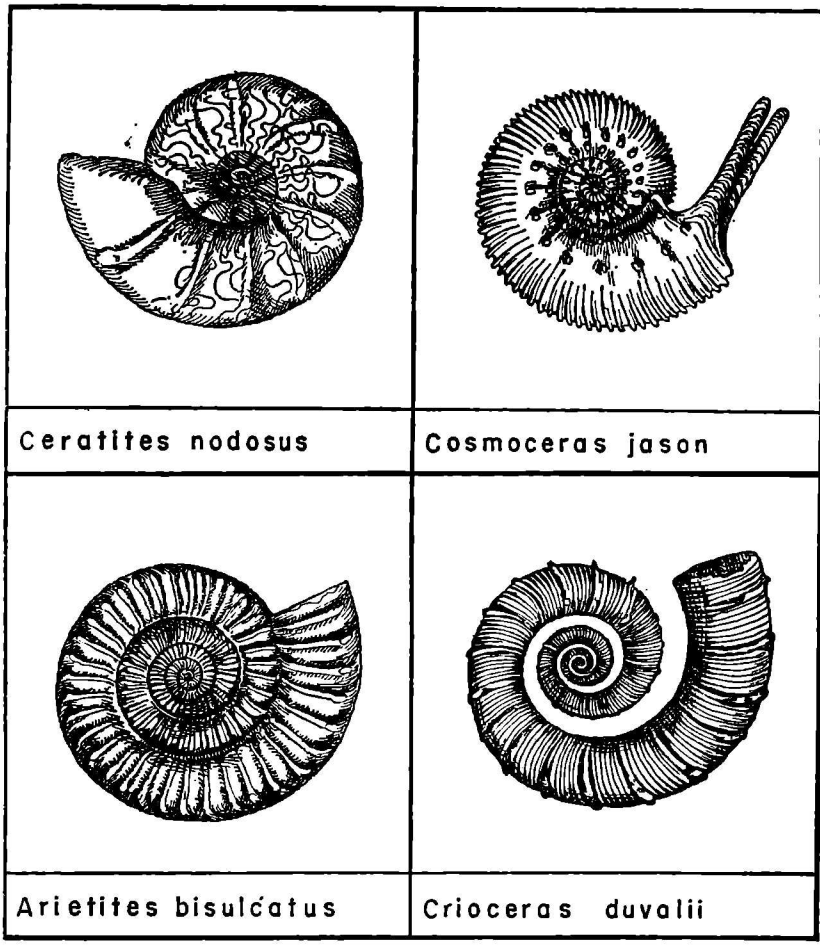


Fig. 5. **Four European Ammonites.**
Ceratites lived during the Middle Triassic (Muschelkalk Sea), Cosmoceras and Arietites during the early part of the Jurassic period, while Crioceras lived during the Cretaceous period.

The same vintners and quarry workers — and the fisherman of Lyme Regis in England — also picked up other fossils without knowing what they were. They were stony round dowels, each

with one pointed end. The best modern comparison is a cartridge for an infantry rifle. Even the size is about the same in most cases. They were called thunderbolts by the populace; educated people called them belemnites, from Greek *belemnon* which means a crossbow dart. They were also remains of ancient cephalopods; the largest known is *Megateuthis*, seven feet in length.

Feeling that we don't know as much about them as one could wish, I reached for an old book on fossils, printed in 1885. Well, we still don't know very much, but there certainly has been some progress compared to four score years ago. This is how our current knowledge of the evolution of the cephalopods looks:

Late in the Cambrian period, about 500 million years ago, the first cephalopods made their appearance with the first of the "nautiloids." During the Ordovician period that followed the Cambrian period and which lasted about 85 million years these nautiloids fantastically increased in numbers (most of them still with straight, not coiled, shells) and they fully held their own during the 40 million years of the Silurian period that followed. Near the end of the Silurian period (that is, about 360 million years ago) a separate branch began to split off, the ancestors of the later ammonites, the group being referred to as "ammonoids". During the following Devonian period (50 million years), the carboniferous period (85 million years) and the Permian period (25 million years) the nautiloids slowly diminished in numbers and later on kept diminishing until only one form is now left. The ammonoids, though all this time, held their own until, with the beginning of the Triassic period (about 195 million years ago), they exploded into multitudes of forms, reaching their maximum during the Jurassic period that followed the Triassic. They were still very numerous during the Cretaceous period that followed the Jurassic, but at the end of the Cretaceous, about 60 million years ago, they became completely extinct. Since soft parts of bodies rarely fossilize, we don't know what the late ammonites looked like; the general impression is that of a kind of super nautilus, with true arms and modern eyes. We do know that some had ink glands.

Just at the time the ammonites began to flourish, at the beginning of the Triassic period, the dibranchiates made their appearance, at first as belemnites. Though the belemnites themselves became extinct, the di-

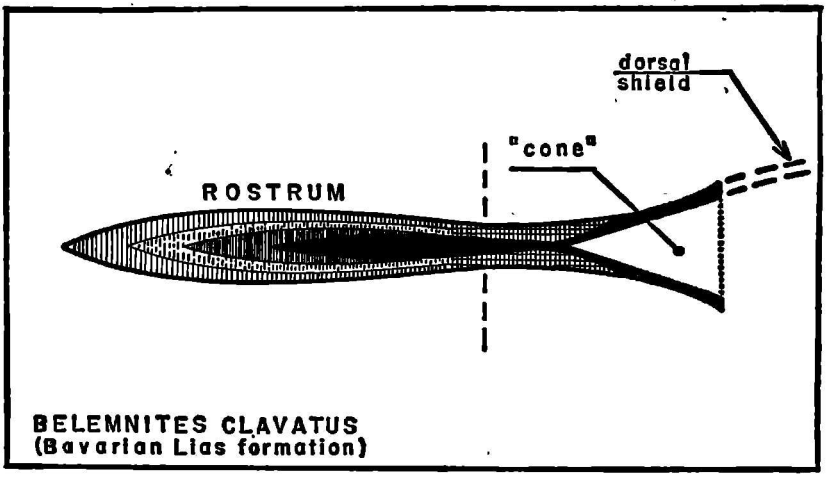


Fig. 6. Cross section through the hard parts of a Jurassic belemnite. Usually the rostrum breaks off near the broken line so that only the solid portion to the left of the broken line is found.

branchiates have increased in numbers ever since.

Fig. 6 shows a cross section through a late and reasonably complete belemnite. At the left we have the tail end or rostrum; it is solid but must have been inside the mantle while the animal was alive. The section I labelled "cone" (technically the "phragmokon" from Greek *phragmos*, meaning barricade) shows the location of the tail end of the living body. The "cone" then continued as the "dorsal shield" (technically the "pro-ostracum") which probably covered the whole back to the "neck," as does the cuttlebone of the living Sepia.

Because the rostrum looked so heavy, the German paleontologist O. Jaekel, in 1902, suggested changing the term rostrum to *pallix* (little spike) and visualized the belemnites as sticking in the bottom mud with these spikes, heads up waving their arms about in search of prey like sea anemones.

It was an amusing thought but a simple calculation showed that a gas bubble filling only half of the volume of the "cone" would fully compensate for the weight of the rostrum. If we assume tail fins outside the rostrum, we get a form quite like the living Loligo. It is known that some belemnites had ink glands, and some especially fine fossils from Lyme Regis

indicate only six arms for these particular belemnites. Faint impressions in the rock have been interpreted as a line of curved claws along their arms; whether they had claws only or claws next to suction disks is not known.

And that is the story so far. To go farther, we need not just more, but better fossils of ancient cephalopods. But if it were not for the beautiful living fossil, the nautilus, we would be on far more shaky ground in understanding what lived in the seas while the dinosaurs were walking the land.

— WILLY LEY

★ ★ ★ ★ ★

FORECAST

Ramond F. Jones is a veteran among science-fiction writers; thirty years or so ago he was writing some of the most provocative stories around, but in recent years we've seen little of his work. Next month *Galaxy* plans to remedy that lack. The story is a long novelette, which has to do with an unusual form of space travel; title is *Subway to the Stars.*

Also back with us after much too long a lapse of time is the spry young Englishman who, in the sixth decade of his life, decided it was about time he got married, did so, and now lives on the outskirts of a pretty little town in southern England. You know the one we mean. You know him, anyway, if you've read *The Day of the Triffids,* seen *Village of the Damned* or come across any of the other polished, gentle and literate science-fiction works signed by the name of John Wyndham. This particular example of his work is called *A Life Postponed,* and it's a novelette.

Poul Anderson (with *The Sharing of Flesh*) and Mack Reynolds *(Spying Season)* will also join us next month; so will two relative newcomers — Stephen Goldin and Joseph Green — both of whom are, as it happens, graduates of the "first" stories we publish each month in *If.* They've got their degrees now, as you'll see by the stories . . . .

The Market In Aliens

by K. M. O'DONNELL

Intelligent or not —
the price was right.

The first thing I did when I brought the alien home from auction was to plop him right into the tub. No sense in taking chances, even though they had assured me as usual that he was strong enough to exist out of the acqueous environment for several days. These were the same boys who had learned only after a lot of trial and error that they needed an acqueous environment in the first place, of course. The one thing I couldn't take would be an alien dying on me right off, and thanks to the liars and cheats who run these farces, there's a lot of precedent.

The next thing I did, after I established that he was going to lie there quietly, breathing slowly, turning the water their characteristic black, was to make a strong drink and call Intercontinental. I didn't even want to *try* making conversation with him; I had gone through that with the earlier ones, and it always came down to the same frustration, backed by whistling. Some day they're going to establish communication with them, and when they do, I'll be happy to talk. But until then, it's absolutely pointless. Besides, there is absolutely nothing an alien could say that would interest me in the slightest, not at this stage of the game.

I was lucky. I got Black, my

contact, on only the fourth or fifth try at the switchboard — Inter is in administrative collapse like almost everything these days — and after reminding him of all the favors I had done for him, I laid it right on the line.

"I've got one in the bathtub," I said. "A clean healthy male, in the pink of maturity, I'd say. All reflexes in order, highly responsive and probably as intelligent as hell; he's piping a blue streak. I just got him this afternoon."

Black shrugged, a common business technique, and then cut off his viewscreen. "Don't need it," he said. "We're already overstocked."

"You need this one. Prime of life and all that. Furthermore, I was able to get him reasonable, and I can pass that saving right on to you."

"Sorry," Black said. "We just don't need it right now. These things haven't been moving as well as we had hoped in the last month. People are tired of them, and I think there's a lot of guilt building up too. What the hell, they may be intelligent with these space machines and all. Speaking personally, I think the bottom has fallen out of your craze."

"Never," I said. "You're talking about the whole appeal."

"You don't understand psychology. Not to get involved, though, and just because I'm curious, what would you want for it?"

"Five hundred."

"Five hundred what?"

"Dollars," I said. Black was my contact at Inter; I had sold him eight aliens at more or less fair prices. Nevertheless, all that sentiment aside, he could drop dead most of the time, as far as I'm concerned.

"Oh. I thought you meant five hundred cents. At that level, we might have something to talk about, for taxidermic purposes anyway. But I can't use it, Harry. We can't move the stock we got. I tell you, the word is out on these things, now with the research. We don't know what we've hooked into."

"Three hundred," I said, cutting out my own viewscreen, letting Black drift in uncertainty for a few moments, a legitimate business technique. "For you. Just for the turnover. Hell, I got him at 275 so you can see that I'm practically crying."

"No, Harry. Speaking seriously, I probably could take him off your hands at 150, maybe 175 if he shapes up. We could sneak it through. But I couldn't ask you to take a loss like that, could I? A friend is a friend. Try Franchise."

"I will if I have to. But I don't

like Franchise. I consider you my closest friend in this business, Black. Just to keep that relationship alive, I'll let you have him at cost price. All right, say 250. Just to have the lines opened." I had bought the alien for 100, and the auctioneer had been practically begging for that figure; Black was right about the bottom having fallen out. Nevertheless, I hated to concede a point. It was the first step to losing money, and I hadn't lost a cent on the freaks yet. Not one. And not ever.

Black sighed and put his viewscreen on again, gave me a good view of some cigarette-work. "200," he said, "and you'll have to deliver, and the beast better pass."

"225 and you make pickup. And he'll pass. He was trying to sing me a lecture in there before."

Black showed me some smoke. "210 and I'll make pickup."

"Done," I said, and flipped on my own viewsceen, projected some sensitive profile-action. "How soon you be over?"

"We'll have a crew in about half an hour. You better get it sedated, Harry. Some of the crews are getting nervous about this whole business, now. I don't want any of that whistling."

"Leave it to me."

"Don't overdose him now."

"Don't worry about a thing," I said. "I treat them right. He's in perfect shape and he'll stay that way, and he'll be quiet as the tomb on the way over. You'll have the usual certificate for me, won't you?"

"Of course. You know how we do business. Personally, Harry, to loosen up a bit, I tell you that I don't see much of a future in this business for either of us, not with these latest reports. But I agree that you always came across with fair merchandise, and if he's a nice specimen, we might be able to turn him over to a lab, skip the zoo-route completely. I'll do this for old time's sake, but the lab pays only about 300, I want you to know, so who's taking the loss here?"

"Maybe the alien, is that what you're trying to tell me?" I said, and switched off altogether. The hell with them. Unctuous bastard. If anybody was going to get crucified first, though, it was going to be the Blacks, not me. I was only performing a service for a public demand, and I could prove it.

I went into the bathroom, feeling pretty disgusted with the whole conversation, and looked at the alien for a while. He was in a semi-doze, one of the usual comas, the eyes bright and fixated on me as he moved slowly on his back. His tentacles were

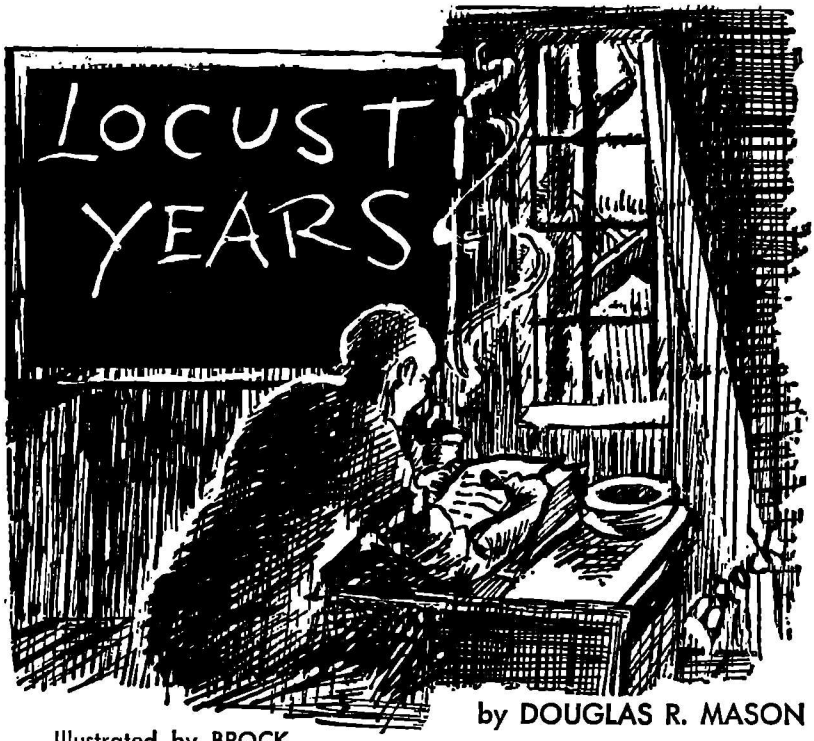
twitching. No whistling, no gestures though.

"Only a few minutes for you here and you're gone, boy," I said. I always try to communicate with them; *I* never said they weren't intelligent. Deep inside me there is the belief that a bit of soul exists in everything. Hell, maybe they came to earth to cure us; how the hell do I know? When I see it, I'll believe it, that's all I know.

I locked the bathroom door and went into the den and watched television for a time, waiting for the crew to come. As usual, Black's boys were late. A bulletin came on saying that yet another of their ships had landed somewhere near Lake Michigan, the second in a week in that general area, and that the usual procedures were being followed. That relieved the depression a bit. It meant that if they were efficient there for a change, the auction would probably be ready to go by day after tomorrow. Detroit was a nice city; I hadn't seen it for a while. So I called United and booked flight, taking coach; no sense overdoing pleasure with business.

Some time after that, just before the crew finally came, one of those damned scientists came on in an interview with the usual recent crap about mass guilt and stellar communication, and I switched that right off. The profit on the sale, less the airline deposit, left me with fifty clear and what I did was to call Ginny and take her out. We went to the zoo where I showed her the two specimens which were mine. On my own level, I'm very sentimental about the freaks.

— K. M. O'DONNELL



by DOUGLAS R. MASON

Illustrated by BROCK

The years whisk away like calendar pages . . . and new men strive against new fates !

Kinglake opened the thick, leather-bound, log book with distaste for the chore that lay ahead. It was no help to know that it was his own fault. If he had spent a few minutes each week keeping it up to date, he would not be faced now nearly a year's arrears of entry.

April. The cruelest month. Nothing put down in the log book since September last. He fished in an untidy drawer for a vacation schedule. He would need to look up dates for periods when the school had been closed.

The rhythmic thump of a pile driver started up again and his solid brass ash bowl began to sidle over the desk top.

His long, thin, old-man's hand reached out automatically for a black briar pipe, and he filled it carefully in a delaying tactic. With blue, fragrant smoke wreathing gratefully round his head, he started again.

It was a long record, running from the school's building in 1892. Copperplate entries on the first pages. Signed every now and then by visiting inspectors to confirm that the children of the deserving poor were being put through their paces and kept in good order. Some of the entries were about rickets and head lice — up to scratch, as they used to say. Not much of that now. Still some, though, in spite of the Welfare State. A hard core that even the phalanx of do-gooders could not winkle out of squalor.

He read the entry for November 11th, 1918. News of the Armistice had come in the course of the morning. The boys had been assembled in the school hall and had cheered for the return of their brothers and fathers. Well, children would cheer for a black pig. He wondered if they had been any more socially or politically conscious of what it was all about than a similar group would be today. Probably not.

The headmaster had sent the janitor down to the town hall to ask for the rest of the day as a holiday. Not granted; some regulation was against it. Millions of dead and the opening of a new era, but the books had to be neat.

Morning sunlight came from tall narrow windows. He was grateful for the warmth in it. Blood getting thin. How many more winters could he stand? Retirement at the end of the session. Good or bad? More of Enid with her iron tongue and uncertain temper. That was a line of speculation he did not want to follow.

He turned quickly through a hundred pages to his last entry. Changes of style in writing marked the careers of his predecessors in the post. Many of them careful record keepers. How would the next man assess his own crabbed contribution?

Not many pages to body out twenty-five years. Bald statements of opening and closing. Many teachers, many children come and gone. What had he done himself? Not a lot. Kept the lunatic fringe of so-called progressives at bay. Allowed his staff freedom to do their job.

In the yellow light, he could see that the room was full of dust from the extensive alterations that were going on. All this wing was due to come down and be remodeled.

Maybe it was the dust that was making him light-headed. He had noticed it for the last two days particularly, like the beginning

of a feverish cold, with items in peripheral vision sliding about.

The thump of the machine seemed to catch a harmonic of his heartbeat, and he felt suddenly that it was controlling his breathing. Too much tobacco. He'd have to knock that off, or at least save it for the home front, where there was more need for a euphoric.

A voice at his elbow surprised him; he had neither seen nor heard Prenton come in.

"Are you all right, Mr. Kinglake?" There was a note of eager concern in the craft specialist's voice. He was one who found a macabre delight in human pathology. So far, in their quarter century of brink confrontation, he had not yet had the pleasure of finding Kinglake in anything but health.

"All right? Of course I'm all right. What is it?"

"The contractors, Mr. Kinglake. I promise you I'll have to put in for a transfer if you don't get them to see reason."

"What's worrying you?"

Prenton had a responsibility for general discipline at the boys' end of the building.

"It's that hole, Mr. Kinglake. There was no call for that excavation! They should have waited till we were off the site. I tell you it's like a mine shaft. Anybody falling in there has had his dinner I can tell you. Aye, and his tea."

Kinglake found that he heard the words as though his ears had been shifted away from his head and were passing on the data through a bad line. He forced himself to go through the motions of lighting a match and saw the flame tremble as he put it across the bowl of his briar.

But the words seemed to come clearly enough. "Don't worry about it, man. Nobody is going to fall in. They'll put barriers up before the end of the morning."

"Barriers, barriers! No barriers are going to stop some of these little devils from getting near. Right at the boys' door there. My flesh creeps every time they come out."

"I'll talk to the foreman. Maybe they can put up a solid screen. It won't be there long. I know they start pouring in the filling today."

Suddenly he felt ice-cold, as though he had been spotlighted in a beam of refrigeration.

He clenched his teeth on the mouthpiece of his briar and controlled his voice with an effort. There was definitely something wrong. Pride made him determined to face it alone. He said, "Very well, Mr. Prenton, I'll see to it. Leave it with me."

A form of words. How often had he used it? How often had

he found that there was nothing profitable to be done?

He heard the clamor of the construction work break in on him as the door opened and mute slightly again as Prenton pulled it closed behind him. The walls of the room were shimmering as though he was looking at them through the convection currents above a coke brazier.

A solid, dependable artifact — the brass, cauldron-shaped ash bowl — had shifted itself until it was chocked against the spine of the log book. He put both hands out and grasped it by its two lug handles.

From dead cold, he was now almost unbearably hot. The bowl was vibrating like a dowser's rod. A focus for more thermal agitation than could be explained by the shaft of dusty sunlight falling there. His head was pulsing. Swelling and contracting like a pump diaphragm. Beating up to hit a frenetic rhythm, as though it was aligning itself to a fluctuating power field concentrated suddenly in this place.

Something had to go. Something had to break. Kinglake was fighting to breathe.

His own face, distorted by curvature, stared back at him from the polished surface. But was it his own face? It was plumped out. No wrinkles. Under forty you would think. A blue strip under the chin puzzled him, and he saw one hand go up to his throat . . .

The wrist was momentarily strange; for one thing, it carried a multi-colored flat disk on a metallic strap. Yet he knew it was his. He was not leaving a familiar scene for a fantasy; but waking from a fantasy into reality.

He had been pulled through an iron gate into a new now, which was at once strange and not strange. The brief seconds that it took to orient himself were enough to sink the past.

Kinglake was long gone.

In front of him was the site console. He shivered and stretched. Too many late nights and early mornings. A lot of work to get through before the end of the day shift.

His name was on the panel: Sam Taylor. He wondered why it had momentarily seemed as though it belonged to somebody else.

Both hands forward on the coordinator, he eased it along to take up some slack that had developed in his short catnap. Excavators were trailing on disposal cars; already two tubs were waiting to be filled and a third coming into the screen from the far corner of the site where it had tipped its load.

Nothing was seriously out of phase; but he prided himself on keeping a sustained and balanced flow of effort. Also there was some waste. The waiting tubs were consuming as much energy as they would if they were working and he had a budget to meet.

Sam Taylor traversed the site and ran the data into a computer bank as it came from his long, oblong scanner.

His machinery was all round the perimeter, like a siege train. Diggers, stabilizers, gyro jacks. He was virtually holding the old building up with one hand and slipping in a new set of foundations.

Tape chattered out to give him a written gloss on the state of the operation. All to plan. Bore samples had given a forecast of density and cohesive index that was being justified to a fraction of a per cent . . . Except at the corner of the site nearest his operations room.

That was where the holdup was. There was satisfaction in finding that it was something he could not have been expected to foresee. A development outside the probability level at which he was working.

He pressed a request button for his works technician. He had a labor force of three for this assignment, all skilled maintenance men. They were hardly necessary except for fine adjustments and some resetting of the robot tools when he wanted a change of function. Williams took a minute to answer the call, and Sam Taylor suspended work on the foundation for the new tower block. There was plenty to do elsewhere. It was a major reconstruction of the old polytech.

Sweeping through a physical education space, he paused for the recreational pleasure of focusing on the girl who was leading a class through a calisthenic drill. Helda Greer. An athletico-somatic type, currently poised in an arabesque that would have had Rodin's dry bones rattling round for a hammer and chisel.

Williams, coming through the door at his back, said sourly, "Must be an Amazon. That sort's no good. I like something you can get hold of." He knew it would needle Taylor and it was one in a long line of jabs he had been making since they started the assignment.

At forty-nine Theo Williams had twice missed the regrading which should have put him in the executive slot. He reckoned it as an insult to be put to work under a man who had stepped straight into control from a desk at Construction Faculty.

Sam Taylor knew it and he had sidestepped every confrontation. He wanted the job to go

well and he was prepared to move a long way in a man-management ploy. This time, however, he twisted round and took a steady look at the narrow, Welsh face of his top hand.

There was no mistaking the dark pleasure of malice. He said, evenly, "Okay, Williams, keep your mind on the job, and, we'll get along. Take this sample. Run it through the analyzer and see what we have."

Williams hesitated for a long second, then lifted the shining metal cylinder he had brought in and fed it into the receptor slot on the console. His back was eloquent enough; it said as plainly as if he had spoken it out, "All right, you clever young bastard. You're the boss. But I'll wait my time."

Taylor went on with his review. Only ten minutes to the midday break. Then he would have to stop work and leave the gear on safe while the two thousand students on the site milled around for their recreation period. He was meeting Helda in the staff refectory. Maybe she would be in a mood where he could push his case along, get her nearer a frame of mind to accept a marriage contract.

Tracking through a practical History room, he stopped long enough to watch a woolly mammoth materialize in the clear projection arena, behind floor-to-ceiling grilles of tough insulator. It was at the end of its tether. Bristling with throwing spears, literally foreshortened, because its front legs were sunk to the knees in a pit. Twenty stocky tribesmen were yelling their heads off and pitching lianas over its back to anchor it down.

Watching the History projectors could be a life's work. In fact, it would need to be for somebody, or all that redirected imagery would run to waste again. It was twenty years now since the first reflector probes had intercepted those etiolated ripples which had gone out from the Earth's past and were still streaming away carrying pictures of the present. Accelerated and amplified, they were being beamed back again to give the first authentic reconstruction of time past. Not that it had been done without teething troubles. The massive forces needed in the amplification stages had been hard to handle. Spillover and freak effects had been common. Some projection arenas had been turned into charred ruin. There had been some doubt about whether his own influx of electronic machinery would unsettle the field. But as of now the projection looked okay.

If he hadn't settled for engi-

neering, Taylor reckoned he could have made a career in History. There was a lot to do. So far, it was a hit and miss business to get the probes in the right place. No selective refinement was yet possible. Particular places and particular times could not be isolated. But what had been tapped put every record that had ever been made out of date. Somewhere along the line, sometime, they would find the piece that finished the jigsaw of man himself.

Williams broke in with, "It's a mixture of straight concrete and a plastic filler. Some local soil variant acted as catalyst and the stuff went dense. It happens."

"Not often. What's the index?"

"Fifteen per cent over what you gave as the maximum tolerance for auto adjustment."

"The "you" was stressed just enough to suggest that Williams himself would not have been so stupid.

Taylor went systematically round his console bringing everything to safe. Work ceased all round the perimeter. He could take a look at the rogue section before he started up for the afternoon run. Meanwhile his tolerance for Williams's attitude was wearing thin.

He said, "We used standard sampling practice. There was no way of knowing that there was a deviant patch at the tower foundation. But since you've brought it up, we'll be sure. Make a fresh sampling at meter intervals, round the tower. See how far the condition goes. I'll look at it before we start up."

In spite of the reasonableness of the tone, Williams recognized it as a turn of the screw. "That'll take an hour. On my own time."

"If it's time you want, Williams, I can arrange all the time in the world. The next Labor Board is Thursday. By Thursday week you could be on a ship for Xuthus, where they need all the civil engineers they can get."

It was the first time he had cracked the whip, and he waited for Williams to counter. It was a real enough threat, though. As engineer-in-charge, he had absolute control of the work force and an adverse report could get any one of them up for redeployment. Coupled with a memo on attitude, it would be enough to close promotion prospects for all time.

When it came, Williams's response was almost deferential. "No need for that, Controller. Of course I'll see to it right away."

Eager eyes, light-brown hair curving into the nape of her neck. Still wearing a pale-yellow practice leotard that blended in like a simple color change of brown skin, Helda Greer was al-

ready waiting at a window seat table. Sam Taylor, making an approach run from her left and unobserved until he spoke into the shell ear turned his way, would have preferred some quote of cosmic grandeur, but in actual fact said, "Hi. Sorry I'm late."

Theo Williams, watching it sourly on the scanner, rated it higher than it deserved, working on the girl's warm smile of welcome and the quick turn of the head that sent her hair moving under centrifugal urge. "The smooth young bastard." He toyed with the idea of dropping a non-recurrent shock wave on the table and then reconsidered. "I'll fix him all right and I'll fix him good. This project means a lot to him. When I've finished, he'll wish he'd never taken it on."

He fished round the site, waiting for the idea that was still in the germ stage to grow by division.

In the History arena, the actualizer was still transmitting. A few students were watching the mammoth through its last agonies. Interrupting, that would be something. Part of the contract was an assurance that there would be no interference with the work of the college.

He made some adjustments. He gathered a ball of free energy from the idle machines and held it in a magnetic field. Enough to heat and light a fair-sized town. Dropping that in the arena would shatter any wave pattern thereabout. Taylor would have to take the responsibility, and it would take some explaining away.

With nice calculation, he aimed for the center of the beast's forehead and collapsed the containing lines of force.

For a count of three, he believed he was on the wrong tack. Then matter from round the scene began to fold in. He saw a group of students scatter and try for the door. There was a trembling in the structure beneath his own feet. Two men and a girl, who had been standing up close to the barrier, were drawn through it in a mash and seemed to be sucked into the animal's slab side.

It reared up. Trailing ropes snapped like thread. In a ferocious concentration of energy, it heaved its foreleg out of the pit and was charging for the barrier.

Williams tried to re-establish the field beam, but his hands were slippery with sweat. Suddenly clumsy, he reinforced the plasma. A charred swathe of destruction blacked across the screen.

He threw the master key and killed output. Now he could hear some of the racket that was coming from inside the building. It was time to get out.

He picked up his gear and made for the tower excavation. He

would be discovered busy about his master's business, zeal from the sole of his foot to his widow's peak.

When the plastic wall of the partition at his back shattered towards him and a massive semi-transparent head broke through, he was leaning over the hole, guiding a sampling tube into the depths. Turning and stepping back carried him over the threshold of no return.

He was falling even before the leading edge of turbulence nudged into his side.

Sam Taylor heard the outbreak of chaos from the refectory and thought at first that some of his holding jacks had crumpled.

He was out through the door two seconds ahead of the nearest diner, unaware that Helda was less than a meter behind him.

They were in a spiral circulation space that ran like a processional way to the heart of the polytech complex. Older elements of the building showed up at intervals. Part of Taylor's assignment was to rationalize the structure and bring it all up to 22nd Century specification.

Nearing the History arena at the center, he passed the turnoff for his control cabin. That would save time. He checked, turned and cannoned into Helda. There was a brief second to register that she was fully with him in this, concerned that it should not be any fault that could be pinned on him.

"In here! Use the screen to find out what happened!"

Methodically, he started at the middle and went out in concentric sweeps. It was easy enough to pick up. Devastation started in the wrecked arena and trailed out in the wake of some moving agent. Random movement, difficult to get a direction.

Then they saw it. The energy ball filling out the mammoth shape had blundered through a relatively thin partition wall and had come up against a piece of the old fabric. Solid stonework that had once been an outside wall. The mammoth was nudging at it, swaying backward and forward a meter at a time. Somehow, the mind structures of the original beast were imposing a behavior pattern on the composite form. Rhythmic vibration was carried through to the floor at their feet.

Helda said, "I can't believe it!"

"Believe it or not, he'll have that wall down."

"What can you do?"

Taylor was checking round to gather a power surge. The positions of the controls worried him. They were already in rough adjustment.

With a sudden intuition, he

knew that they had been used before. Williams! It had to be Williams. He had triggered this off.

If that were so, another injection of plasma would be the worst thing.

Trying to reason it out, he said aloud, "It hasn't all that much power or it wouldn't be balked by that wall. Therefore we can neutralize it with enough inert material."

Near the tower, he had already lined up a caterpillar dumper, set to pour in new foundation material. In ten seconds flat, he was in its rugged cab with the controls on manual, spinning it slowly on its tracks.

Helda said, "Is there anything I can do?"

"Hold onto your seat."

The machine was never meant for crossing rubble. They leaned at a crazy angle as he followed the path the mammoth had taken when it backed away from Williams.

Alarm bells were ringing in every corridor. A group of senior staff crossed their path, and he waved them away. The dumper was adding to the structural damage, and his mind was racing with calculation to assess if the building would take any more or fold up round them.

The mammoth was still there, and edged round clumsily to face them. Small red eyes, set in a notional, half-resolved head; stupid with pain and anger; level with the high-driving seat.

As it lumbered forward, Taylor opened the sluice.

A meter-wide jet of gray insulator hit between its tusks and began to set as it came into the air. Movement forward stopped. Head waving sluggishly from side to side, the mammoth tried to weigh up a menace which nothing in its past had prepared it for.

Then it was knee deep, with the first layers already rock hard. He shifted the chute and set hoop bands over its back and then filled in, until there was a tight cocoon of material hiding it from sight.

When it was done, there was only a gray block, half filling the room. God, that would take some shifting! The foundation material was designed for use where it would never have to be moved again. There would be days of work there, with a labor gang chipping it out with lasers.

Taylor sat still and considered his losses. Hardly a possibility of meeting contract date. And nobody was going to fall over backwards to make excuses for him. He'd bet all Lombard Street to a china orange that they would pull him back to the head office and send in another engineer.

Another aspect of the affair

struck home. Demoted from the top slot, he was in no position to push ahead for Helda. Only executive grades could jump the statutary age requirement. She wouldn't be around in three years time.

He said with heavy finality, "That's it, then. I'll have to report this to Auto Union. There'll be an investigation unit down within the hour."

"But it isn't your fault."

"Indirectly it may be." He offered no other explanation and pushed past her to get through the hatch. "Don't hang about here. There may be more to come down."

One thing he could do — and that right away — was find Williams and squeeze the pips out of him. He had to know just what had set this up.

The principal of the college, tall, balding, white-faced, met him outside his office. "I knew I should never have agreed to this work while the college was in session! Somebody will pay for this. Do you know there are seven students missing? Costly equipment ruined! Rooms smashed! We shall have to close."

"What makes you think I had any part in it? That projection developed out of your History arena. It had to be stopped."

"Of course. Of course. But what made the actualizer fail? There are eye-witnesses, technicians at the actualizer control. An external power field was brought in. A failure, to say the least, in your equipment. Criminal charges could lie against your company. Criminal carelessness."

Sam Taylor knew the man had a point; but he was too bitterly aware of the personal angles to try for conciliation. "All right. You'll have your say. As for now, get off my back. See that all personnel are clear of the building. There may be more danger of collapse. I'll make it safe."

After thirty minutes of intensive effort, with his machines moving along silent corridors, shoring, rebuilding, clearing rubble, he was satisfied.

With the extension plans etched on his mind like a blueprint, he worked on lines that would fall in with the final requirements for the site. In some ways, it was the most productive half hour since the assignment had begun. Whoever carried on with it would find that there was no major part of the emergency work that had to be done over.

He had talked to his other two men: Kestler, a heavy, slow-moving Swede who was clearly mystified by the whole business; Andy Clarke, elderly, a man of few words, one of the best workers in the whole Auto-Union labor force.

Neither could have done it. Nor did they know where Williams could be.

The sampling gear was out of its rack. Sam Taylor reckoned he could start from there. Williams could have gone to the tower excavation.

He took Kestler and Clarke along. If Williams was in a homicidal mood, he would need help. In the event, it was Kestler who found the operating cable for the sampler, "Here, Controller. He was working here."

There was a thirty-meter drop and a slow swirl of white sludge at the bottom, with darker patches that could be the outline of a body. Water had been coming in from the subsoil.

Taylor said, "Rig a line. I'll go down."

Thigh deep, he found solid ground under his feet and had to walk clumsily to catch Williams and lean him up against the central lump of foundation that his diggers had been working hard to clear.

As a witness for any side Williams now could only be reached by a crystal ball. Taylor ran his hands over the dense material of the column. Since he was there, he might as well pick up a sample for himself. Other faces were looking down from the rim, a ring of heads staring at the trog in the hole.

They saw him gather in the sampling shuttle and activate it like a drill against the wall. They saw a long dark crack appear, as if the material had a flaw in it, and a ragged, oblong slab two meters high fall out, so that Taylor had to throw himself clear to get from under.

What they did not immediately see was the dark cavity that it revealed and the well preserved body of a man who fixed him with sightless eyes in a face that was an older version of his own, before the air got to his vacuum-sealed flesh and it disintegrated into dust.

Sam Taylor collected his personal files and zipped them in a document case. Reaction from Auto Union had been as swift as he guessed it would be. Suspension had been immediate and a relief engineer was even now on his hotfoot way. There was no doubt, either, how the inquiry would go.

He sat at the console, checking that he was leaving a straight edge for his successor. It was, anyway, something to do and gave his mind a non-self-regarding focus.

Helda Greer was standing behind him before he had registered that she had come through the door.

"I heard you were going and

I came right away. I'm sorry. It wasn't your fault."

"That's all right. It was. I ought to have known Williams was a nut."

"That makes two people you couldn't weigh up." Her hands were on his shoulders and she was meeting his eyes in the reflection on the blank scanner.

"Two people?" It was not a feint. He really did not know what she was getting at.

"You're making this very hard for a well brought up girl. I'm sorry about the job; because I know what it means to you. But I'm not a status-seeker. It doesn't make any difference as far as I'm concerned."

Sam Taylor sat very still. Obstinately he had to be sure. "It will be three years before I can offer a contract."

"I can wait three years." Her head was over his shoulder, hair a fragrant, silk pad against his cheek. She quoted softly, "I will restore to you the years that the locust has eaten."

Even the pale image in the screen carried the affirmative. An earnest that it was indeed so. Obscurely, he felt that there was a pattern in it. It seemed inevitable, now that it was out and said. As though something prepared a long time ago had come to fruition. Helda had moved round between him and the screen and leaned back on the sloping presentation table. Taylor felt a sudden lightening of spirit as if the old man of the sea had been lifted off his back.

He put his hands on either side of her head.

In the History Projection Lab a maintenance mech snapped back the last panel of a long spread. "Well, it's okay. Nothing gone dis. You say it's been working true? God knows why. Must have been leaking harmonics all over the opera. You've been dead lucky there were no side effects of your own making. Don't spread it about, or the legal boys won't have a cast against Auto Union."

Kinglake looked stupidly at the brass bowl between his hands as though he had not seen it before in his life.

How long he had been sitting with his arms stretched forward on his desk, he could not tell. But his erect back twinged stiffly as he moved.

Now there was no room for doubt. He would have to see the quack. Get home if possible. Better to phone from there. Ought he to drive his car? Hell, he was past caring. He felt cold, with an indefinable sense of loss. As though the most important thing in the world had been taken from him. What was that, then? There

were precious few things he cared one way or the other about. That was age for you; he had been dying by increments for years and now the cumulative check had been rung up.

Kinglake heaved himself out of his chair. When he was standing, his legs felt curiously light and tubular. His footsteps came to him as though his ears were twice as far from the ground as usual.

A short dogleg corridor ran from his office to the school assembly hall and a small reception area inside the main door.

There was the muffled sound of music as a class went through a broadcast rhythm and mime period.

As he turned left to make for the main door, there was a surge of noise at his back as the hall door opened. Someone coming out.

Surprisingly, the girl who was closing the swing door was not known to him by name. A newcomer. Family had moved in from a neighboring town during the week. Still, she would be able to pass on the message.

Supporting himself with one hand on the wall, he said, "Just a minute — before you rejoin your class. Would you be so good as to find Mrs. Charlton? Tell her I have had to go home. I'll telephone and let her know when I shall be back."

She was only two meters away. "Are you sure you're all right to go alone, Mr. Kinglake?"

Now he could see her clearly. Oval face, straight hair, light brown. Very expressive eyes, which held genuine concern, turning suddenly to a puzzled kind of recognition as though she was seeing someone she knew well, but whose name she'd forgotten.

His voice was the saddest sound she had ever heard and the words made no kind of surface sense, though at a deep level she accepted that they were meant for her.

"Thank you, Helda. Whether I like it or not, I shall have to manage alone for the locust years. Find Mrs. Charlton."

April sunshine in the porch, blinding his eyes. Kinglake put down his head and went, unseeing, on a path he had taken for so many years it was part of the furniture of his mind.

It was not until he was in free fall he remembered the tower excavation. He clamped his jaw tight to hold back a shout and hit the bottom erect as a guardsman with his hands stiffly by his sides.

As his feet touched down, the first pouring of a new plastic filler surged from the waiting chutes and filled the foundations to seven meters above his head.

— DOUGLAS R. MASON

THE TELL-TALE HEART-MACHINE

by BRIAN W. ALDISS

The heart is only a mechanical pump, hardly suitable symbol for love — unless you look below the surface!

I had to charter a private plane to fly down to my country place on the island. All the way, even more insistent than the knowledge that I was ruined, I was haunted by the knowledge that, because I could no longer afford to be flown home, I would have to sell the island. It was that last bit of bad news that I most dreaded breaking to Jane.

She met me with the ancient Bentley at the airstrip.

"You look tired, Daddy. You are going to be fed and put to bed., Thus her first words.

"You really know how to sap a man's confidence! It's all nonsense and, anyway, you always say that."

"It's always true."

"And I always refuse to go to bed."

She was — well, it was five years since Viv was killed — yes, Jane was twenty-two. The plane crash, the death of her mother, my long spell as an invalid . . . they had distorted her life pattern. She was just slightly too bossy; she scared away

the boys, although she was pretty enough. She drove well. Just like her mother.

It was good to see the house again. Mrs. Singer, the housekeeper, came and said Hello. I sat in a chair and relaxed while drinks were brought. I raised the glass, Jane raised hers. We drank.

God, I thought, what happiness I have survived, and what misery!

"So you and Jerry Keynes are thrown out of Lawrence Life-Forms, Daddy."

"Have you been watching the battle on TV?"

She nodded. "You were right to stand up for your point of view."

"The share-holders thought otherwise."

"Will it help you to talk about it?" There again was the note I dread to hear in Jane. Life was passing her by. She was living out of her depth. Nobody really says: "Will it help you to talk about it?" She had picked up the phrase from a telly-play.

"I really am tired," I said. I'll take your advice, go to bed, sleep off the worries of the last week, wake like new in the morning."

"How's your heart, Daddy?"

"Best bit of me. You know that!" We smiled — as we had smiled before, over those same words.

As she left me at the top of the stairs, she said, "Tomorrow, you must come and see the dinosaurs. They like their new pens."

"Good!" But of course the dinosaurs would have to go, like everything else . . .

Deciding to take a shower, I undressed slowly in the bathroom. In these rooms now, there were few reminders of my wife. The bedside lamp had been hers. She had chosen the carpet. She smiled from a photograph, a distant Viv, not enjoying the photographic studio.

What would she have said if she were alive to see her father, the great Sir Frank Lawrence, turn his son-in-law and the other junior partner out of the firm? She had always known he was a ruthless man; Lawrence Chemicals had been his fathers creation; but the startling synthetic life-form developments of the nineteen-nineties had been all Frank's doing, as had the establishment of Lawrence Life-Forms. I had helped substantially; but I had remained a contract man.

As I slid out of my vest and started the shower running, I told myself as he had started me in the business, he had now pushed me out of it. That counted as fair play, by worldly standards. And he brought his daughter into the world, the old bastard!

I caught sight of myself in the long mirror as I climbed into

the shower. Thin stringy body. Forty-five years old, looking more like fifty-five. Nothing to what I looked like after the plane crash, of course.

I hadn't touched another woman since Viv died. One of the reasons was plain to see. The surgeons had made a good job of the operation, but the flesh across my left breast was puckered and distorted by scar tissue. It filled me with distaste still; I never wanted to see anyone else flinch away from it.

After breakfast, Jane took me to see the steggies and brontos. It was a typical island day, with more cloud than you need scudding by, but the sun frequently beaming forth.

"We're going to have to sell all this, Jane."

I suppose I had thought she would have realized it. But she caught her breath and stopped.

"You'll — be able to get another directorship, Daddy?"

"Not at Frank's salary."

"But you can start up in opposition now, making synthetic life of your own."

"I'm finished with synthetic life, Jane. I really believe that this is the classic case where Man has over-stepped his powers. Now that Frank has announced his intention of synthesizing human beings, I'm more sure than ever that I'm right. We really are pre-empting powers that do not belong to us."

Her jaw set. I saw it for the first time. She had something of her maternal grandfather in her. She too disagreed with me.

"I've never heard you talk religion before now, father! What has been discovered is something slowly led up to, capping the scientific work of many centuries. You're afraid of it!"

"Yes."

Her face colored. She burst out, "I don't wonder Grandfather threw you out!" With that, she turned and hurried away.

The dinosaurs were a solace, as always. They strutted in their new cages, before a romantic diorama, munching on the lush grass. Jane certainly took good care of them.

These were the first animals to be synthesized. It had been my idea to start on dinosaurs, building from fragments of bone presented from a museum. We had four stegosaurs, two brontosauri wallowing in a little pond, and a brace of iguanadon. They stood about six inches high and were, of course, sterile. Nowadays, we—Lawrence Life-Forms, I mean — do considerably better. In a separate cage was a super little tyrannosaur, eight inches high, prowling about with cat movements, glaring at me.

I stood for a long time, wondering what we had started. Synthetic life . . . When we had not solved one tithe of the problems of natural life . . . And Frank was promising his newly constituted board to have a synthetic serving-man on the market within five years . . .

In the end, rather than think about it, I wandered back to the house.

Frank was there, standing against the empty fireplace. Jane stood near him. Mrs. Singer had brought them sherry. As I took in the scene, I realized I had heard a helicopter fly over, but had taken no notice.

"You shouldn't have come," I said harshly. I thought that at sixty-five he looked as if he had more years to go than I; but he was never involved in a plane crash.

"The board room battle was one thing," he said. "You and Jerry Keynes were just two individuals who stood in my way, in the way of what I see as right. Privately it is a different matter, Robert. Keynes means nothing to me, but you are one of the family. I feel about you — "

"You can't divorce the two sides, Frank," I said. "I tried to go along with them too long; now that you've chucked me out, I don't have to try."

"I didn't chuck you out, man! You got outvoted!"

"Out-smarted!"

"Daddy," Jane said. "Try to listen to what Grandfather is going to say."

My anger was rising; I liked the feeling. "Don't tell me — he's going to make an offer!"

"Wrong, Robert! I have made an offer to Jane, and she has accepted. I've offered her a very large sum for this estate." He named the price; it was about three times as much as I'd have got on the open market.

"You are forgetting. This is my estate, and I sell when I wish to whom I wish."

"Give it to Jane. She will sell it to me. I will give it to her."

"I've done my last deal wth you, Frank."

He came up close and said, gently, "Let me help you privately, Robert. As a favor to me. You know why."

"I don't know why."

His gaze dropped. He said, "After the plane crash . . . you and Viv lingered near death for several days. I realized then how I loved my daughter, how little I had ever done for her."

"Don't make me weep, Frank. I prefer you in your hard-hitting role."

"Maybe. I had plenty of time to think. You were lying there on a heart-machine; Viv was

unconscious with irreversible brain damage. Both your lives seemed to be suspended while I made up my mind."

"Egotism, Frank!"

"Those days were years. Remember, my own wife had died only two months before, and I had been told she would never have died if I had turned up that last day as I had promised."

"You stayed at the office."

"Never mind that. That's my business. I'm talking about you. On the tenth day, the surgeons decided Viv was dying. That was when they flew in the heart-op specialist from South Africa — at my expense. You know what happened. There was nothing wrong with Viv's heart; her damage was to brain and kidneys. They operated. They gave you her heart. So you survived."

I was shaking. Jane came to me. "Why do you bring all this up again? Don't I know it? Don't I live with it every day? What are you trying to do, Frank — get your daughter's heart back from me? For God's sake, you've done enough — go away!"

He went to the other end of the room, sat down, lit a cigar. His hand trembled.

"Robert, I am not reproaching you. In you, a part of my daughter lives. I only want to tell you what you did not know. The problems with the heart-op come afterwards — in particular the body's fight to reject its new heart, the auto-immune reaction. You know what the surgeons said in your case? They said you hardly manifested that reaction."

He stopped to let it sink in. I said nothing.

"Well, it was a question of love, wasn't it? Your mind controlling physical reaction, wasn't it? You really loved Viv. You didn't blame her even subconsciously for the crash, or the usual immune reaction would have established itself. You lay there unconscious and proved your love was perfect."

"Would you leave, please, Frank? You are a hard man, as you aspire to me. You also have a disgusting sentimental streak. as do most hard men. This whole notion that love can overcome antibodies is sheer sentimental fantasy. I was simply a surgical case that worked out well — the operation is not the hazardous thing it was ten years ago."

I got up and walked out into the garden again. The sun was momentarily shining. I went and stood in the shrubbery. Jane eventually found me there.

"Father, I cannot, cannot understand you! I know how much you loved mother, and how hard her death hit you. Why should you make yourself out to be so

callous in front of Grandfather?"

I decided to touch her, and then thought better of it.

"I can't accept or attempt emotional blackmail, Jane?"

"You mean you won't do a deal with Grandfather!"

"Of course I won't do a deal, just to salve his conscience!"

The helicopter whirled overhead, turned, made for the mainland.

I could see Jane was very angry. "Why the devil should you withhold the salving of his conscience? What special right have you to administer a moral law? It was precisely because you tried to do that that you were kicked out of Lawrence Life-Forms! Now what future have you? What future have *I* got, either? You've let me spend five years looking after you — oh, I have no complaints! — but you're quite ready to see our home go down the drain just to spite someone who wanted to help us!"

"It was not spite, Jane! It—"

"Oh, don't tell me! Ethical principles! You and your ethical principles! But really, it's spite, isn't it? You want to hurt Grandfather — it's just as simple as that! You have mother's heart, and you have now taken it from him!"

"This heart — it's an organ, an anonymous machine! Don't try and build some symbolic thing about it! You're angry and upset, Jane. Don't say something you will regret, don't spoil the relationship between us!"

"I'm not sure I *want* any relationship with you!" And with that she turned and left me.

So went our family quarrel. Nothing was resolved.

It was four and a half months before I saw my daughter again. I was living in my town flat then, with most of the rooms empty of furniture.

When Jane appeared, I was so glad to see her that at first I did not realize how ill she looked.

Se took my hand and asked, "Have you heard the news?"

The house was auctioned yesterday," I said. "It fetched its reserve price. You shouldn't have walked out on me, Jane. At least give me the credit of meaning well with regard to your grandfather! And our quarrel — yours and mine — it must not be final. In life, only death is final. Emotional entanglements, financial entanglements — they're never final."

"I'm going to live my own life, Father, from now on."

"Good! Do it for good reasons, though, not to defy me. Who's right in all this, who's wrong? I behaved — as I thought

best. My morality is clear, to me at least. But I don't understand Frank's. Lawrence Life-Forms go from strength to strength. Our pocket-sized dinosaurs are nothing now. The world's zoos will soon be stocked with life-size dinosaurs. Synthetic human beings are just a few years away."

"Father, you could never have stopped that development!"

"They'll have trouble. I know! Am I not myself synthetic?"

As I said this, I felt my heart beating strongly within its scarred cage. I forced myself to say, "Jane, I want your respect and — and your love. You must love me for myself, not just because I keep a part of your mother alive, as Frank does."

"I came to tell you, Father. That was my news. Frank shot himself yesterday. It's in all the papers."

Reaction would come later. "I don't look at newspapers any more," I said automatically; then: "Why?"

"You've always been the one finding clever reasons," she said. As she looked down challengingly at me, I realized how she would be keeping something of her grandfather alive, down through the years.

—BRIAN W. ALDISS

Galaxy Bookshelf

by ALGIS BUDRYS

Ingratitude . . . that's what it is. Here's Judy Merril, who first publicized such talents as J. G. Ballard, and who went into caracoles of prosody at such books as *The Genocides*; who beat the drum for *New Worlds* at least as energetically as Columbus ever did; who is the Martha Foley of this genre and as assiduous a

literary politician; to be bitten by the New Thing as she has been at the present juncture! Thus:

"A satisfying 'Best' volume ought to meet the following minimum standards: 1. Its contents should be *science* fiction — which means that at the very worst, every story ought to contain some trace of some science, and at best they ought to depend on it. This means no fantasies, nothing put in solely because the author wrote a best-selling mainstream novel in 1920, no political parables and no what-is-its." So says James Blish, in relation to his role as visitor to and late-night *privatdozent* at the Brian Aldiss home.

"When she asked me if I enjoyed her last volume, I replied—politely or impolitely (I forget which) — that I found it a fascinating slice of autobiography." So says Brian Aldiss. And they both say it in *Best SF*: 1967, (Berkley), which, apart from being a very good anthology of very good reading, is also an unabashed advertisement for *New Worlds*, the English science-fiction magazine; for the New Thing as typified by such writers as Ballard and Ellison; and for literary politics. It is also the scene of a remarkably even-tempered and good-humored introduction by Harry Harrison, who was the principal editor of this volume (Blish supplied the "Credo" which begins it, and Aldiss supplied the panoramic essay which completes it), saying, among other things: "As you will have noticed, he [Blish] clears the field for this annual 'Best' volume by shooting down the other entrants. Perhaps this uncompromising attitude pays off: to my knowledge, Blish is the only contemporary science fiction author quoted as a source in Webster's *Third International Dictionary*."

What we have here, in this book, then, is a direct assault on the market for Judith Merril's provinces and on her annual anthologies — and a brush-block *en passant* on Don Wollheim's-Terry Carr's similar book for Ace — via a book which has three essayists all combining to produce the supportive matter which Miss Merril nowadays creates by her one-sies. It is at least as argumentative and didactic a book as any of hers, partly I think because one cannot avoid that effect when writing so much front, back and blurb matter, more importantly because Blish, Harrison and Aldiss are argumentative people by first intention. In time, it will be as generally effective at raising hackles and opposition as hers is. Certainly, it already betrays the same sense of a dormitory pillow-

fight covering more purposeful regulatory actions. It has that fine eye for the apparently irrelevant but useful detail (. . . source . . . Webster's . . .) and generates the same air of good fellowship, after all, that one gets at places like the Milford Writers' Conference. In other words, it's not merely a better book than the average Merril anthology — a detail we will be discussing immediately below. By reason of the details we've already discussed, it's a Serious Threat to the Opposition. Following future developments promises to be rewarding.

Now — as for the contents, these are:

The Credo by James Blish, written at Harry Harrison's request, laying down the rules whereby a book stands a chance of being a genuine reflection of an honest attempt to anthologize the year's best science-fiction short stories.

An introduction by Harry Harrison, calmly acknowledging Blish's points and then accepting the ones he wants.

"Hawksbill Station", by Robert Silverberg; "Ultimate Construction", by C. C. Shackleton; John T. Sladek's "1937 A. D.!"; "Fifteen Miles", by Ben Bova; "Blackmail", by Fred Hoyle; Kit Reed's "The Vine", James Thurber's "Interview With a Lemming"; Frank M. Robinson's "The Wreck of the Ship *John. B.;* "The Left-Hand Way", by A. Bertram Chandler; "The Forest of Zil", by Kris Neville; "The Assassination of John Fitzgerald Kennedy considered as a Downhill Motor Race", by J. G. Ballard; "Answering Service", by Fritz Leiber; "The Last Command", by Keith Laumer; "Mirror of Ice", by Gary Wright, and Harlan Ellison's best story that I know of — "Pretty Maggie Moneyeyes."

These are followed by Aldiss's afterword — an essay entitled "Knights of The Paper Spaceship", with which I do not agree in many particulars, and which is not an example of how to write persuasively, but is nevertheless worth the price of admission all by itself for the sake of its clear statement of what a leading New Thing theoretician thinks it's all about.

Of the stories, Silverberg, like Ellison, is here with the best story he ever wrote to my knowledge; Leiber's is one of the very best. The Laumer is as good as all but the very best Laumer, and Ben Bova's story is another that one could similarly characterize if Bova wrote enough to make the statement meaningful. Ditto the Robinson, which is the latest in a canon of long-voyage stories by that author; the series, which may

be as short as two, but which I believe includes other stories between this one and "The Oceans are Wide", extends sparsely across a long span of time.

Like the Bova, the Silverberg, the Laumer and newcomer Gary Wright's superb "Mirror of Ice", the Robinson is firmly in the old tradition Aldiss puts behind him in his essay.

All of these particular stories raise and answer questions about the nature of Man, whom they place in a technologically supported situation for that purpose. In the light of present days, one sees this type of story becoming indistinct from such "mainstream" stories as, for example, *Slim*, William Wister Haines's old novel about a power transmission lineman.

But despite the very theoretical orientation of this book, or any other honest anthology based on whatever premise, one cannot as yet put together a satisfactory sf anthology without including approximately this proportion of technology fiction.

We can trust to Harry Harrison's instincts for that. We can thank his various crotchets, I suppose, for the inclusion of the Thurber story — introduced with as twisty a piece of ratiocination as Judy Merril ever displayed while handing you an old chestnut and calling it a plum — scatological joke. Likewise, every editor has to have his inclusion from the unlikely source, so we can, I guess, get through the Shackleton if we tiptoe rapidly with our eyes shut. The Ballard is fascinating because you would not ever have thought so many different editors would find these nonstory constructs worth attention; also because it is fascinating, which I guess answers my question on everybody's behalf but yours.

The Sladek, like the Wright, is gratifying because you *know*, just looking, that you've found two more names to leap out at you from tables of contents herefromafter.

And the same, the very same, for the Ellison.

But if you think the last word on The New Thing is about to be spoken, here comes *The Best SF Stories from New Worlds*, (Berkley), edited by that same Michael Moorcock, whom Aldiss has just finished calling an editorial genius, and who is the beneficiary of that *geist* which they keep piling upon him, in a manner quite different from the way Gernsback, Campbell and Boucher just reached out and grabbed. It must have given Moorcock a rare tremor to discover that the Harrison anthology contained but one story from

New Worlds, yet devoted much Aldisserie to him (and his "growing ambitions" — Is that the first or the last robin, do you suppose, Mike, or some grayer bird of omen?) and his troubled, subsidized English magazine, new focus of the bright minds in this genre.

The editorial introduction is blather, stricken with blurb disease (If — is SF's best craftsman, then —, next on the table of contents, is SF's greatest stylist. Next, —'s story is our genre's finest example of — and, besides, perfectly evokes the atmosphere of the author's childhood in West New York), and thus no help. So we must go to the contents for our insight on what The New Thing might be. (I'll tell you ahead of time that this book is full of clues, but interpreting their meaning is, as usual, being left up to you, mostly because I probably don't understand it.)

The stories are by Brian W. Aldiss, Roger Zelazny, J.G. Ballard, John Brunner, David I. Masson, Langdon Jones and Thomas M. Disch; one assumes that with room for only seven, Moorcock chose carefully, and one proceeds to examine them with an eye to revelation.

Aldiss's "The Small Betraying Detail" shifts its protagonist into a kind of alternate East Anglia where the otherwise exactly English scene, complete with beach-and-boardwalk desolation-supermare, is inhabited by a parallel race of people who never spent a (theoretically proposed) significant evolutionary period combing beaches, are therefore not as nearly hairless as we are, and who, consequently, always face inland when at the beach. (That's the small, betraying, horrifying detail.) Really? But they have seaside kiosks and boardwalks and trucks lettered in script descended from the alphabet of the Phoenician island race? &c? &c? *Really?*

I rather think not. This story is nonsense when examined for consistency with its rationale, as so many Aldiss stories are — the ones whose rationale isn't nonsense to begin with. And this I think is either laziness, because the small details which betray this neglect could as easily have been in accord with the premise, or else a lack of energy which prevents Aldiss from being both thorough and thoughtful. He *is* thoughtful. And effective; the mood is terrifying at the same time the story is ludicrous. The landscape is vivid in my mind; the general desuetude, the motionless sober, pelted nonbathers regarding me with their fathomless eyes as I drive by. It is a scene that could not conceivably have taken place in any reality. But it takes place in mine, having taken place in Aldiss's.

By some narrow margin, this is a story, though it's weakest where it comes closest to transmitting a defined occurrence. But what of Ballard's "The Assassination Weapon", which is written as if on file cards tossed into the air and consists of short, symbolically connected declarative modules, ostensibly having to do with a psychotic's attempt to replace the "false" deaths of John F. Kennedy, Malcolm X and Lee Harvey Oswald with ones that will be meaningful to him. The last line of this invention — this marvelously creative, patient, polished invention — is perfect. It happens to be the same last line as the last line of the best parody of Ballard: "Nothing happened."

When a man's work so pluperfectly matches its own caricature, not much more need be said about it by any critic, right? But what about the fact that it does seem to make sense, and that in some strange way it seems to express not the facts, but the prefigured feeling, of the mad week in which RFK and James Earl Ray became a couplet?

Story? The worst things in this generally effective book are the stories . . . John Brunner's "Nobody Axed You" and Langdon Jones's "The Music Maker", which you can see coming in Paragraph 2, and would have been saved only if they had failed to follow formal structure. Even Zelazny's "The Keys to December" is for once not good Zelazny, but merely good writing — beautiful writing, exactly realized, exactly detailed — on a basically tired old theme. And David I. Masson is at least as ingenious in "'A Two Timer" as he was with his earlier "Traveler's Rest", but his ingenuity this time has to do with the language and viewpoint in this story of a Seventeenth-Century man who finds a time machine and comes to 1964 to marvel and commit adultery. I think many of us have wished we had the educated ease to write a convincing story from such a viewpoint; pity the pace is so uncontrolled. But in the end this is a travelogue with a Punch and Judy ending; it's good credentials for the author, thin fare for the reader.

Then, "The Squirrel Cage", by Thomas M. Disch. What can I tell you? If the perfect Ballard last line is "Nothing happened," the epitome of Disch is "It ran down." There are few Disch stories which concern more than one character, that character trapped inside something that conveys him or nourishes him at its indifferent and impermanent pleasure. A few Disch stories are different to the extent that they are about several characters trapped inside; those are the novels.

And here, with this last story, this last layout of marks upon paper, everything has actually ceased . . . there is no narrative resolution, no feeling, no communication that has not been meticulously pre-anesthetized . . . which, situation of course, does convey a message of its own.

I said I was going to leave the interpretation up to you. And I shall. But if you are thinking that the heart of the New Thing is commonality of being mad, while not necessarily sharing the same madness, for that would restrict the reader appeal . . . . You know, that would account for it; the lying promise of the lucid spells, the impeccable rationale issuing from the hysterical rictus, the paralogical appeal, the pettishness, the charm . . . . But, no! No, obviously not.

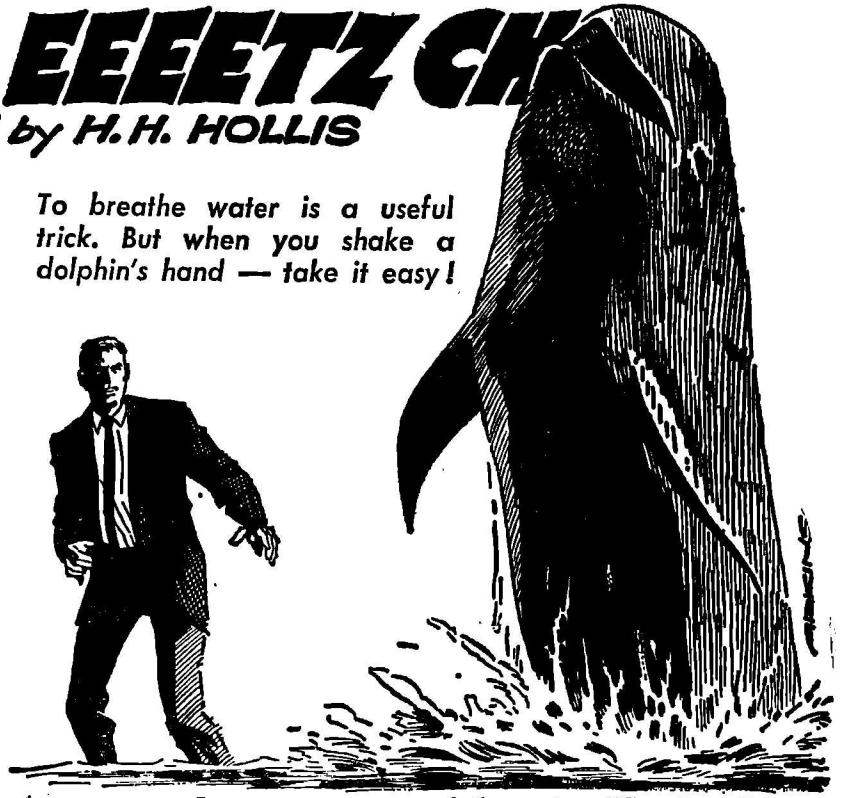
But it would certainly explain why John Campbell can't understand us.

— ALGIS BUDRYS

EEEETZ CH

by H. H. HOLLIS

To breathe water is a useful trick. But when you shake a dolphin's hand — take it easy!



I

Behind the Junior Senator from Hawaii were the low, white buildings of the Caribbean Research Station, which housed five hundred workers, fifty million dollars worth of computers, breeding tanks, centrifuges, blood exchangers, electron microscopes and spotless surgeries. Before him was the object of the whole installation.

The porpoise stood half out of the water. "Greeting, Senator Junior!" it piped. The animal kept the startled politician in the full sight of one liquid eye.

Squatting so that his eyes were on a level with that of the swimming animal, Senator Ramon Coatl said, "Can you answer questions?"

"You smarter than you look!" the air breather shrilled. "Why no ask keeper?"

"They tell me you're intelligent. In my book, an intelligent

. . . being . . . can answer questions. Will you answer mine?"

The porpoise revolved in the water. "I answer questions if you answer too. Like jokes?"

"What?"

"Jokes, jokes!" Now the voice sounded more like barking. "You like funny stories?" The guide's duck trousers moved back out of Coatl's peripheral vision.

"Yes," the Senator said, humoring the fantastic animal in the water, "I like jokes."

Immediately, he was able to see the other side of the pool, *under* the torpedo form. The porpoise had levered itself six feet out of the water. When the long white belly flopped, Senator Coatl was almost rocked back off his heels by the force of the unexpected sheet of water.

From the center of the pool, an eerie whistle sounded. "I keep you laughing like that all day."

Coatl grinned, flung off his sodden clothes, and dived cleanly into the pool beside the porpoise. With apparent delight, it wove rings around him. He could hear the high speed conversation under water, but understood none of it. They surfaced, and Coatl cried, "I'm sorry! I can only understand English."

"Okay, Okay, no make a big thing of it," the animal grumbled. "Stick around six months. I teach you speak Dolphin out of every orifice you body. Here come keeper with trunks for you. You swim pretty good for animal with feet." It turned and zipped out the pool entrance.

Ten minutes later, they were beyond the combers, nearly out of sight of the low lying land, floating gently with the swell. Ramon Coatl kicked gently and brought his eye a few inches from the other swimmer's. "Why do you come in when they call you? Is it for the easy food, or for what?"

"Food nothing. Learn to talk, to use hands, that everything." The porpoise stood up in the swell, belly toward Coatl, and the Senator could see a metal plate with two small holes set in the mid line of the muscular white belly. As nearly as possible, it gestured toward the plate with its flippers. "This adaptor whole thing for me. I volunteer, you know. May be animal, but not starfish or flatworm. You animals too, no?"

The Senator turned and began the long swim for shore. Behind him the porpoise spouted, strewing the redolent smell of its inside down the wind. When Coatl walked out on the shelving beach a mile below the station, he shook his head, laughed, and walked up the beach toward the small group of human figures

running toward him. The guides found him smiling with pleasure from the swim with the joking porpoise, and he brusquely shook off their apologies.

Slipping into the terry robe they had brought him against the early evening chill, he fell into step with the young scientist who had moved back out of range and let him be drenched by the swimming animal's humor. He ignored the senior research assistant, a handsome, distracted woman who seemed fearful of losing a Senator to the sea. "Doctor, how educated is that creature I was swimming with? Not how smart — I've seen all those charts — how educated? Can he understand why I'm here?"

The research man kicked a gout of sand up with one sandal. "Oh yes, in a general way. He knows that there are many, many more people than we have here. And he's been inland in a tank. He's been told what government is; but the idea is so foreign to any experience he could ever have had that I don't think he really understands what a shark to us minnows a Senator is. We got him to call you by title because we told him it was a gag. We wanted you to know porpoises really can talk."

"The splashing was his own idea?"

"Yes, sir; but I admit it was not unexpected. He wanted to make his own impression on you. If you don't call him by name the next time you see him, he'll splash you again. He expects to be treated as an individual, not just a specimen."

"What do you call him?"

"Andy, mostly; and he answers well enough to it. He was the first free porpoise on this station, you know. I'm sure he made the point about his being a volunteer. If you really want to please him, his name in their sounds is Eeeetz chi!"

"Eats chuck?"

"No, no, Senator. A whistle to the back of the teeth and a glottal click. Eeeetz chi! *Look* at the way I'm doing it. You'll never get it by sound alone."

"I'll never get it at all."

"Sure, sure. The end sound is a hard, hard version of the Spanish J. He makes it with the top of his oral cavity and the very back of his tongue."

"I thought they made those hard sounds with the air sacs by the blowhole."

"Yes, we have learned that's where the echo sounds are made: their organic sonar. The combination of the two sacs and the length of that upside-down nose gives them an infinite range of frequencies, and they use cycles

up to k one fifty. His name is a *formal* sound, however, and it's made entirely in the oral chamber: tongue and teeth. We can speak that. We can't hope to speak their echo sounds."

"All right. Eeeeeeeetz huktch? When you say one fifty k, you sound like a computer man. You did mean 150 thousand?"

"That's right. For sustained conversation — well, no, I mean for sustained exchange of information — we have to use computers. The dolphins get bored pretty fast at ordinary human speech rates. Their brains are physically larger than ours, and the critical layers of the cortex are as numerous as ours, six levels; but they have at least twice the number of cortical convolutions, so they do mental acts faster than we can."

The Senator stopped short, ramming his hands into the patch pockets of his terry robe. In a concentration reflex of which he was entirely unconscious, he began to pick up as much sand as he could grasp with his long, muscular toes. So he had stood on the beach at his far off island home and grappled with the "new ideas" his older brother had brought back from school. Now his toes kneaded wet sand as he wound his mind down to seizure of the measure of porpoise intelligence.

"I've seen the charts. Does that mean they are, quote, twice as smart, unquote, as we are?"

The scientist had stopped also. He unslung the jacket he was carrying over his left arm, and shrugged it around his T-shirted upper torso. "Senator, they are . . . they are . . . more than twice as, quote, smart, unquote. They scan the cortical wrinkles faster. With twice as many grooves in which to record bits of info, they are *geometrically* smarter."

Coatl continued to knead wet sand with his prehensile toes. "Really smarter? Or computer smarter?"

The young scientist grimaced. "Eeeetz ch was right. You *are* smarter than you look. Yes, from a man-centered view of reality all that happens is that, like a computer, they have much faster access to stored information than we do, and much faster manipulation of it. But creative, intuitive use of it? Not in human terms. If that is the measure of true intelligence, then these big, seagoing cats are not very intelligent. They're just better equipped to handle information."

"What do *you* say? Smarter? Or not so smart?"

"Man isn't the measure of all things, Senator. Creativity must exist in the dolphins, or a wise-

acre like Eeeetz ch wouldn't keep fooling with us. I'll tell you one possible joint project we have in mind. What limits the LEM program is the monstrous load of calculations that gets the Module on and off the moon. It isn't sufficiently part of any human experience yet for pilots to do it by the seat of the pants.

"Dolphins deal with that kind of spatial reality every minute of their lives. And not by instinct, either. As one comes wriggling out Mama's birth chamber tailfirst, Mama whistles; and another female, on some kind of rotary list that we have not been able to figure out, swims over and takes the new born to the surface for its first breath. The second one stays for a couple of months as nurse and baby sitter, and she and Mama *teach* baby how to relate to the environment.

"At the end of that time, the young calf has an echolocator working that keeps it *always* oriented for the rest of its life. That one tool alone is so accurate that dolphins can distinguish between steel balls so nearly the same size that I need calipers to tell which is which. The process involves a very high number of echoes being examined by that super convoluted cortex.

"Now, put that animated computer *in* space . . . in your LEM . . . in command of the Module's senses, and let it monitor the whole shebang. Such a dolphin could sense the need to fire a rocket for as little as a hundredth of a second to correct course, and do it immediately; it could drop your Module and take it off like the kiss of a moth's wing. You'd just need a liquid chamber for the dolphin's comfort."

Unconscious of having paused, Senator Coatl began to stride on up the beach. It was full night now. "But they can't manipulate . . . and you can't monitor the LEM with your snout."

"That's the point of the prosthetic program. Tomorrow morning we'll put Eeeetz ch into his vest and you will see."

Coatl dug his foot tentatively into the packed, resisting sand. "Yes, well, that's what I'm here to investigate. You station Ph.D.'s are all really committed to prosthesis aren't you?"

The man and woman were both standing in front of him, and though there was no perceptible signal between them, they flipped their jackets back and down over their shoulders in unison. In the early moonlight, Ramon Coatl saw just below each sternum the same dull gleaming plate he had seen in Eeeetz ch's white belly.

"All right, don't try to tell me about it, then. You'll show me in the morning." Coatl cast away a footful of sand decisively, and stepping around the two scientists, he marched toward the station. The hands clutching their open jackets were oddly like the gesturing flippers of Eeeetz ch far out at sea, showing the dedication of their flesh that, with dull metal plates, set them apart from all other living creatures.

Fanatics, Coatl thought. They have bought a piece of the project with their own bodies. But don't pass judgment, Ramon. Oppenheimer and Szilard and Fermi were all fanatics too. Who knows what friendly natives will greet the navigators in this new world?

All night the dolphins swam in his sleeping mind. Each dolphin had a metal plate in his belly, and one of them had breasts that were like the senior research assistant's . . . six of them.

II

After breakfasting at four a.m. on turtle eggs and cafe con leche the Hawaiian Senator stood before the Station, facing down. "Am I to suit up with you?" he asked.

Marguerite Hart, the senior research assistant, shook her head. "No, but we want you to watch. We have to keep our prosthetic gills in a kind of amniotic fluid when we're not wearing them, and we have to grow into them to put them on. Takes about an hour. Later on . . . you'll see."

He watched through heavy glass as the two scientists swam into the frilly, ugly vests, plugged the jacks from the artificial gills into their chest plate receptacles and hung there, letting the gills become animated as they began drawing from the fluid around them, which was gradually being replaced with sea water. Senator Coatl was revolted, though he kept his poker face. As the gills became pinker and livelier, looking now more like ruffled bed jackets, and established the rhythm by which sea water was squeezed for its dissolved oxygen, the skins of the two human beings became deathly white.

It was nearly a full hour before either of them opened an eye, and several minutes more before the naked skin assumed a nearly normal hue. "That's one line of research that has to go," Coatl told himself. "The damned things look like they're digesting the user." He was repelled again when the young man and woman in the tank raised and lowered their arms as bats do when awakening.

Henry Racoglu swam to the side of the tank, and as his throat began to vibrate, the slurred vocalizing became audible from a loudspeaker in one corner of the observation room. "Senator, go suit up in your aqualung. We'll meet you at the short pier around front." The two converted humans cocked their heads back and, with body shivers remarkably like fish, shot out the bottom of the tank where the gills had been stored.

When Coatl had sunk in his Scuba gear, the two scientists, who now seemed streamlined and fully vital, were waiting, arms at their sides, legs together, rippling gently from time to time to stay in one place. Marguerite spoke, and he felt the throaty vocables in the bones of his skull. "Follow us, and we'll go meet the dolphin. We have to dress him, too."

Coatl squeezed his throat as he had been taught to do in the brief Washington indoctrination, and he felt his own throat sounds go out through the mike on the little collar he wore. "Take . . . as long . . . for . . . Eeeetz ch?"

Marguerite answered. "No, dressing him is not as long as for us, but it does take some time. Follow us around the island." With a fish's quickness, she streaked away, and in an instant Racoglu followed her. Senator Coatl went after them at leisure, and when he arrived, Eeeetz ch was already upright just below the surface of the water, carefully sliding his flippers into a vestlike apparatus which had a skin as sleek as the porpoise's own, but ridged and corded as if long muscles lay beneath its surface.

As the Senator approached, he heard the rapid clicks and chuckles of dolphin conversation. He was resigned to incomprehension, and wondered if Henry and Marguerite understood the chittering syllables, when he was suddenly startled by a square box a few meters away. It burst into a mechanical kind of English. "Go away. Wait until I am handed. I do not greet you. Go away away awayawayawayawayway." The box repeated this very rapidly many times, and then he saw the human beings each place a hand over one of the dolphin's eyes and heard Marguerite say, "Be quiet, Number One. Coatl will wait to greet you. Don't tense up or we have to start over." The box thereupon burst into porpoise language, firing a short staccato burst of clicks. The porpoise wriggled out of the vest and the scientists' hands swam directly away from Coatl, making violent noises.

The box roared, "All right! Don't repeat." It said this about forty times, and then Eeeetz ch hung motionless in the water fifty meters away with his tail pointed toward Coatl. The Senator, realizing that the box was a computerized translator, slowly vocalized, "I . . . do . . . not . . . watch. My back . . . to . . . you." He turned and hung in the water facing away from Eeeetz ch.

For a moment, there was no further sound, then he heard a short buzz from Eeeetz ch, and the box quickly said ten times, "He can watch tomorrow." Then there was a period of cross talk, the box buzzing and cackling. Coatl could hear the throat vocals too, so he was getting both sides of the conversation, and soon felt that his head was in a bucket that was being struck with a broomstick, as Marguerite and Henry urged, "Come *on*, push, push," and Eeeetz ch's exasperated chatter was translated, "You are hurting, you are hurting, you are torturing me."

Marguerite had said, "Now *shrink* it! Damn you, you're growing."

Eeeetz ch snarled something that came out of the box with mechanical profundity, "Fascists! Vivisectionists!"

Then there was a plop! as of a refrigerator door seating itself in its gasket, and two small metallic snaps. An instant later, Senator Coatl felt himself slapped stingingly on the buttocks, grasped on the shoulder and swung around by a rough hand to face a weirdly altered porpoise.

The heavy muscled vest encircled Eeetz ch at the level of his flippers, which were hidden in the vest. The plate in his belly was covered by two fleshy flaps of the vest. Where flippers should have been, two columns of dark flesh, each the size of a wrestler's thigh, grew out into hands — golem-fingered, but unmistakable hands.

"I greet you!" the box roared over and over as the dolphin extended his right hand. It was an obvious effort for him; the left appendage simply trailed in the water, unused. Coatl took the right hand, and in a moment grunted with pain as the bones in his hand were ground together. He expected to faint as he heard Eeeetz ch clicking and the box endlessly repeating, "I can't open it! Helpdamnhelpdamnhelpdamnhelp!"

In a blaze of agony, the Senator saw Henry Racoglu appear behind the dolphin and strike repeatedly at the middle of his back. As the artificial hand relaxed its spastic grip, he shot to the surface where he could sob


ADKINS...

unrestrainedly without drowning. When he could flex the crushed hand enough to know nothing was broken, and the tears had ceased to flow, he became aware again of the three odd creatures about him. He realized that Henry and Marguerite were supporting him closely, their gills pulsing, their eyes above water, and Eeeetz ch was bobbing up and down. The dolphin caught his eye at last and shrilled, "Sorry! So sorry! Damn cheap muscles. I should have move them a few times before I try use them. I crazy for hands! Sorry! Sorry!"

Coatl thrust out his throbbing hand. "Try again," he said through gritted teeth. To his surprise, the swimming mammal groaned, sounded and fled.

Racoglu spoke, his lips awash. "He can't use his hands at all in the air. And we can't come out of the water with our gills on. You're in a hell of a shape, Senator."

"Turn me loose. I can swim now. Man! that hurt," the Senator said. "What happened? I thought that metal plate meant he had some kind of battery assist for that arm and hand."

"Yes, yes, he does. There's a nickel cadmium battery behind that plate. The synthetic muscle and its nerve supply take time to warm up and establish equilibrium in the blood supply. Eeeetz ch is so impatient — dolphins do everything so blindingly fast — he just can't wait. He wanted so badly to impress you, and then the muscle structure knotted up and he couldn't will the hand open. He's gone off like a cat that's knocked over a vase, you know, so he can pretend it didn't happen. He'll be back in a few minutes. Can you really swim, now? That hand's going to be pretty sore." Henry rose and fell, shipping a few mouthfuls of water as he spoke, but continuing, nonetheless, to support Coatl.

"Sure, I can swim; but he's disabled me from shaking hands for a few days."

Marguerite and Henry sank fully into the water, pointed the direction, and began the swim back to the Station, as Ramon Coatl bit into his Scuba mouthpiece and swam rather slowly after them. The gentle exercise worked the acute pain out of his crushed hand after a few hundred meters. He was not frightened when a dark torpedo with heavily muscled arms held out from its sides as if they were vanes appeared beneath him. He could hear the cricket-like conversation running up the scale into inaudibility. Curving himself down beside the swimming mammal, he pointed up to the surface.

They broke into the air together. Eeeetz ch began at once to grumble. "Must learn *some* Dolphin. English clumsy enough in air, impossible under water."

"All right, you teach me. How do you say 'I'm sorry'?"

"You got a lot to learn besides words. We not live in that kind of world, Senator. I no want to be civilized that way, only to be handed. Control environment every way then. My motor warmed up now . . . go back to practice range. Come tomorrow, I no squeeze hand."

"So long, Eeeetz ch," the Senator said. "I'll see you tomorrow."

In the come-close tank where he had first met Eeeetz ch, a muscle-weary Senator listened as his human guides told him where the dispensary was on land. "You're not coming with me?" he strained his throat to ask.

Marguerite shook her head. "It's wearing to grow into these gills. Now that we have them on, we'll stay under water for at least a couple of days. Hank will phone ahead to the dispensary, from that set over there on the bottom, and tomorrow morning we'll wait for you here with the dolphin. Can you walk it, or shall we ask for some help?"

Coatl swallowed a bitter retort. "I'll walk," he gurgled, and staggered up out of the pool. The exact route he took and just who helped him in the next two hours were things Ramon Coatl could never afterwards recall with any clarity; but white, shaking, slightly staggering swimmers in wet trunks were old hat to the personnel of the Station; and he was unobtrusively shunted into the dispensary and restored to sufficient health to eat two enormous bowls of the Station's famous gumbo at dinner that night, accompanied by the hard, bright sherry of which Bela Hagedorn was so fond.

Director Hagedorn, whose portly figure was as streamlined as some sea creature's, apologized in a ponderously offhand sort of way which began to seem very porpoise-like to Senator Coatl for not having been able to meet the Senator when he first arrived and give him a personal, escorted two-dollar tour. "Henry Racoglu and Maggie Hart are two of our finest young researchers, though," the Director smilingly said, "and I'm only sorry that their fervor and speed in getting you under water, where you could see us at our best, should have resulted first off in your being hurt."

Coatl shrugged. "I grew up surfing, diving without a mask, and fighting octopus for fun and

food. Being hurt underwater is no novelty for me. I was just glad I had on air. I didn't the summer I was fifteen and netted a ray as wide across as I was tall. Finally I had to let him take the net and go. Being dragged eight or ten miles out to sea did not hurt so much — my uncles came after me in an outrigger, so I only had to swim about half way home — as the razzing they gave me all the way to shore for losing that net."

"Well, we won't razz you. Eeeetz ch is an odd creature anyway. He's very emotional for a dolphin; and he can be quite terrifying when he panics."

"Are they all like that?"

"Oh no. No, for the most part — have some more gumbo — they're phlegmatic. I suppose I don't mean that. Stable emotionally is what I mean, happy and self-confident. And of course, why shouldn't they be? They're perfectly adapted to the life they live. Not an enemy in the ocean really frightens them. It's hard not to envy the aboriginal dolphin sometimes."

"Why is Eeeetz ch so moody?"

"I'm not sure. I think it has to do in part with his being the first. Most of them are smart; but he has imagination as well as ability to learn, and he has enough imagination to frighten himself.

"The day I talked to him about his surgery, he swam up and down that come-close pool like a man pacing over a decision, and even when he was hanging in the water, he was shivering. You could see the pool surface responding to it, they tell me. Finally he swam away and left me sitting on the bottom; and he was gone a good long time, too. Three days."

Ramon Coatl looked at the somewhat pompous Director hesitantly. After a moment he said, "Excuse me, Director Hagedorn. May I ask . . . you said you were in the water with him. I got the impression you waited in the sea those three days. Do you have one of those metal plates in your chest, too?"

The Director finished a mouthful of gumbo reflectively, with one eye cocked fishily at Coatl. He rescued the leg of a crab which was protruding from the other corner of his mouth, sucked out its content and then, having made some decision, unzipped his poplin windbreaker and pulled down with both hands on the bosun's undershirt he was wearing. Below his breastbone was the dull colored plate with the two adaptor receptacles. For a moment, in that posture, with his chin raised and his shoulders

drawn back, he seemed oddly defenseless. In the cut-and-thrust world of politics where the Senator lived, defenselessness was not an impression he often received, and he hardly knew how to react. For the moment, the attitude of Director Hagedorn disarmed Coatl. The scientific administrator continued to sit with his chest bared, unmoving, blinking slowly.

"My dear fellow!" said Ramon Coatl. "No doubt I should have seen that the first time we went in the water together, and my curiosity would have been satisfied without any breach of manners on my part. Forgive me." He applied himself again to the gumbo. "I should have asked about the handed flippers. What exactly is all that protoplasm, Doctor?"

Hagedorn turned and looked around the mess hall. Ten meters away, a totally bald man sat, facing away from them. He was carrying on a conversation with a girl whose back was partly turned. Her arm and forearm lay along his upper arm and shoulder. Hagedorn said, "I hate to interrupt a lovers' conversation, but Nickleby is the best man to explain it to you."

To Coatl's surprise, the Director raised one massive foot and slammed it down on the vinyl floor. Like everyone else on the project, Hagedorn wore sneakers, so the impact made little noise, but Coatl could feel the floor quiver.

III

The bald man turned at once, grinned, spoke to the girl, and got up and came over, still smiling. Hagedorn casually covered his mouth, raising a sherry glass, and said, "He's deaf as a post. Look straight at him when you speak."

Nickleby scarcely gave the Senator a chance to open his mouth. The voice was quacking but clear and only medium loud. "I knew you'd be ready for me soon, Senator. I don't know what Hagedorn has told you besides that I'm deaf. If he'd just keep quiet, nobody would know it, I compensate so expertly. Well, I am the greatest communications engineer since Wiener and Shannon thought of the hearing glove. Matter of fact, I was working on hearing gloves at NASA when Hagedorn and Old Scotty shanghaied me into the Caribbean Station. A bellyful of that damned sherry makes you think you can do things you ought not even to want to do in the first place. You want to know how the handed prosthetic flipper works, don't you?"

Coatl nodded yes.

"Oh, you can speak. Just look at me. I'm sure Hagedorn told you that. You know what a hearing glove is?"

"Yes, it translates sound into taps or electric buzzes on the finger tips."

"Right. We use them now to communicate with astronauts because they don't have to fight static to get the message and because even while they're pulling levers and turning wheels, we can still be sending to the balls of their fingers. Great step forward, but simple, really."

"Yes, I've worn a hearing glove. It's very distracting."

"Stop nodding and smiling, Senator. I can read anything you say, if you just look in my direction."

Hagedorn slapped the table and laughed. Both the other men looked at him, then involuntarily nodded and smiled at each other; after which they both burst into laughter.

Nickleby went on, in his rather monotonous voice, "Okay, Senator. Easy to learn the glove, easy to make it. They stole me to deal with a problem which required the synthesis of a nearly organic prosthetic muscle. That little brunette I was talking to over there was the team leader on that, and we got so entangled on the project I guess we'll never get untangled. My job was to work out the converters that take a dolphin's weaker finger motions and step them up into powerful muscular ones in the prosthetic attachments. Just muscles and gristle, thank god. No bone, you see? Because dolphins are always supported by their medium of life."

"Wait a minute. Dolphin *fingers?* They just have flippers."

"Yeah, yeah, but the skeletal structure of the flippers is that they're grown-together fingers, or toes, if calling them toes makes you more comfortable. See, if we were going to alter the animal permanently, we could do it a lot easier. We'd slit each finger out separate from its fellows, graft skin on the cut sides, beef up the muscle connections, and we'd have a functioning organic hand we could use to manipulate, a powerful, simple, mechanical hand."

"Why not do it that way?"

"If you had some little handicap like deafness or a withered hand, you'd understand. Man, we *respect* the bodily integrity of other species. If Andy wants to quit the project tomorrow and swim off into the sunset, he's still a functional dolphin. He may be a *crazy* dolphin, but *physically,* he can still do all the things he could always do. That wouldn't be true if we had

altered his flippers surgically. Make sense?"

"All right."

"Well, to get back to the practical problem, I really didn't have much to work with. Eons of evolution have altered the whole function of the dolphin hand, you see?"

"I never would have thought of that if you hadn't pointed it out to me."

"Don't put me on, Senator. I have to make this speech to all kinds of cretins Hagedorn drags in here. And if I sound like I believe the project couldn't succeed without me, that's right. I do believe it. Anyway, I see you see there's very little *individual* movement of the bones in a dolphin's flipper. Very little musculature to support individual movement, either. The whole thing is there to operate as a unit, to swim; not to grasp, point, or touch."

"I see."

"So my little converters have to translate very small movements of a dolphin's finger bones along an exponential curve to operate a very powerful arm and hand. You'd be surprised to see the graph of what less than a millimeter of movement in the flipper translates to in terms of grasping and turning power."

"I've shaken hands with Eeeetz ch. I would neither be surprised nor impressed by graphs after that. I *am* impressed by your work, Doctor Nickleby."

"Just call me Nick. I never finished my doctorate. Couldn't get along with my alleged mentor, and he wouldn't pass my dissertation for publication unless I rewrote it to suit *his* experiments instead of mine. I have done well, haven't I?"

Coatl nodded. Nickleby was telling me the truth. Men were not falsely modest in the village where the Senator had been born, either; though they were usually a little more aware of the comic figure self-satisfaction cuts.

Roman Coatl smiled, and turned to Hagedorn again. "Now let's talk about what might get you shut down — those ugly, stomach-turning gills. In Washington, we have been under the impression that this was a kind of super-Scuba, a machine for delivering air efficiently to the lungs of a person swimming underwater. But it turns out to be an alternative way of getting oxygen from the water. Marguerite spoke of growing into her gills. The device really is organic, isn't it?"

The Director hunched forward, his thick forearms on the table. "It's very perceptive of you to recognize the half-live nature of the gill tissue and to realize

it isn't just a sophisticated mechanical filter. Do you understand what real gills are? Fish gills? True fish don't have lungs, you know. A fish that has is a left over transitional form between true fish and amphibian, an evolutionary experiment that has stayed on nature's work bench after its usefulness was ended.

"But real fish need oxygen, like all life on earth, except some of the lowest, single-cell forms and some of the viruses. There's plenty of oxygen dissolved in sea water, and always has been. Certain experiments lead us now to believe that the chemical composition of sea water was always about what it is today.

"Different kinds of sea life solve the problem of extracting oxygen from sea water in different ways; but true fish do it with a biological apparatus that extracts the oxygen, still in solution, in effect, through a sort of osmotic membrane directly into the blood stream on the other side of the membrane. There it's carried the same as in our blood. Not much chemical difference between fish blood and human."

Director Hagedorn peered up from under his brows into Senator Coatl's eyes. At this distance, Coatyl could see heavy white hairs thick in the Director's brows and raised his estimate of the other man's age. Sun tan — he thought complacently of his own dark skin — does make a man look younger. The administrator spoke again. "Do you understand this is all oversimplified and underexplained?"

"Go right ahead, Director. This is a kindergarten class you are lecturing."

"All right. There are lots of problems to putting men into the sea profitably; and the oxygen supply is the first and, so far, the most difficult. As long as you want your sea-man to breathe air, most of your effort has to go to supplying the air and keeping it from killing him. You can compress it and release it to him in such fashion that the pressure inside him is the same as the pressure outside, and in shallow water this works pretty well."

"Self-Contained Underwater Breathing Apparatus."

"Right. You had scuba on when your flipper was nearly crushed today. You're familiar with it, so you're familiar with its shortcomings as well. You can't go really deep; but as shallow as you stay, compressed air can still be deadly. If you have to come up in a hurry, the nitrogen dissolved in your blood — nearly seventy percent of ordinary air by volume — can cripple, craze, or kill you, depend-

ing on where it bubbles, if the pressure comes off too fast."

"The bends."

"Don't try to sound like an old-time, hard-hat diver. 'Decompression sickness' may not be as picturesque, but it's accurate . . . and it suggests the treatment of choice."

"The compression chamber."

"Right, Senator. You snatch your unlucky or foolish diver out of the water. He may be blind or deaf or dying. Lug him into the compression chamber, dog down the hatch, and pop the compressed air to him. The nitrogen goes back into blood solution, and then, by reducing the pressure slowly and in the steps which experience has shown the human organism can tolerate, you may — or you may not — save your diver. It's costly, slow, and erratic.

"So you use helium instead of nitrogen to make up your air. Doesn't matter which relatively inert gas it is. Straight oxygen's too flammable. Helium doesn't dissolve and bubble the way nitrogen does. It doesn't narcotize you at depth as nitrogen does, either."

The Director glared tolerantly under his eyebrows. His elbows slid farther out on the table, and he was almost leaning his head on his forearms now.

"All right, you've been through all this before. The helium problem is the helium voice. The pitch of all the sounds human voices make is raised very high by the presence of helium around the vocal cords. Some sounds just disappear, and it's easier for a person experiencing helium breathing for the first time to write out and get written all his communications than it is to understand and be understood."

"Is the throat-speech microphone any better?"

"Yes!" The Director clapped his hands against his elbows. "Yes, it is better! At least you are gargling a complete language, with its overtones and nuances. Anyway, it makes no sense to be always an intruder in the sea, to have to carry apparatus with you which has your life in its parts all the time, so that a broken air tube or a faulty gauge can mean death to the most gifted researcher. To be at the mercy of your air when you are in the water is too cruel a burden."

He sat back, unclasped his hands from his elbows, and smiled. "So — gills. Fish gills are not efficient enough for our purposes. They are rather passive organs, even with the pretty opening and closing in the water. Just grafting a big grouper's gills onto a man would not

give you a man who was as efficient as a grouper. No, it is no accident the smartest animals in the water are those who went ashore, acquired lungs, and then returned to the sea. A lot of oxygen, more than any fish's gills can deliver, is required to fuel those big brains with all their convolutions."

"So why haven't you found it possible for men to breathe and sound and rise to breathe again, like dolphins?"

"Ah-hah! like dolphins! Well, we haven't because we're not up to the surgery required. It would effectively involve reworking everything from the nasal passages to the anus. Heart, lung, blood vessels, autonomic nerve structure, the whole internal machinery of a man would have to be rebuilt."

"Man can't go back to the sea, then, like his cousins, the whales and porpoises?"

The Director seemed momentarily abashed. He picked at his bottom lip as if a flake of tobacco hung there, although he was not smoking. "No — well, the fact of the matter is, the artificial gill is *here*. You've seen it in operation."

"Yes, but now we're full circle to where we were," said Coatl. "Those things don't look artificial to me. I mean, they're really not made of plastic . . . "

"Oh no."

" . . . or of metal . . . "

"Great heavens, no! Well, the *connections* are."

" . . . and to tell the truth, they look remarkably like being the sort of experimentation with human beings that was condemned a generation ago."

Director Hagedorn sat bolt upright and stared with horror across the table. "No, sir, I cannot permit that to stand. No one is compelled to undergo these operations. To be allowed to undergo one is an honor. We are all volunteers, and no one has been hurt or harmed by being fitted with our gill adaptors. Do you think we are sterilizing Gypsies here? We are simply helping people to become better equipped to deal with what is otherwise an extremely hostile environment."

The Director made as if to rise in his agitation, but the Senator's hand restrained him. "Relax, Hagedorn. I'm putting you on, man, that's all. They *are* ugly looking propositions . . . and there's no denying they *are* human experimentation, right?"

Hagedorn looked hard at him. "You're crueller than you look. It's shocking to charge — well you haven't charged — it's shocking even to suggest that this project is some sort of hu-

man vivisection center. It isn't!"

Hagedorn made as if to go on, but the Senator stood, bringing the evening to an end. "Think about that again, Director," he said, and strode off to a good night's rest. He knew a half dozen people on the Station were tossing and fuming because of his presence with its unpredictable implications and possibilities, and that knowledge enabled him to sleep with the pleasure of a man who has created a small tropical storm and is borne peacefully in its eye. What his storm might bring to the surface or destroy remained to be seen. Meanwhile, as the winds rose around him, he slept.

IV

The next day found Coatl finely tuned to his surroundings. The pain, exhaustion, arguing, and drinking of the night before had been wiped out by his night's sleep; but their residue remained in a feeling that one layer of his skin had been removed. The droning tradewind reached into the central core of his personality.

Under the water, away from the wind, he felt as free as a fish. Hank, Maggie, and Eeeetz ch met him in the come-close pool, and the four of them swam to an area where the water-dwelling mammal was being taught to handle machinery. He had a vast Rube Goldberg of interrelated valves, levers, sliding plates, toggle switches and worm gears to operate. Hank posted a foil strip with printed directions and operating sequences a meter long on the side of the learning machine and reset many of the internal operating connections.

Eeeetz ch swam to the instructions in a smooth curve and began clicking and snapping as he studied it. The black box at one side repeated, over and over, such comments as, "Damn! it's counterclockwise instead of clockwise again. Oh, oh, six meters to swim in a *tenth* of a second? And right back again? Pfui!"

Marguerite, who was looking at a large wrist watch which she wore on her ankle, suddenly cried, "All right, fishmouth, go!" and pushed the timing stud.

The gleaming black and gray body began to whirl about, through, and over the complicated learning toy, and to Eeeetz ch's snicks and clacks were added the cacophony of machine parts slamming and grinding. After about twenty minutes of this, Eeeetz ch suddenly gave a despairing whistle which the box translated as, "Crab cakes! I missed that inky worm gear by

ADKINS

one turn again. Duck, white skins!" A silvery sphere at the machine's center sprouted tubes in every direction and a cloud of octopus ink enveloped the four persons swimming about the framework.

"Okay, clumsy," Hank shouted, as the box rendered his voice into squeaks and chitters, "the rule today is you've got to reset the whole sequence while the cloud's still in the water. Get going!"

Ramon swam into a column of the machine and felt the torpedo shape of the student hand user zip past him in the impenetrable murk. He knew Eeeetz ch was operating on his sonar and that he had better get out of the way. Gingerly touching the machine's working column, he kicked off from it and swam ten or twelve meters away. Here it was lighter. Looking back he could tell from the convulsions of the cloud that the student was churning about the machine, reversing the settings of its parts as easily as if the filtered Caribbean sun were fully available.

It took Eeeetz ch a shorter time to reverse the sequence than it had to go through it, and in fifteen minutes he was hanging in the water with an expectant eye on Marguerite. The current had dissipated the octopus ink, and all was as it had been, except for Hank, who was lazily suspended with his arms crossed and an unforgiving look.

"Don't start him up again yet, Maggie," he gargled, the box snapping out the sense in dolphin. "There's no point in us all just having a little vacation here. If Andy can't analyze what he did to abort the sequence, there's no point in his trying to repeat it. He'll abort at the same point. Now, fishmouth, what happened?"

The animal snapped his teeth in a grimace of rage or chagrin. "Look out, easy bleeder. What went wrong is that your rotten machine is manufactured to a less grade of precision than what you expect to be done with it. You can't open an oyster with a sledge hammer."

"Yes you can, if you know how lightly to tap it. I know what you did wrong, and you know what you did wrong, so let's have it out in the open, or we'll never get lunch today."

"What's that mean?" the Senator asked Marguerite.

"Means he earns our lunch. He's got to run the sequence right twice."

Eeeetz ch snorted something the machine translated as random sounds. "Ugh! A-a-a-a-gh!" At the same time he rose to the surface above them, blew might-

ily and returned with a fresh supply of oxygen. "All right. It's that nicked worm gear. There's a half-moon chip out of the twenty-fourth turn. When I feel that chip clear the surface of the seat, I know one more full turn brings the gear exactly half way out. It's a fifty thread pin. Twenty-five turns is what the instruction sheet called for, and twenty-five turns is what I gave it."

"So how come your spaceship blew up? If that was a simulated moon landing, you're scattered over a thousand kilometer globe of space by now."

"I don't know. I brought that gear out twenty-five turns to the micron."

"Are you sure? Want to bet you didn't just bring it out one full turn past that chip?"

"Well, that's twenty-five turns. Wait a minute!" He flew to the face of the machine where he had made the mistake and carefully extracted the chipped worm gear. " . . . twenty-four, twenty-five, twenty-six!" Eeeetz ch swam angrily to Hank. "You sneaked out here and reversed that gear . . . so one turn past the nick was twenty-*seven* instead of twenty-five. Ak, Ak, Ak!"

Hank swam back a little further out of reach of those teeth. "Sure I did. I wonder if you can guess why?"

"Ak Ak! Make fool of me, your only friend in the water. Dirty human trick."

"Oh, Andy, stop steaming. You *felt* that nick come around through your *fingers*, didn't you? And you were using that tiny jar when it cleared the surface of the plate as a short cut, weren't you?"

"So what if I was? Intelligence *is* laziness. Creatures that do things the long way every time are just clock works. Why do I have to *count* the turns?"

"I could say just because of what happened. Human mechanics are intelligent, too, and that *does* mean lazy. One pulls that threaded post out to inspect it and has to lay it down for a minute. If he picks it up by the other end, he's going to insert it with the thread reversed. It's identical to his senses, so why shouldn't he?"

"Good point. I forget human beings can hardly see or feel."

"The *real* point, though, is that by relying on the *feel* through your hands you're choosing the wrong sensory feedback as a guide. Those artificial hands are always going to be prosthetic aids for you. To rely on *their* sensing elements is grossly wrong for a dolphin. We don't want a less efficient man, which is what you'll make of yourself by relying on our devices. We

want an improved dolphin. Otherwise, we could not, in good conscience, let you sell the others of your people on accepting the helping-hand program and the surgery that makes it possible."

"I don't see that."

"Yes you do. You're just so smart you don't want to admit it. We want *your* senses and *your* brain to dominate the handed dolphin project. The hands are just *tools*, organic tools yes, but just machines to extend your muscular control over your environment.

"Now quit kidding around. You don't have to count those threads one two three four, and you wouldn't, if you weren't trying to act like a man. You can scan it with your echolocator in *less* time and with greater accuracy. Stop fooling with me, baby, or I'll swim out here some night and wire that thing up so a wrong move shocks you."

Eeeetz ch grunted; but he swam back in position to begin the sequence again. "Senator, you are a witness to human cruelty on a well meaning animal. Only men enjoy cruelty."

Coatl gargled. "Right. And only men learn anything more than to feed, frolic, and fornicate. Why don't you quit and just stay a fish?"

Eeeetz ch circled tightly away from the machine and around Coatl. His dark eye sparkled with mischief. "Okay, vivisectionist. I thought you were different, a Senator, some kind of super human. You're just another knife and test-tube man. Okay. Just remember, when some three meter shark chases you, don't call Eeeetz ch." Cheerfully, he swam back to *Start* on his three dimensional maze and plunged into activity on Marguerite's signal.

This time he was remarkably silent as he flashed up and down inside the weird framework. In less than an hour, he had completed the meter long instruction sheet, and exuberantly flung himself up through the surface of the sea where he plopped and splashed and cut circles for five minutes before he zoomed down with a fresh supply of air.

The dolphin swam to Hank. "Let's go, spear man. Eat early today, when I run this second sequence. You want to reset it, or shall I?"

Hank grinned. "I do it exactly halfway. You finish it, huh?"

"Wheeeeeee-ew! You really want to impress this Senator. Okay!" He flipped about the teaching device, turning knobs and snapping switches. In a few minutes, he whistled, "Okay, Maggie. Ready when you are."

Just at that moment, Hank swam leisurely by the machine and ripped out the middle third of the instructions. Eeeetz ch's whistles and clacks filled the sea, and the mechanical voice of the translator repeated many times, "What in the crab-eating hell is this? I'm supposed to be told when you want me to memorize the sequence. No games No games No games damnit!"

Hank shrugged. "Life has no rules. Put him to work, Maggie."

V

This time the porpoise worked more purposefully. As he approached the missing portion of the instructions, his motions became as deliberate as those of a chess player, lapping pieces on the board in a planned combination. A high, thin whistle began to escape from him. As Ramon heard it from Eeeetz ch, the sound was an undifferentiated whine like a jeweler's saw, but the translator modulated it into an intricate music close to the skirling of bagpipes.

Abruptly, the sound died and Eeeetz ch swam to Hank with a hang-dog air. "I've lost it. Give me a little help."

Hank pointed to what was left of the sequence sheet. "Go read it, you lazy devil. You're past the missing instructions already."

Eeeetz ch gave a mighty "Clack!" of chagrin and glanced at the remainder of the sheet. Two minutes later, a roiling cloud of octopus ink enveloped them all. "Crab cakes!" the swimming mammal cried. "Crab the crab crab *crab* cakes!"

Coatl could hear the choking sounds from Hank and Maggie that were laughter in the throat language. As the water cleared, he could see Marguerite twined about Eeeetz ch's back, while Hank hung on to one arm as they laughed.

"God!" cried Hank. "You're as funny as a man sometimes."

Marguerite held on as the porpoise thrashed distractedly. "Oh, oh!" she laughed. "Just when I think I'm looking at man's replacement, you blow it, baby. Wow!"

At length, the wild, whirling mass of legs and flukes came to rest and separated. "Early lunch? asked Hank. "Not likely."

"I can go catch myself something to eat. This is my world. I'm self sufficient."

"Sure. Self sufficient but not very smart. You can reset the whole sequence and take it from the top."

This time the dolphin maintained his air control, almost of slow motion, through the whole

procedure. He was deliberately not looking at even the portion of the instructions still posted. Despite his air of slow care, Coatl was able to see, when Marguerite swam to him and cocked her ankle to show him the stop watch, that Eeeetz ch was actually several minutes ahead of the time he had made when he first ran the set correctly.

Ramon was developing a distinct anticipation of lunch, when Eeeetz ch suddenly cursed and again the inky cloud exploded around them. "Sorry," said the armed dolphin. "I'm a little tired. And I was almost through."

Hank stretched the dolphin's artificial extremities, testing them for tone. He let them snap back. "Yes, you're tired; but not too much to finish. This is the kind of world men live in all the time, Andy. Jobs have to be finished. Draw on your reserves a little. You're all getting hungry, too."

The dolphin quietly went about resetting the teaching machine. There was no badinage this time, but when Marguerite said, "Go," she added in an intense tone, "You can *do it!*" and Hank called, "Watch that last step!"

Coatl became apprehensive. It was as if a relative, a younger brother or a cousin were performing some difficult task. Ramon's muscles ached, trying to help the porpoise with body English. He began to worry about what another failure would do to the volatile psyche of the student. In one way, the careful manner in which the black torpedo shot in and out of the machine could be regarded as bored competence. In another way, it looked very like an adolescent strung up to the point where failure would cripple him. Coat realized he was holding each breath, letting it escape in the perceptible jerks and pauses known as "ratchet breath" — a telltale sign of anxiety since its recognition two generations before. He made himself breathe easy, made himself hang quiet in the water, made himself not be hungry, and waited.

Suddenly, Eeeetz ch let out a wild whistle of achievement. "Lunch!" the translator repeated. "Lunchlunchlunchlunchlunch!" From a receptacle deep in the machine a school of silvery mullet swam in all directions, as the porpoise and his teachers lunged after them, snapping and grasping.

Startled, Coatl was caught at full rest. He snared one medium mullet, and that was all. He kicked lazily to the surface, where he could take off his breathing mask, unshipped his knife, and gutted the mullet. By

the time he had filleted it, dipped the slices in sea water, and chewed them leisurely down, the trailing entrails below him had attracted several small fish. He was agile enough to take two of these and was completing his lunch when Hank swam up holding a forty centimeter mullet by the tail. "No thanks, I've eaten" Coatl said, as he sank back into the water. They turned the mullet loose, circled to pick up Marguerite and Eeeetz ch, and gamboled through the water back to the come-close pool.

When they were arrived, Coatl was the only one to leave the watch. As he walked up the steps, he felt an irrational stab of jealousy. When he turned to make his good-byes, he was shocked to realize that Hank and Marguerite had begun to look natural to him. The farewell was awkward, and Coatl knew why. He was not really ready to go.

Eeetz ch stood half out of the water, as on the first day. The dolphin spoke his thin, accented English. "Remember me, Ramon! I remember you. Come back to us." Before Coatl could speak the great body flashed out of the water and splashed mightily. When the Senator had wiped the water from his eyes. Eeeetz ch had disappeared into the sea.

Three days later, the Senator was eating bean soup with three of his fellow committee members. He blew a little through his nose, which now seemed always a little dry, and thought, How am I going to get the reality across to these Senators? They're all too old to get in the water; but at least they're on committees that are future oriented, and that means reality oriented. I don't want to lie and pretend that the Caribbean Station can contribute to military research. It represents research into life, so much more important and so much harder to get money for.

You just have to try, Ramon, he repeated to himself as his mother had said when he went away to school, you just have to try. Nobody will hold it against you if you don't succeed.

He blew a little more through his nose to wet the inside of it, and started to speak. Behind his eyeballs, he remembered the blinding stab of the Caribbean sun. His chest itched, and he scratched it gently. Senator Ramon Coatl knew what his chest itched for: he wanted one of those brass adaptor plates set in it, so he could wear gills.

—H. H. HOLLIS

GALAXY'S STARS

The author who appears in *Galaxy* and *If* as "H. H. Hollis" has another name in real life, but he doesn't let us use it. He's an attorney in a large Southwest city, and the nature of his specialty in the law is such that his practice might be affected if his real name were used. *Eeeetz Ch* is the first of a series exploring the man-dolphin interface. We think it's going to be a good one. . . .

Incidentally, we discourage the use of pen-names as much as we can. There was a time in science fiction, not too long ago, when many writers played a sort of game with pen-names for every sort of story; often the editors encouraged them in it, or even required it, when they felt that one writer was appearing too often. We've never had that feeling — can't get too much of a good thing, is how we feel — and we have a general opinion that the reader is entitled to know which writer he is reading. (Time was when some magazines had "house names" and writers might sell them a story and find it credited to some made-up pseudonym. Sometimes that was annoying to the writer. Once in a while it turned out funny — as when Ray Bradbury once had a story under a house name. The readers' letters almost unanimously condemned it and begged the editor to quit printing stories by people like the house name and get more of Bradbury.)

There are, of course, a few writers who are only known by their pen-names. The late Cordwainer Smith, for instance, would have been unrecognizable to sf readers by his real name of Paul Linebarger — although Dr. Linebarger was a world leader in his own

field of political science, being among other things a professor at Johns Hopkins, a consultant to the State Department and a godson of Sun Yat-sen. In Linebarger's case it was important to him to keep his identity confidential; in the case of two or three other writers there are similar persuasive reasons for a pen-name . . . but generally speaking we try to avoid them.

Gordon R. Dickson is no pen-name; he's a big and cheerful Minnesotan who has been writing science fiction for some twenty years now, which is about half his life. A long-time *Galaxy* regular, Dickson has put in most of his recent time on books; we're glad to see him back with *Building on the Line.*

Senior lady science-fiction writer of the present era may well be Miriam Allen de Ford, a charming San Franciscan who keeps two careers going. The other field of writing she graces is crime detection; she turns from her researches into some gory killing of the past to the exploration of some grisly aspect of the future.

Brian W. Aldiss has a shelf full of awards for science-fiction writing, beginning with what was called either *The Hothouse World* or *The Long Afternoon of Earth,* depending on whether you think of it as a series of novelettes or a book. He is literary editor for the Oxford *Mail* in England, where he lives in a small village near the university town. Although the bulk of his writing has been science fiction, he is also the author of a travel guide to Jugoslavia and a number of other works.

Aldiss is, of course, one of the leading practitioners of what is sometimes called "The New Wave" in science fiction; almost at the other end of the spectrum is Mack Reynolds, one of the few science-fiction writers whose interest in the social and economic problems of the future has anticipated the thought of actual economists. Reynolds is an American who has spent little enough time in the U.S.A. in the past couple of decades; his travels have taken him to almost all the countries of Europe, to the Near East, to Ceylon and other Asian countries and just about everywhere else this side of the moon. He is at present living in Mexico.

Robert Silverberg, who is a frequent contributor to these pages, is a New Yorker and one of the most prolific writers of modern times. His books have included such disparate subjects as a biography of the Pharaoh Ikhnaton, an archeological study of the mound-builders of the midwest, a collection of essays on picaresque figures called *Scientists and Scoundrels* and a number of juveniles.

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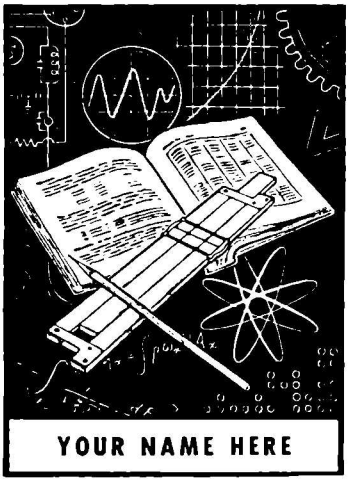

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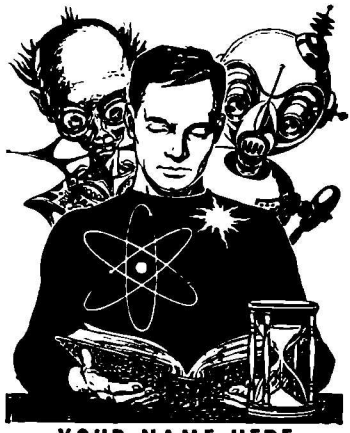

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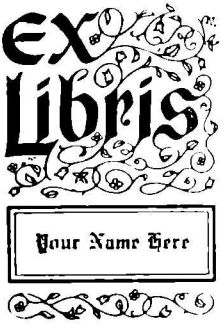

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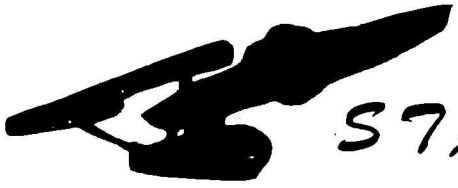

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